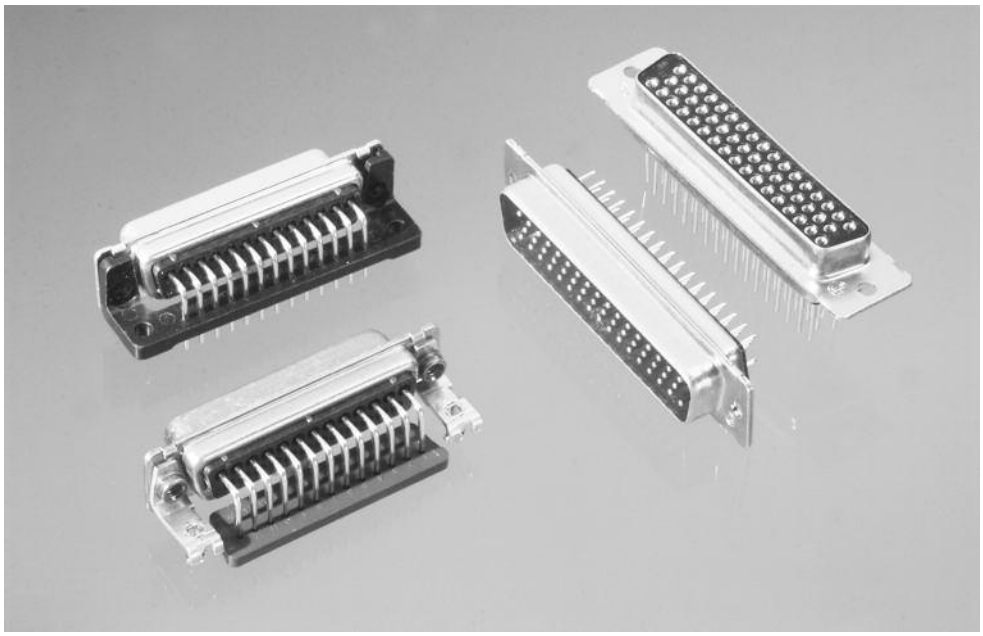
## AMPLIMITE Subminiature Connectors

### Introduction

### Product Facts

- **Military qualified connectors conform to the latest amendments of MIL-DTL-24308**
- **Industrial versions available that use the same manufacturing process of MIL-C-24308 connectors**
- **Non-magnetic versions available per NASA spec, or with rubber grommet on rear of NASA-type connector**
- **ULTRA-LITE AMPLIMITE non-magnetic connectors save weight and improve EMI shielding vs. brass shell NASA-style connectors**
- **AS39029 contacts offer reliability and economies of high speed termination by automatic machine**
- **Connector savers (feed-through) preserve permanently mounted connectors in high use applications**
- **Choice of sizes — Size 1 through 5 for Series 109, standard density with 9, 15, 25, 37 and 50 contacts; Size 1 through 6 for Series 90, high density with 15, 26, 44, 62, 78 and 104 contacts**
- **Series 109 standard density connectors are available with cavities for power or coaxial contacts mixed with size 20 signal contacts**
- **Right-angle and straight PC board connectors in Series 109, standard density**
- **Preloaded, straight-posted connectors available in Series 90, high density**
- **Preloaded, solder cup connectors available in Series 109, standard density**
- **Produced under a Quality Management System certified to ISO 9001**

A copy of the certificate is available upon request



AMPLIMITE Military Subminiature D Connectors are compact pin and socket connectors especially designed for high density packages. They are ideally suited for applications such as military equipment, ground support devices, computer peripheral equipment, modems and industrial instrumentation.

In addition to the complete selection of standard military subminiature D-type connectors, TE Connectivity offers special application versions such as connectors which mix power/coax cavities with size 20 signal contacts; feed-through connectors which provide a disposable interface for high use applications; and special non-magnetic connectors with a rubber grommet on the rear, for strain relief.

Series 109 and Series 90 military connectors conform to the latest amendments of the MIL-DTL-24308 specification and thus are intermateable with similar connectors in the same sizes from other manufacturers. A broad range of connectors is included in this catalog, complemented by a variety of commercial cable clamps and mating hardware, which can be found in catalog 1307612.

Each AMPLIMITE crimp connector has metal clips which retain the pins and sockets after they are loaded into the inserts from the rear.

Series 109 connectors accept size 20 contacts, while Series 90 connectors accept size 22 contacts. Cavity spacing conforms to military specifications.

Size 20 and size 22 pins and sockets are designed for an 8-indent crimp. They are supplied loose-piece for crimping in a standard M22520/2 hand operated tool or tape-mounted for high speed application by an AMP-TAPEMATIC Stripper/Crimper Machine.

Series 90 and Series 109 connectors preloaded with contacts are available for printed circuit board mounting.

Special Series 109 connectors with power/coax cavities accept power contacts for 18 through 8 AWG [0.8-8 $mm^2$] wire or coaxial contacts for RG/U 174, 188A and 316 cable, in combination with standard size 20 signal contacts.

A complete range of non-military AMPLIMITE subminiature D connectors, contacts and accessories are shown in catalog 1307612, available on request from TE.





Catalog 1308940
Revised 9-14

www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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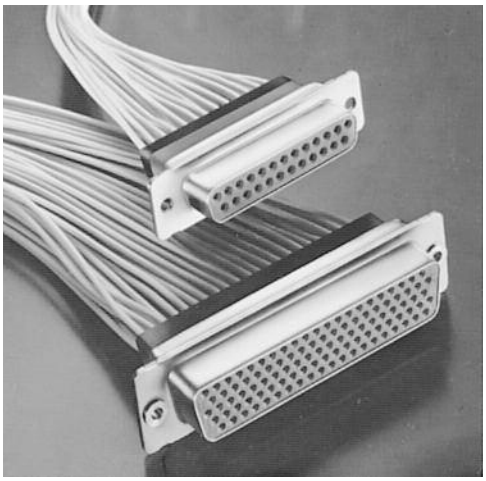
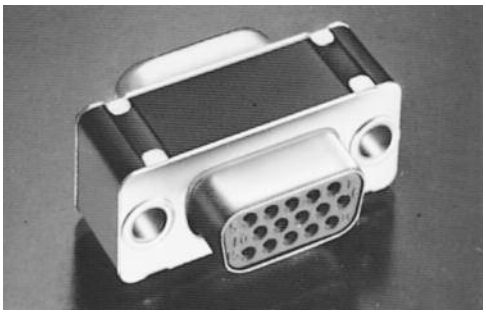
## AMPLIMITE Subminiature Connectors (Continued)

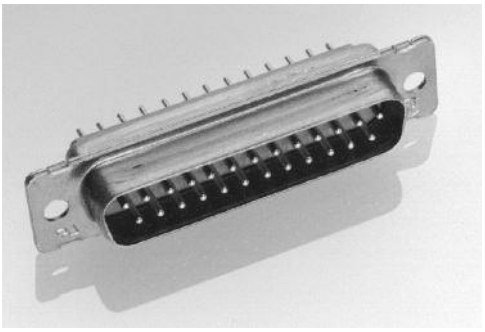
### Introduction (Continued)



Connectors for crimp, snap-in contacts are available in both series, standard shells and non-magnetic, plus non-magnetic with rear rubber grommet.

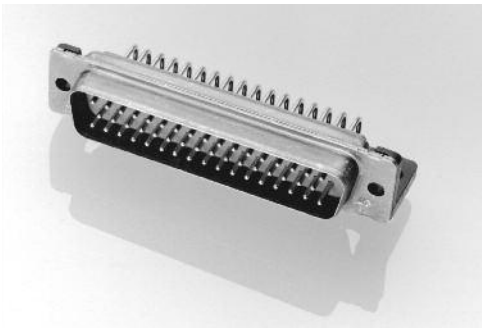


Connector savers extend life in high-use applications.

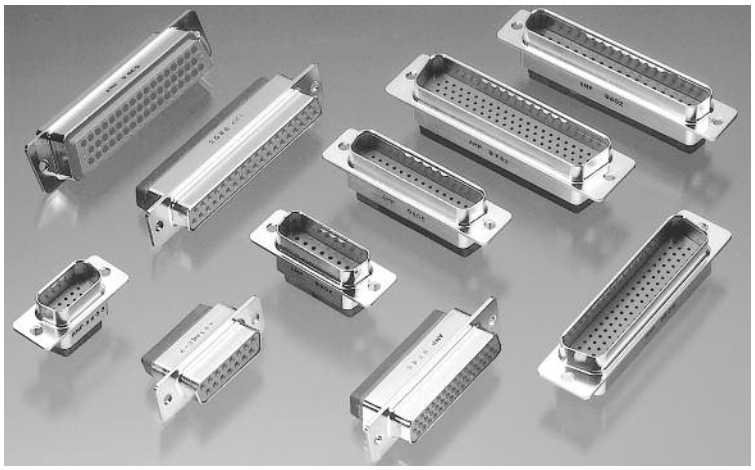


Straight posted versions available in both (Series 109) standard density and (Series 90) high density connectors.

Coax or power contacts can be mixed with signal contacts.



Right-angle board mount connectors for Series 109, standard density connections.



ULTRA-LITE AMPLIMITE Connectors for state-of-the-art weight savings and EMI performance.

The Series 109 and 90 Blindmate Plug connectors are designed to prevent butting of contacts during mating.



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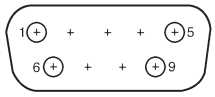
## AMPLIMITE Connectors, Series 109

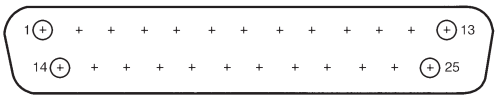
### Series 109 Connectors (Standard Density)

#### Insert Arrangements

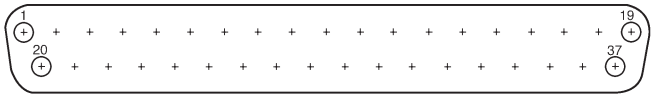



**9 Position**
**(Shell Size 1)**
**MS 18273-1**

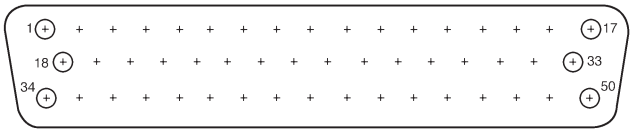

**15 Position**
**(Shell Size 2)**
**MS 18274-1**




**25 Position**
**(Shell Size 3)**
**MS 18275-1**




**37 Position**
**(Shell Size 4)**
**MS 18276-1**




**50 Position**
**(Shell Size 5)**
**MS 18277-1**

**Note:** Mating face of plug shown; receptacle is mirror image.

#### Performance Specifications

All Series 109 AMPLIMITE military connectors conform to the latest amendments of military specification MIL-DTL-24308. For more detailed information refer to MIL-DTL-24308.

All Series 109 Connectors are designed for a –67°F to 257°F [–55°C to +125°C] temperature range.

Series 109 contact current rating for Crimp Snap Connectors for MIL-C-39029 7.5 amps in free air.

Series 109 contact current rating for PCB Mount Connectors 5.0 amps per 108-1770.

#### Technical Documents List

The following technical documents cover the application and performance of AMPLIMITE Series 109 Connectors, contacts, tooling and accessories.

**Military Specifications**

| | |
|---|---|
| MIL-DTL-24308 | Connectors, Electric, Rectangular, Miniature Polarized Shell, Rack and Panel, General Specifications for |
| AS39029 | Contacts, Electrical Connector, General Specification for |

**NASA Specification**

| | |
|---|---|
| GSFC-S-311-P-4 | Non-Magnetic Connectors, General Specification for |

**Instruction Sheets**

| | |
|---|---|
| 408-7516 | Application Tooling for MIL-C-39029 Contacts |
| 408-7634 | Application and Maintenance for Hand Crimping Tool 90302-1 |
| 408-7694-1 | Application and Maintenance for Hand Crimping Tool 90312-1 |
| 408-7954 | Application and Maintenance for Hand Crimping Tool 90374-1 |
| 408-7508 | Insertion/Extraction Tools 91067-1, 91067-2 and 91067-3 |
| 408-7837 | Female Screwlock Kit 205817-1 and Male Screw/Retainer Kit 211883-5 |





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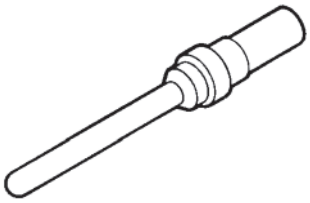
## AMPLIMITE Connectors, Series 109 (Continued)

### Size 20 Crimp Contacts for Series 109 Connectors (AS39029)

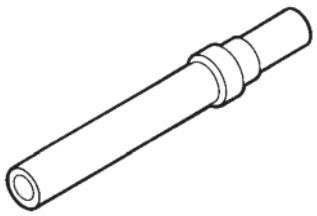
### Size 20 Crimp, Snap-In Contacts .040 [1.02] Pin Diameter

#### Material and Finish

**Pin and Socket Body** —
[a]**Contact Body** — Copper alloy, gold flash .000050–.000100 [0.00127–0.00254] thick nickel underplate.
[a]**Mating Area** — Copper alloy, plated gold .000050 min thick over .000050–.000100 [0.00127–0.00254] thick nickel underplate.
[b]**Contact Body & Mating Area** — Copper alloy, plated gold .000050–.000100 [0.00127–0.00254] thick over .000050–.000100 [0.00127–0.00254] thick nickel underplate.
**Socket Hood** — Passivated stainless steel.



**Pin**
**M39029/64-369**
(Supersedes M24308/11-1)



**Socket**
**M39029/63-368**
(Supersedes M24308/10-1)

| Wire Size Range AWG | Wire Size Range [mm²] | Ins. Dia. (Max.) | Contact Configuration | Tape Mounted Contacts Part Number | Loose Piece Contacts: Military Part No. (M39029/) | Loose Piece Contacts: AMP Part No. | Hand Tool: Tool No. (M22520/) | Hand Tool: Positioner No. (M22520/) | Contact Color Band |
|---|---|---|---|---|---|---|---|---|---|
| 20-24 | 0.6-0.2 | **.072** 1.83 | Pin | 205089-2[a] | 64-369 | 205089-1[a] | 02-01 | 02-08 | orange, blue, white |
| | | | Socket | 205090-2[a] | 63-368 | 205090-1[a] | 02-01 | 02-08 | orange, blue, gray |
| 20-24 | 0.6-0.2 | **.072** 1.83 | Pin | 1-205089-3[b] | 64-369 | 1-205089-2[b] | 02-01 | 02-08 | orange, blue, white |
| | | | Socket | 1-205090-0[b] | 63-368 | 205090-9[b] | 02-01 | 02-08 | orange, blue, gray |

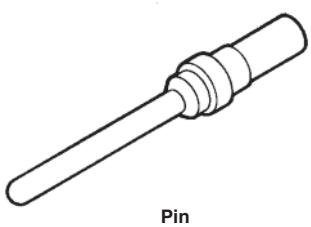
Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
**Notes:** 1. These contacts are used in Series 109 military connectors.
2. Insertion/Extraction Tool Part Number **91067-2** (Military Part Number **M81969/1-02**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.
4. Color bands are read in the direction of terminal (wire barrel) end to mating end.

### Size 20 Crimp Contacts for Series 109 Connectors (Industrial Grade)

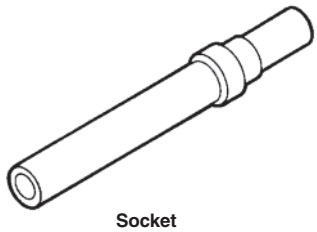
### Size 20 Crimp, Snap-In Contacts .040 [1.02] Pin Diameter

#### Material and Finish

**Pin and Socket Body** —
**Pin Body** — Brass, plated gold .000030 [0.00076] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.
**Socket Body** — Brass, plated gold .000010 [0.00025] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.
**Socket Clip** — Copper alloy, plated gold .000050 [0.00013] min thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate.



**Pin**



**Socket**

| Wire Size Range AWG | Wire Size Range [mm²] | Ins. Dia. (Max.) | Contact Configuration | Tape Mounted Contacts Part Number | Loose Piece Contacts Part Number | Hand Tool: Tool No. (M22520/) | Hand Tool: Positioner No. (M22520/) |
|---|---|---|---|---|---|---|---|
| 20-24 | 0.6-0.2 | **.072** 1.83 | Pin | 1218266-4 | 1218266-3 | 02-01 | 02-08 |
| | | | Socket | 1218267-4 | 1218267-3 | 02-01 | 02-08 |
| 18 | 0.8 | **.083** 2.11 | Pin | 1218266-2 | 1218266-1 | 02-01 | 02-08 |
| | | | Socket | 1218267-2 | 1218267-1 | 02-01 | 02-08 |

Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
**Notes:** 1. These contacts are used in Series 109 connectors.
2. Insertion/Extraction Tool Part Number **91067-2** (Military Part Number **M81969/1-02**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.



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## AMPLIMITE Connectors, Series 109 (Continued)

### Size 20 Posted Contacts for Series 109 Connectors

#### Material and Finish

**Pin and Socket Body** —
Leaded nickel copper or beryllium copper, plated per chart below

**Socket Hood** —
See chart below

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-2 or
MIL Number M81969/1-02

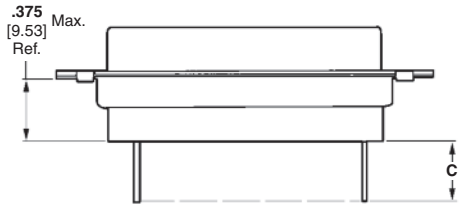
Insertion tip, for replacement
Part Number 126195-3

Extraction tip, for replacement
Part Number 126195-4

**Notes:**
1. Contacts on this page can be used with connectors on pages 8-43 to 8-48, 8-62, 8-63 and 8-84.
2. Mating End of pin and socket complies with MIL-C-39029.
3. See page 8-91 for PCB layouts.

**Pin**
**(See Drawing Number 212565 for Latest Configuration)**

**Socket**
**(See Drawing Number 208778 for Latest Configuration)**




**Post Extension When Used in a Standard Connector**

| Post Diameter ± .002 [± .050] | Post Extension C ± .025 [± 0.63] | Part Numbers Pin | Part Numbers Socket | Contact Plating | Socket Hood Material and Finish |
|---|---|---|---|---|---|
| **.018** 0.46 | **.325** 8.25 | 1-212565-0 | 1-208778-0 | Gold .000050–.000100 [0.00127–0.00254] thick over .000150–.000250 [0.00381–0.00635] thick copper underplate | Passivated Stainless Steel |
| **.018** 0.46 | **.325** 8.25 | — | 1-208778-1 | Gold .000050–.000100 [0.00127–0.00254] thick over .000050–.000150 [0.00127–0.00381] thick nickel underplate | Passivated Stainless Steel |
| **.018** 0.46 | **.240** 6.10 | — | 1-208778-2 | Gold .000050–.000100 [0.00127–0.00254] thick over .000150–.000250 [0.00381–0.00635] thick copper underplate | Passivated Stainless Steel |





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## AMPLIMITE Connectors, Series 109 (Continued)

### Size 20 Posted Contacts for Series 109 Connectors (High Current Upgrade Program)

The High Current Size 20 contact has been designed to fit into the Series 109 AMPLIMITE Connectors per MIL-C-24308.

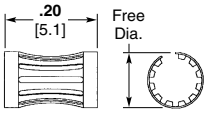
### Material

**Body** — Copper Alloy
**Louvertac Band** — Beryllium Copper

### Finish

**Body** — Gold
**Louvertac Band** — Gold

Current-Carrying Capacity. The High Current Size 20 contact with a 20 gage wire attached to the .030 [.762] diameter solder tail acquired an initial 86°F [30°C] T-Rise of 11.85 amps in free air.




Multiple contact point due to hyperbolic shape.

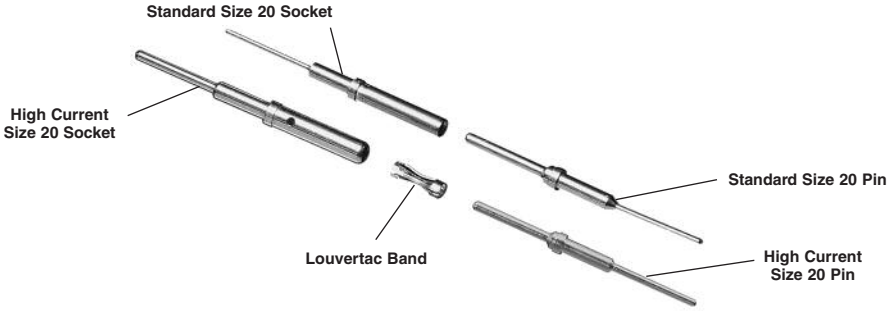
The contacts can be sold loose piece or installed into any of the MIL Standard connectors.

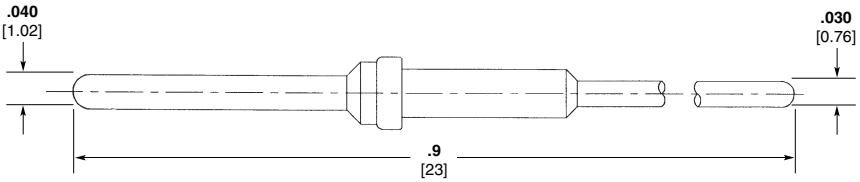
**Pin and Socket Insertion/Extraction Tool**

Part Number 91067-2 or MIL number M81969/1-02

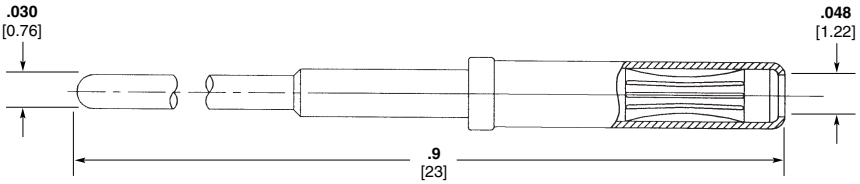
Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4

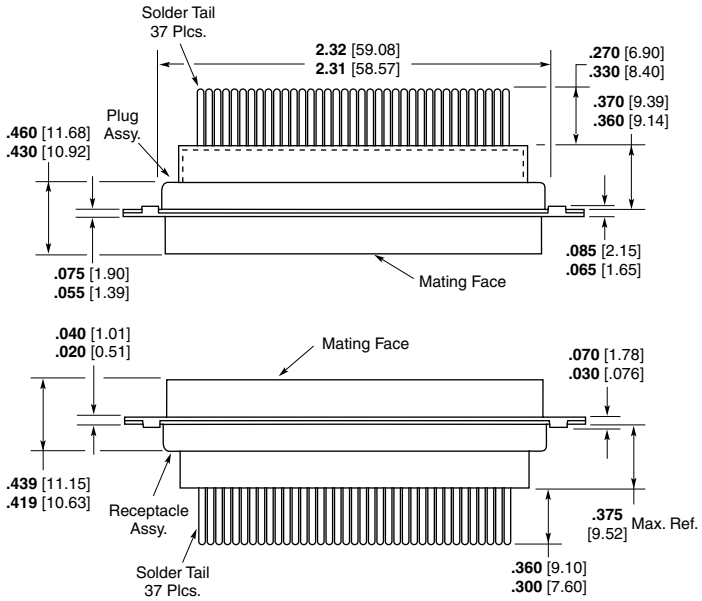



**Pin Part Number 194081-1**




**Socket Part Number 194083-1**




**Typical Fully-Loaded 37 Position Plug and Receptacle**

**Note: 1. High Current contacts with Louvertac bands are NOT intermateable with any other contact.**



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## AMPLIMITE Connectors, Series 109 (Continued)

### Crimp, Series 109, Standard Density Connectors (MIL Qualified)

#### Material and Finish

**Shell** — Steel, cadmium plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel

#### Related Product Data

**Cavity Identification** — page 8-39

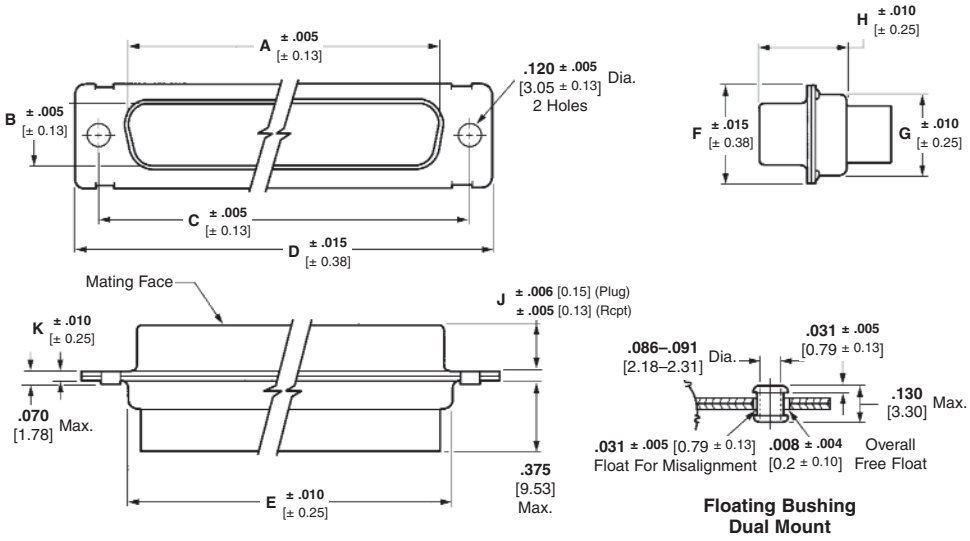
**Contacts** — pages 8-40 to 8-42

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

#### Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.




**Floating Bushing Dual Mount**

### Series 109 Plugs per MIL-DTL-24308

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Standard Mount | | Floating Bushing Mount | | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Inside) | B (Inside) | C | D | E | F | G | H | J | K | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | |
| 9 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | 4-259F | 205162-1 | 4-324F | 205412-1 | Plug only |
| | | | | | | | | | | | 4-1F | 205556-2 | 4-302F | 205486-2 | Plug with pins |
| 15 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | 4-260F | 205164-1 | 4-325F | 205408-1 | Plug only |
| | | | | | | | | | | | 4-2F | 205558-2 | 4-303F | 205409-2 | Plug with pins |
| 25 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 4-261F | 205166-1 | 4-326F | 205413-1 | Plug only |
| | | | | | | | | | | | 4-3F | 205560-2 | 4-304F | 205487-2 | Plug with pins |
| 37 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 4-262F | 205168-1 | 4-327F | 205414-1 | Plug only |
| | | | | | | | | | | | 4-4F | 205562-2 | 4-305F | 205488-2 | Plug with pins |
| 50 (5) | **2.079** 52.81 | **.441** 11.2 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 4-263F | 205170-1 | 4-328F | 205415-1 | Plug only |
| | | | | | | | | | | | 4-5F | 205564-2 | 4-306F | 205431-2 | Plug with pins |

### Series 109 Receptacles per MIL-DTL-24308

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Standard Mount | | Floating Bushing Mount | | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Outside) | B (Outside) | C | D | E | F | G | H | J | K | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | |
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.030** 0.76 | 2-281F | 205161-1 | 2-292F | 205416-1 | Recept. only |
| | | | | | | | | | | | 2-1F | 205555-2 | 2-23F | 205483-2 | Recept. with sockets |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.030** 0.76 | 2-282F | 205163-1 | 2-293F | 205417-1 | Recept. only |
| | | | | | | | | | | | 2-2F | 205557-2 | 2-24F | 205433-2 | Recept. with sockets |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 2-283F | 205165-1 | 2-294F | 205418-1 | Recept. only |
| | | | | | | | | | | | 2-3F | 205559-2 | 2-25F | 205484-2 | Recept. with sockets |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 2-284F | 205167-1 | 2-295F | 205419-1 | Recept. only |
| | | | | | | | | | | | 2-4F | 205561-2 | 2-26F | 205485-2 | Recept. with sockets |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 2-285F | 205169-1 | 2-296F | 205420-1 | Recept. only |
| | | | | | | | | | | | 2-5F | 205563-2 | 2-27F | 205432-2 | Recept. with sockets |

**Notes:** 1. Size 20 contacts supplied with connectors are loose piece.
2. "F" is stamped on connectors following **M24308** Part Number as required. -"F" designates cadmium shell plating.
3. See pages 8-99 through 8-103 (Military to AMP Part Number cross reference) for additional part numbers.





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## AMPLIMITE Connectors, Series 109 (Continued)

### Crimp, Series 109, Standard Density Connectors (MIL Qualified) — Zinc Plated RoHS Compliant

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel

#### Related Product Data:

**Cavity Identification** — page 8-39

**Contacts** — pages 8-40 to 8-42

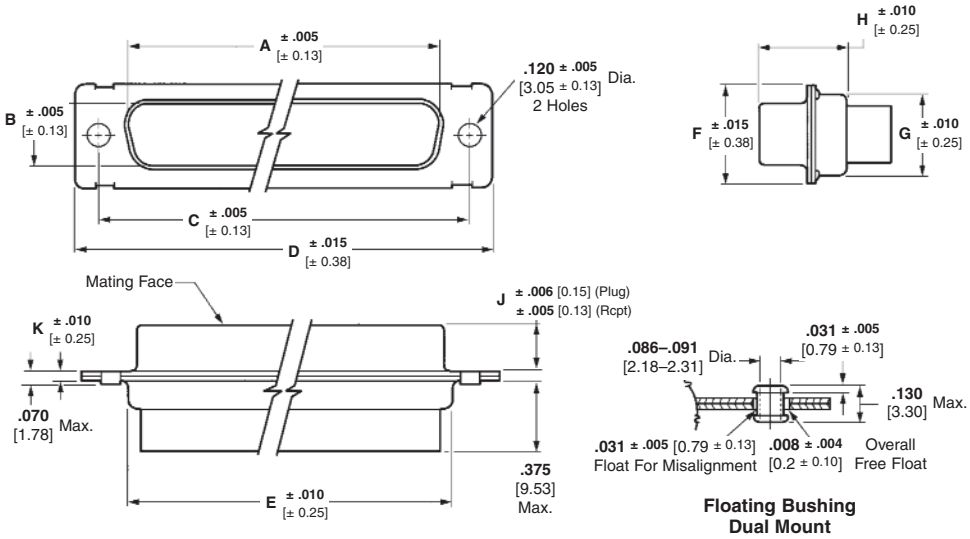
**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

#### Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.

RoHS Ready




**Floating Bushing Dual Mount**

### Series 109 Plugs per MIL-DTL-24308

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Standard Mount | | Floating Bushing Mount | | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Inside) | B (Inside) | C | D | E | F | G | H | J | K | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | |
| 9 | **.666** | **.329** | **.984** | **1.213** | **.759** | **.494** | **.422** | **.422** | **.235** | **.030** | 4-259 | 1757819-1 | 4-324 | 1757821-1 | Plug only |
| (1) | 16.92 | 8.36 | 24.99 | 30.81 | 19.28 | 12.55 | 10.72 | 10.72 | 5.97 | 0.76 | 4-1 | 1757819-6 | 4-302 | 1757821-6 | Plug with pins |
| 15 | **.994** | **.329** | **1.312** | **1.541** | **1.083** | **.494** | **.422** | **.422** | **.235** | **.030** | 4-260 | 1757819-2 | 4-325 | 1757821-2 | Plug only |
| (2) | 25.25 | 8.36 | 33.32 | 39.14 | 27.51 | 12.55 | 10.72 | 10.72 | 5.97 | 0.76 | 4-2 | 1757819-7 | 4-303 | 1757821-7 | Plug with pins |
| 25 | **1.534** | **.329** | **1.852** | **2.088** | **1.625** | **.494** | **.422** | **.426** | **.230** | **.039** | 4-261 | 1757819-3 | 4-326 | 1757821-3 | Plug only |
| (3) | 38.96 | 8.36 | 47.04 | 53.04 | 41.3 | 12.55 | 10.72 | 10.82 | 5.84 | 0.99 | 4-3 | 1757819-8 | 4-304 | 1757821-8 | Plug with pins |
| 37 | **2.182** | **.329** | **2.500** | **2.729** | **2.272** | **.494** | **.422** | **.426** | **.230** | **.039** | 4-262 | 1757819-4 | 4-327 | 1757821-4 | Plug only |
| (4) | 55.42 | 8.36 | 63.5 | 69.32 | 57.71 | 12.55 | 10.72 | 10.82 | 5.84 | 0.99 | 4-4 | 1757819-9 | 4-305 | 1757821-9 | Plug with pins |
| 50 | **2.079** | **.441** | **2.406** | **2.635** | **2.178** | **.605** | **.534** | **.426** | **.230** | **.039** | 4-263 | 1757819-5 | 4-328 | 1757821-5 | Plug only |
| (5) | 52.81 | 11.2 | 61.11 | 66.93 | 55.32 | 15.37 | 13.56 | 10.82 | 5.84 | 0.99 | 4-5 | 1-1757819-0 | 4-306 | 1-1757821-0 | Plug with pins |

### Series 109 Receptacles per MIL-DTL-24308

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Standard Mount | | Floating Bushing Mount | | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Outside) | B (Outside) | C | D | E | F | G | H | J | K | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | |
| 9 | **.643** | **.311** | **.984** | **1.213** | **.759** | **.494** | **.422** | **.429** | **.243** | **.030** | 2-281 | 1757820-1 | 2-292 | 1757822-1 | Recept. only |
| (1) | 16.33 | 7.9 | 24.99 | 30.81 | 19.28 | 12.55 | 10.72 | 10.9 | 6.17 | 0.76 | 2-1 | 1757820-6 | 2-23 | 1757822-6 | Recept. with sockets |
| 15 | **.971** | **.311** | **1.312** | **1.541** | **1.083** | **.494** | **.422** | **.429** | **.243** | **.030** | 2-282 | 1757820-2 | 2-293 | 1757822-2 | Recept. only |
| (2) | 24.66 | 7.9 | 33.32 | 39.14 | 27.51 | 12.55 | 10.72 | 10.9 | 6.17 | 0.76 | 2-2 | 1757820-7 | 2-24 | 1757822-7 | Recept. with sockets |
| 25 | **1.511** | **.311** | **1.852** | **2.088** | **1.625** | **.494** | **.422** | **.429** | **.243** | **.039** | 2-283 | 1757820-3 | 2-294 | 1757822-3 | Recept. only |
| (3) | 38.38 | 7.9 | 47.04 | 53.04 | 41.3 | 12.55 | 10.72 | 10.9 | 6.17 | 0.99 | 2-3 | 1757820-8 | 2-25 | 1757822-8 | Recept. with sockets |
| 37 | **2.159** | **.311** | **2.500** | **2.729** | **2.272** | **.494** | **.422** | **.429** | **.243** | **.039** | 2-284 | 1757820-4 | 2-295 | 1757822-4 | Recept. only |
| (4) | 54.84 | 7.9 | 63.5 | 69.32 | 57.71 | 12.55 | 10.72 | 10.9 | 6.17 | 0.99 | 2-4 | 1757820-9 | 2-26 | 1757822-9 | Recept. with sockets |
| 50 | **2.064** | **.423** | **2.406** | **2.635** | **2.178** | **.605** | **.534** | **.429** | **.243** | **.039** | 2-285 | 1757820-5 | 2-296 | 1757822-5 | Recept. only |
| (5) | 52.43 | 10.74 | 61.11 | 66.93 | 55.32 | 15.37 | 13.56 | 10.9 | 6.17 | 0.99 | 2-5 | 1-1757820-0 | 2-27 | 1-1757822-0 | Recept. with sockets |

**Notes:** 1. Size 20 contacts supplied with connectors are loose piece.
2. See pages 8-99 through 8-103 (Military to AMP Part Number cross reference) for additional part numbers.



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## AMPLIMITE Connectors, Series 109 (Continued)

### Crimp, Series 109, Standard Density Connectors (Industrial Grade)

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel

#### Related Product Data

**Cavity Identification** — page 8-39

**Contacts** — pages 8-40 to 8-42

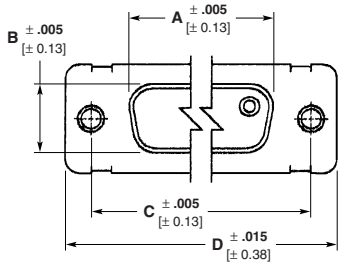
**Mounting, Mating Specifications** — page 8-90

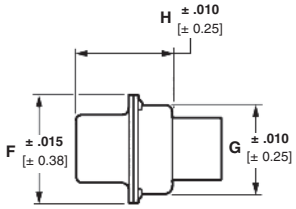
**Accessories** — pages 8-95 to 8-97

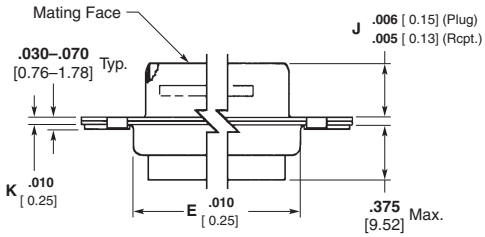
#### Attention: Connector Marking

Connector marking may differ from package marking.

**Note:** Meets requirements of MIL-DTL-24308




Clinch Nut Mount

### Series 109 Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Standard Mount Part Number | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Inside) | B (Inside) | C | D | E | F | G | H | J | K | | |
| 9 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | 1218748-1 | Plug only |
| 15 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | 1218748-2 | Plug only |
| 25 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 1218748-3 | Plug only |
| 37 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 1218748-4 | Plug only |
| 50 (5) | **2.079** 52.81 | **.441** 11.2 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | 1218748-5 | Plug. only |

Clinch Nut Mount available, contact TE.

### Series 109 Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | Clinch Nut Mount Part Number | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A (Inside) | B (Inside) | C | D | E | F | G | H | J | K | | |
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.030** 0.76 | 1218749-1 | Recept. only |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.030** 0.76 | 1218749-2 | Recept. only |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 1218749-3 | Recept. only |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 1218749-4 | Recept. only |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.429** 10.9 | **.243** 6.17 | **.039** 0.99 | 1218749-5 | Recept. only |

Standard Mount available, contact TE.





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## AMPLIMITE Connectors, Series 109 (Continued)

### Non-Magnetic Crimp Plugs, Series 109, Standard Density Connectors (NASA Qualified)

#### Connector Material and Finish

**Shell** — Brass, gold plated

**Insert** — Approved material per MIL-DTL-24308

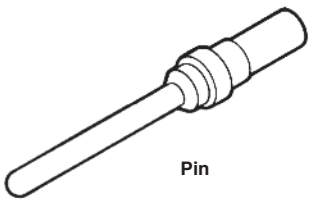
**Retention Clips** — Copper alloy

#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97



**Pin**

**Pin Contact**

| Wire Size Range | AMP Part No. / NASA No. |
|---|---|
| 26-28<br>0.15-0.08 | 206794-2<br>— |
| 20-24<br>0.6-0.2 | 205089-4<br>G-10-P1 |

Strip length .140 [3.56]
Max. insulation diameter .072 [1.83]

Hand tool M22520/2-01 or AMP Part Number 601966-1

Positioner M22520/2-08 or AMP Part Number 601966-5

#### Contact Material and Finish

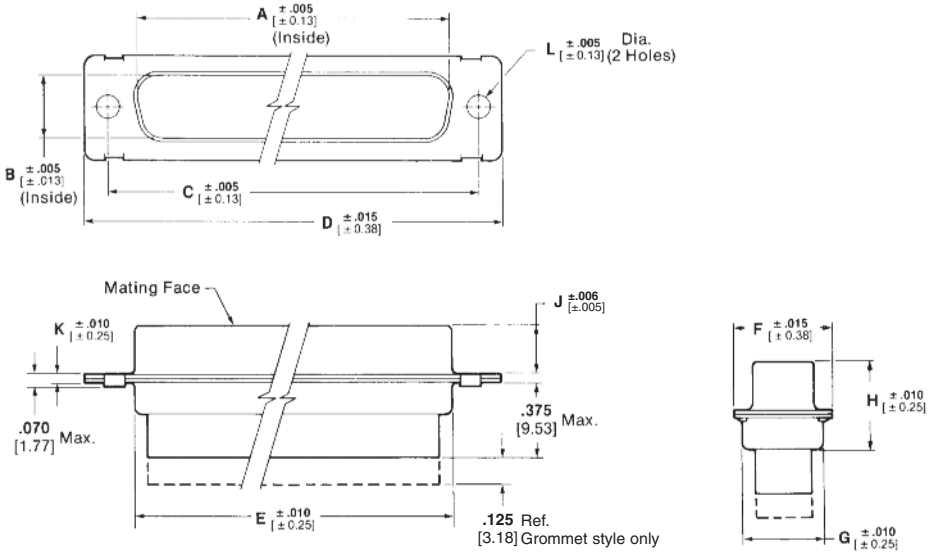
Copper alloy plated gold .000050–.000100 [0.00127–0.00254] thick over .000100–.000150 [0.00254–0.00381] copper underplate

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-2 or MIL Number M81969/1-02

Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4




### Non-Magnetic Plugs per NASA Specification

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | J | K | L | NASA Number | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | **.154** 3.91 | 311P409-1P-B-15 | 207252-1 |
| | | | | | | | | | | | **.120** 3.05 | 311P409-1P-B-12 | 207252-2 |
| 15 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | **.154** 3.91 | 311P409-2P-B-15 | 206798-1 |
| | | | | | | | | | | | **.120** 3.05 | 311P409-2P-B-12 | 206798-2 |
| 25 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.154** 3.91 | 311P409-3P-B-15 | 206800-1 |
| | | | | | | | | | | | **.120** 3.05 | 311P409-3P-B-12 | 206800-2 |
| 37 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.154** 3.91 | 311P409-4P-B-15 | 206802-1 |
| | | | | | | | | | | | **.120** 3.05 | 311P409-4P-B-12 | 206802-2 |
| 50 (5) | **2.079** 52.81 | **.441** 11.20 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.154** 3.91 | 311P409-5P-B-15 | 206804-1 |
| | | | | | | | | | | | **.120** 3.05 | 311P409-5P-B-12 | 206804-2 |

### Non-Magnetic Plugs With Silicone Rubber Rear Grommet[1]

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | J | K | L | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | **.120** 3.05 | 211638-4 |
| 15 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.235** 5.97 | **.030** 0.76 | **.120** 3.05 | 211639-4 |
| 25 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.120** 3.05 | 211640-4 |
| 37 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.120** 3.05 | 211641-4 |
| 50 (5) | **2.079** 52.81 | **.441** 11.20 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | **.230** 5.84 | **.039** 0.99 | **.120** 3.05 | 211642-4 |

[1] Grommet provided for cable strain relief.



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## AMPLIMITE Connectors, Series 109 (Continued)

### Non-Magnetic Crimp Receptacles, Series 109, Standard Density Connectors (NASA Qualified)

#### Connector Material and Finish

**Shell** — Brass, gold plated

**Insert** — Approved material per MIL-DTL-24308

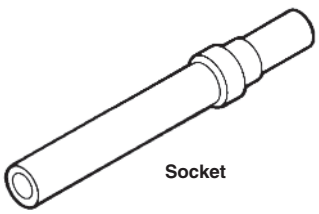
**Retention Clips** — Copper alloy

#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97



**Socket**

| Socket Contact | |
|---|---|
| **Wire Size Range** | **AMP Part No. / NASA No.** |
| 26-28<br>0.15-0.08 | 206795-1<br>— |
| 20-24<br>0.6-0.2 | 206793-1<br>G-10-S1 |

Strip length .140 [3.56]
Max. insulation diameter .072 [1.83]

Hand tool M22520/2-01 or AMP Part Number 601966-1

Positioner M22520/2-08 or AMP Part Number 601966-5

#### Contact Material and Finish

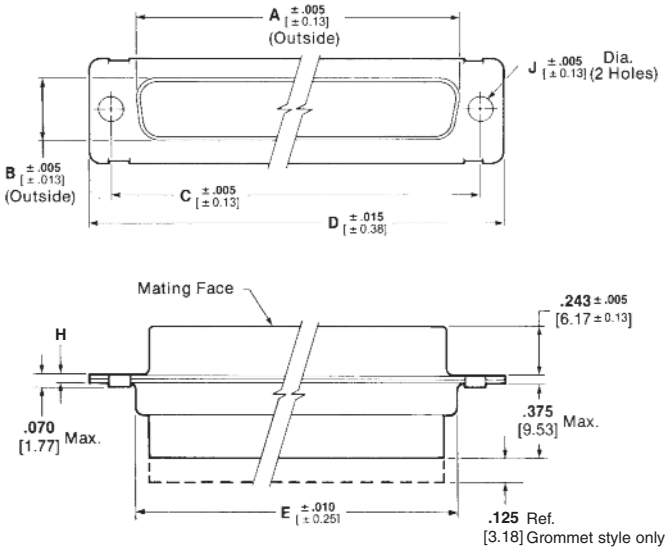
Copper alloy plated gold .000050–.000100 [0.00127–0.00254] thick over .000100–.000150 [0.00254–0.00381] copper underplate

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-2 or MIL Number M81969/1-02

Insertion tip, for replacement Part Number 126195-3

Extraction tip, for replacement Part Number 126195-4




### Non-Magnetic Receptacles per NASA Specification

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | J | NASA Number | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.030** 0.76 | **.154** 3.91 | 311P409-1S-B-15 | 207253-1 |
| | | | | | | | | | **.120** 3.05 | 311P409-1S-B-12 | 207253-2 |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.030** 0.76 | **.154** 3.91 | 311P409-2S-B-15 | 206799-1 |
| | | | | | | | | | **.120** 3.05 | 311P409-2S-B-12 | 206799-2 |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.039** 0.99 | **.154** 3.91 | 311P409-3S-B-15 | 206801-1 |
| | | | | | | | | | **.120** 3.05 | 311P409-3S-B-12 | 206801-2 |
| 37 (4) | **2.159** 55.42 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.039** 0.99 | **.154** 3.91 | 311P409-4S-B-15 | 206803-1 |
| | | | | | | | | | **.120** 3.05 | 311P409-4S-B-12 | 206803-2 |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.039** 0.99 | **.154** 3.91 | 311P409-5S-B-15 | 206805-1 |
| | | | | | | | | | **.120** 3.05 | 311P409-5S-B-12 | 206805-2 |

### Non-Magnetic Receptacles With Silicone Rubber Rear Grommet[1]

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | J | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.030** 0.76 | **.120** 3.05 | 211633-4 |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.030** 0.76 | **.120** 3.05 | 211634-4 |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.039** 0.99 | **.120** 3.05 | 211635-4 |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.71 | **.494** 12.55 | **.422** 10.72 | **.039** 0.99 | **.120** 3.05 | 211636-4 |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.039** 0.99 | **.120** 3.05 | 211637-4 |

[1] Grommet provided for cable strain relief.





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## AMPLIMITE Connectors, Series 109 (Continued)

### Crimp, Blindmate Plugs, Series 109, Standard Density Connectors

#### Materials and Finish

[1] **Shell, Front** — Aluminum alloy, cadmium plated with yellow chromate

[2] **Shell, Front** — Aluminum alloy, zinc plated with yellow trichromate

[1] **Shell, Rear** — Steel, cadmium plated with yellow chromate

[2] **Shell, Rear** — Steel, zinc plated with yellow trichromate

**Insert Assembly** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel

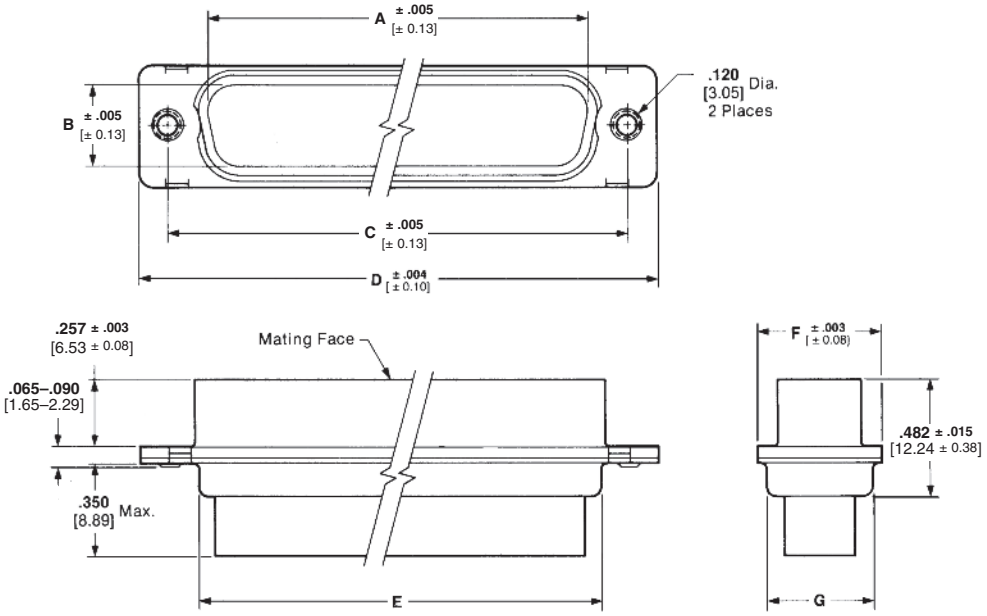
#### Related Product Data

**Cavity Identification** — page 8-39

**Contacts** — pages 8-40 to 8-42

**Mounting Specifications** — page 8-90

Mating information contained on page 8-90 does not pertain to Blindmate design. Flange to flange spacing can be a max. of .270 [6.86].




| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | |
| 9 | **.656** | **.324** | **.984** | **1.224** | **.769/.750** | **.506** | **.432/.413** | 445005-1[1] |
| (1) | 16.66 | 8.23 | 24.99 | 31.09 | 19.53/19.05 | 12.85 | 10.97/10.49 | 5-445005-1[2] |
| 15 | **.984** | **.324** | **1.312** | **1.552** | **1.093/1.074** | **.506** | **.432/.413** | 445006-1[1] |
| (2) | 25.0 | 8.23 | 33.32 | 39.42 | 27.76/27.28 | 12.85 | 10.97/10.49 | 5-445006-1[2] |
| 25 | **1.524** | **.324** | **1.852** | **2.099** | **1.635/1.616** | **.506** | **.432/.413** | 445007-1[1] |
| (3) | 38.71 | 8.23 | 47.04 | 53.31 | 41.53/41.05 | 12.85 | 10.97/10.49 | 5-445007-1[2] |
| 37 | **2.172** | **.324** | **2.500** | **2.740** | **2.282/2.263** | **.506** | **.432/.413** | 445008-1[1] |
| (4) | 55.17 | 8.23 | 63.5 | 69.60 | 57.96/57.48 | 12.85 | 10.97/10.49 | 5-445008-1[2] |
| 50 | **2.082** | **.444** | **2.406** | **2.646** | **2.188/2.167** | **.617** | **.544/.525** | 445009-1[1] |
| (5) | 52.88 | 11.28 | 61.11 | 67.21 | 55.58/55.04 | 15.67 | 13.82/13.34 | 5-445009-1[2] |

[1] See Material and Finish above.
[2] See Material and Finish for RoHS compliant Part Numbers above.
**Note:** See page 5-182 for Blindmate coax/signal combinations.



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## AMPLIMITE Connectors, Series 109 (Continued)

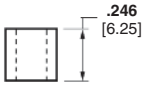
### Straight PCB, Series 109, Standard Density Connectors (MIL Qualified)

#### Material and Finish

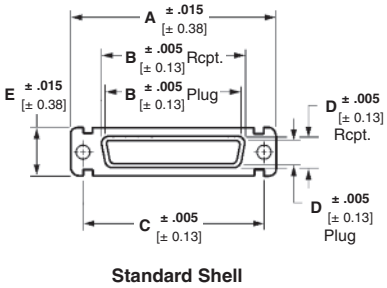
**Shell** — Steel, cadmium plated
**Insert** — Approved material per MIL-DTL-24308
**Contact** — Copper alloy plated gold over nickel underplate*
**Spacer** — Aluminum alloy, Iridite finish

#### Related Product Data

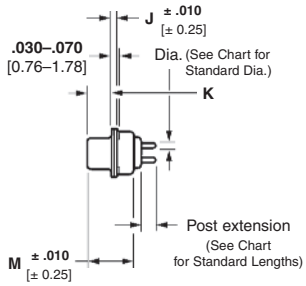
**Cavity Identification** — page 8-39
**Mounting, Mating Specifications** — page 8-90
**Accessories** — pages 8-95 to 8-97
**PCB Layouts** — See page 7-91 or TE Connectivity customer drawing.
***Socket Body** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel
**Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel
**Plug Body** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

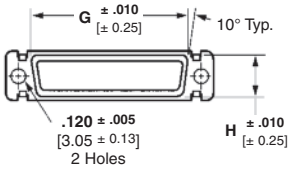


Spacer



Standard Shell




| MS Shell Size | Connector Style | Dimensions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | G | H | J | K | M |
| 1 | Plug | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.759** 19.28 | **.422** 10.72 | **.030** 0.76 | **.238/.229** 6.04/5.81 | **.422** 10.72 |
| | Receptacle | **1.213** 30.81 | **.643** 16.33 | **.984** 24.99 | **.311** 7.90 | **.494** 12.55 | **.759** 19.28 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 2 | Plug | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.32 | **.329** 8.36 | **.494** 12.55 | **1.083** 27.51 | **.422** 10.72 | **.030** 0.76 | **.238/.229** 6.04/5.81 | **.422** 10.72 |
| | Receptacle | **1.541** 39.14 | **.971** 24.66 | **1.312** 33.32 | **.311** 7.90 | **.494** 12.55 | **1.083** 27.51 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 3 | Plug | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **1.625** 41.28 | **.422** 10.72 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.088** 53.04 | **1.511** 38.38 | **1.852** 47.04 | **.311** 7.90 | **.494** 12.55 | **1.625** 41.28 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 4 | Plug | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.5 | **.329** 8.36 | **.494** 12.55 | **2.272** 57.71 | **.422** 10.72 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.729** 69.32 | **2.159** 54.84 | **2.500** 63.5 | **.311** 7.90 | **.494** 12.55 | **2.272** 57.71 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 5 | Plug | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 11.20 | **.605** 15.37 | **2.178** 55.32 | **.534** 13.56 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.635** 66.93 | **2.064** 52.43 | **2.406** 61.11 | **.423** 10.74 | **.605** 15.37 | **2.178** 55.32 | **.534** 13.55 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |

### Receptacle Assemblies

| Shell Size | No. Pos. | Post Dia. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells | | Cadmium Plated Shells | |
|---|---|---|---|---|---|---|---|
| | | | | Military Part No. M24308/ | Part No. | Military Part No. M24308/ | Part No. |
| 1 | 9 | **.030** 0.76 | **.156** 3.96 | 23-1 | 1757828-1 | 23-1F | 443975-1 |
| 2 | 15 | **.030** 0.76 | **.156** 3.96 | 23-2 | 1757828-2 | 23-2F | 443975-2 |
| 3 | 25 | **.030** 0.76 | **.156** 3.96 | 23-3 | 1757828-3 | 23-3F | 443975-3 |
| 4 | 37 | **.030** 0.76 | **.156** 3.96 | 23-4 | 1757828-4 | 23-4F | 443975-4 |
| 5 | 50 | **.030** 0.76 | **.156** 3.96 | 23-5 | 1757828-5 | 23-5F | 443975-5 |
| 1 | 9 | **.030** 0.76 | **.188** 4.78 | 23-7 | 1757830-1 | 23-7F | 443976-1 |
| 2 | 15 | **.030** 0.76 | **.188** 4.78 | 23-8 | 1757830-2 | 23-8F | 443976-2 |
| 3 | 25 | **.030** 0.76 | **.188** 4.78 | 23-9 | 1757830-3 | 23-9F | 443976-3 |
| 4 | 37 | **.030** 0.76 | **.188** 4.78 | 23-10 | 1757830-4 | 23-10F | 443976-4 |
| 5 | 50 | **.030** 0.76 | **.188** 4.78 | 23-11 | 1757830-5 | 23-11F | 443976-5 |
| 1 | 9 | **.040** 1.02 | **.156** 3.96 | 23-13 | 1757832-1 | 23-13F | 443977-1 |
| 2 | 15 | **.040** 1.02 | **.156** 3.96 | 23-14 | 1757832-2 | 23-14F | 443977-2 |
| 3 | 25 | **.040** 1.02 | **.156** 3.96 | 23-15 | 1757832-3 | 23-15F | 443977-3 |
| 4 | 37 | **.040** 1.02 | **.156** 3.96 | 23-16 | 1757832-4 | 23-16F | 443977-4 |
| 5 | 50 | **.040** 1.02 | **.156** 3.96 | 23-17 | 1757832-5 | 23-17F | 443977-5 |
| 1 | 9 | **.040** 1.02 | **.188** 4.78 | 23-19 | 1757834-1 | 23-19F | 443978-1 |
| 2 | 15 | **.040** 1.02 | **.188** 4.78 | 23-20 | 1757834-2 | 23-20F | 443978-2 |
| 3 | 25 | **.040** 1.02 | **.188** 4.78 | 23-21 | 1757834-3 | 23-21F | 443978-3 |
| 4 | 37 | **.040** 1.02 | **.188** 4.78 | 23-22 | 1757834-4 | 23-22F | 443978-4 |
| 5 | 50 | **.040** 1.02 | **.188** 4.78 | 23-23 | 1757834-5 | 23-23F | 443978-5 |

### Plug Assemblies

| Shell Size | No. Pos. | Post Dia. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells | | Cadmium Plated Shells | |
|---|---|---|---|---|---|---|---|
| | | | | Military Part No. M24308/ | Part No. | Military Part No. M24308/ | Part No. |
| 1 | 9 | **.030** 0.76 | **.156** 3.96 | 24-1 | 1757827-1 | 24-1F | 1218124-1 |
| 2 | 15 | **.030** 0.76 | **.156** 3.96 | 24-2 | 1757827-2 | 24-2F | 1218124-2 |
| 3 | 25 | **.030** 0.76 | **.156** 3.96 | 24-3 | 1757827-3 | 24-3F | 1218124-3 |
| 4 | 37 | **.030** 0.76 | **.156** 3.96 | 24-4 | 1757827-4 | 24-4F | 1218124-4 |
| 5 | 50 | **.030** 0.76 | **.156** 3.96 | 24-5 | 1757827-5 | 24-5F | 1218124-5 |
| 1 | 9 | **.030** 0.76 | **.188** 4.78 | 24-7 | 1757829-1 | 24-7F | 1218125-1 |
| 2 | 15 | **.030** 0.76 | **.188** 4.78 | 24-8 | 1757829-2 | 24-8F | 1218125-2 |
| 3 | 25 | **.030** 0.76 | **.188** 4.78 | 24-9 | 1757829-3 | 24-9F | 1218125-3 |
| 4 | 37 | **.030** 0.76 | **.188** 4.78 | 24-10 | 1757829-4 | 24-10F | 1218125-4 |
| 5 | 50 | **030** 0.76 | **.188** 4.78 | 24-11 | 1757829-5 | 24-11F | 1218125-5 |
| 1 | 9 | **.040** 1.02 | **.156** 3.96 | 24-13 | 1757831-1 | 24-13F | 1218126-1 |
| 2 | 15 | **.040** 1.02 | **.156** 3.96 | 24-14 | 1757831-2 | 24-14F | 1218126-2 |
| 3 | 25 | **.040** 1.02 | **.156** 3.96 | 24-15 | 1757831-3 | 24-15F | 1218126-3 |
| 4 | 37 | **.040** 1.02 | **.156** 3.96 | 24-16 | 1757831-4 | 24-16F | 1218126-4 |
| 5 | 50 | **.040** 1.02 | **.156** 3.96 | 24-17 | 1757831-5 | 24-17F | 1218126-5 |
| 1 | 9 | **.040** 1.02 | **.188** 4.78 | 24-19 | 1757833-1 | 24-19F | 1218127-1 |
| 2 | 15 | **.040** 1.02 | **.188** 4.78 | 24-20 | 1757833-2 | 24-20F | 1218127-2 |
| 3 | 25 | **040** 1.02 | **.188** 4.78 | 24-21 | 1757833-3 | 24-21F | 1218127-3 |
| 4 | 37 | **.040** 1.02 | **.188** 4.78 | 24-22 | 1757833-4 | 24-22F | 1218127-4 |
| 5 | 50 | **.040** 1.02 | **.188** 4.78 | 24-23 | 1757833-5 | 24-23F | 1218127-5 |





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## AMPLIMITE Connectors, Series 109 (Continued)

### Straight PCB, Series 109, Standard Density Connectors (Industrial Grade)

#### Material and Finish

**Shell** — Steel, cadmium or zinc plated

**Insert** — Approved material per MIL-DTL-24308

**Contact** — Copper alloy plated gold over nickel underplate*

**Spacer** — Aluminum alloy, Iridite finish

#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

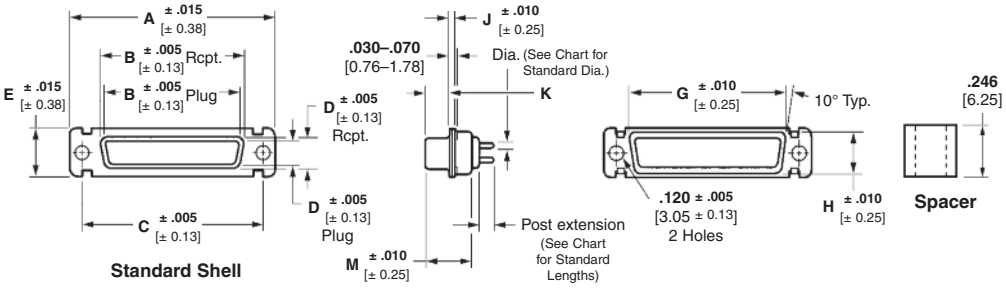
**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

*[a]**Socket Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

**Plug Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

**Product Specification** — 108-1770




| MS Shell Size | Connector Style | Dimensions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | G | H | J | K | M |
| 1 | Plug | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.759** 19.28 | **.422** 10.72 | **.030** 0.76 | **.238/.229** 6.04/5.81 | **.422** 10.72 |
| | Receptacle | **1.213** 30.81 | **.643** 16.33 | **.984** 24.99 | **.311** 7.90 | **.494** 12.55 | **.759** 19.28 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 2 | Plug | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.32 | **.329** 8.36 | **.494** 12.55 | **1.083** 27.51 | **.422** 10.72 | **.030** 0.76 | **.238/.229** 6.04/5.81 | **.422** 10.72 |
| | Receptacle | **1.541** 39.14 | **.971** 24.66 | **1.312** 33.32 | **.311** 7.90 | **.494** 12.55 | **1.083** 27.51 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 3 | Plug | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **1.625** 41.28 | **.422** 10.72 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.088** 53.04 | **1.511** 38.38 | **1.852** 47.04 | **.311** 7.90 | **.494** 12.55 | **1.625** 41.28 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 4 | Plug | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.5 | **.329** 8.36 | **.494** 12.55 | **2.272** 57.71 | **.422** 10.72 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.729** 69.32 | **2.159** 54.84 | **2.500** 63.5 | **.311** 7.90 | **.494** 12.55 | **2.272** 57.71 | **.422** 10.72 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |
| 5 | Plug | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 11.20 | **.605** 15.37 | **2.178** 55.32 | **.534** 13.56 | **.039** 0.99 | **.236/.224** 5.99/5.68 | **.426** 10.82 |
| | Receptacle | **2.635** 66.93 | **2.064** 52.43 | **2.406** 61.11 | **.423** 10.74 | **.605** 15.37 | **2.178** 55.32 | **.534** 13.55 | **.030** 0.76 | **.248/.238** 6.29/6.04 | **.429** 10.90 |



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UK: +44 800 267 666

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## AMPLIMITE Connectors, Series 109 (Continued)

### Straight PCB, Series 109, Standard Density Connectors (Industrial Grade) (Continued)

#### Material and Finish

**Shell** — Steel, see below

**[1] Tin Plated RoHS Compliant Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

**[2] Zinc Plated RoHS Compliant Finish** — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

**Insert** — Approved material per MIL-DTL-24308

**Contact** — Copper alloy plated gold over nickel underplate*

**Spacer** — Aluminum alloy, Iridite finish

#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

*[a] **Socket Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

**Plug Body and Mating Area** — .000050 [0.00127] min. gold over .000050 [0.00127] min. nickel

[b] **Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

**Product Specification** — 108-1770

| Shell Size | No. Pos. | Post Dia. | Post Ext. ± .020 [± 0.51] | Receptacle Part Number | | |
|---|---|---|---|---|---|---|
| | | | | Tin Plated Shells[a] | Tin Plated Shells[b] | Zinc Plated RoHS Shells[a,2] |
| 1 | 9 | .030 0.76 | .156 3.96 | 1218826-1[1] | 1218293-1[1] | 1218289-1 |
| 2 | 15 | .030 0.76 | .156 3.96 | 1218826-2[1] | 1218293-2[1] | 1218289-2 |
| 3 | 25 | .030 0.76 | .156 3.96 | 1218826-3[1] | 1218293-3[1] | 1218289-3 |
| 4 | 37 | .030 0.76 | .156 3.96 | 1218826-4[1] | 1218293-4[1] | 1218289-4 |
| 5 | 50 | .030 0.76 | .156 3.96 | 1218826-5[1] | 1218293-5[1] | 1218289-5 |
| 1 | 9 | .030 0.76 | .188 4.78 | 1218827-1[1] | 1218294-1[1] | 1218290-1 |
| 2 | 15 | .030 0.76 | .188 4.78 | 1218827-2[1] | 1218294-2[1] | 1218290-2 |
| 3 | 25 | .030 0.76 | .188 4.78 | 1218827-3[1] | 1218294-3[1] | 1218290-3 |
| 4 | 37 | .030 0.76 | .188 4.78 | 1218827-4[1] | 1218294-4[1] | 1218290-4 |
| 5 | 50 | .030 0.76 | .188 4.78 | 1218827-5[1] | 1218294-5[1] | 1218290-5 |
| 1 | 9 | .040 1.02 | .156 3.96 | — | — | 1218291-1 |
| 2 | 15 | .040 1.02 | .156 3.96 | — | — | 1218291-2 |
| 3 | 25 | .040 1.02 | .156 3.96 | — | — | 1218291-3 |
| 4 | 37 | .040 1.02 | .156 3.96 | — | — | 1218291-4 |
| 5 | 50 | .040 1.02 | .156 3.96 | — | — | 1218291-5 |
| 1 | 9 | .040 1.02 | .188 4.78 | 1218829-1[1] | — | 1218292-1 |
| 2 | 15 | .040 1.02 | .188 4.78 | 1218829-2[1] | — | 1218292-2 |
| 3 | 25 | .040 1.02 | .188 4.78 | 1218829-3[1] | — | 1218292-3 |
| 4 | 37 | .040 1.02 | .188 4.78 | 1218829-4[1] | — | 1218292-4 |
| 5 | 50 | .040 1.02 | .188 4.78 | 1218829-5[1] | — | 1218292-5 |

1 See Tin Plated RoHS compliant finish above.
2 See Zinc Plated RoHS compliant finish above.

| Shell Size | No. Pos. | Post Dia. | Post Ext. ± .020 [± 0.51] | Plug Part Number | |
|---|---|---|---|---|---|
| | | | | Tin Plated Shells[a] | Zinc Plated RoHS Shells[a,2] |
| 1 | 9 | .030 0.76 | .156 3.96 | 1218374-1[1] | 1218378-1 |
| 2 | 15 | .030 0.76 | .156 3.96 | 1218374-2[1] | 1218378-2 |
| 3 | 25 | .030 0.76 | .156 3.96 | 1218374-3[1] | 1218378-3 |
| 4 | 37 | .030 0.76 | .156 3.96 | 1218374-4[1] | 1218378-4 |
| 5 | 50 | .030 0.76 | .156 3.96 | 1218374-5[1] | 1218378-5 |
| 1 | 9 | .030 0.76 | .188 4.78 | 1218375-1[1] | 1218379-1 |
| 2 | 15 | .030 0.76 | .188 4.78 | 1218375-2[1] | 1218379-2 |
| 3 | 25 | .030 0.76 | .188 4.78 | 1218375-3[1] | 1218379-3 |
| 4 | 37 | .030 0.76 | .188 4.78 | 1218375-4[1] | 1218379-4 |
| 5 | 50 | 030 0.76 | .188 4.78 | 1218375-5[1] | 1218379-5 |
| 1 | 9 | .040 1.02 | .156 3.96 | — | 1218380-1 |
| 2 | 15 | .040 1.02 | .156 3.96 | — | 1218380-2 |
| 3 | 25 | .040 1.02 | .156 3.96 | — | 1218380-3 |
| 4 | 37 | .040 1.02 | .156 3.96 | — | 1218380-4 |
| 5 | 50 | .040 1.02 | .156 3.96 | — | 1218380-5 |
| 1 | 9 | .040 1.02 | .188 4.78 | 1218377-1[1] | 1218381-1 |
| 2 | 15 | .040 1.02 | .188 4.78 | 1218377-2[1] | 1218381-2 |
| 3 | 25 | 040 1.02 | .188 4.78 | 1218377-3[1] | 1218381-3 |
| 4 | 37 | .040 1.02 | .188 4.78 | 1218377-4[1] | 1218381-4 |
| 5 | 50 | .040 1.02 | .188 4.78 | 1218377-5[1] | 1218381-5 |

2 See Tin Plated RoHS compliant finish above.
3 See Zinc Plated RoHS compliant finish above.





Catalog 1308940
Revised 9-14

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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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## AMPLIMITE Connectors, Series 109 (Continued)

### Straight PCB, Series 109, Make First/Break Last Sub-D Connectors (Industrial Grade)

#### Material and Finish

**Shell** — Steel, cadmium or tin plated

**Insert** — Polyester per MIL-M-24519

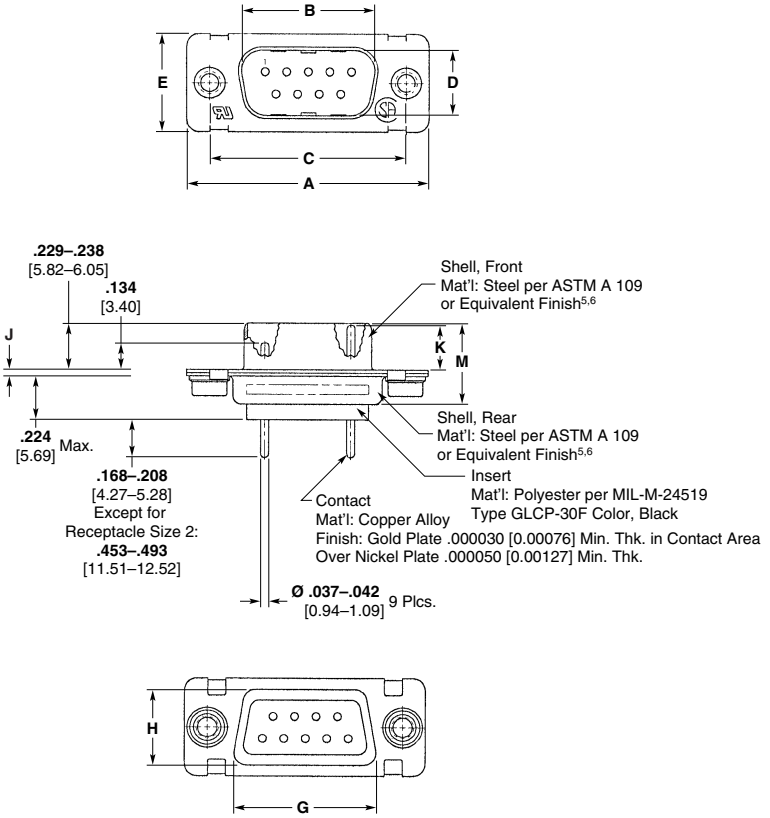
**Contact** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

[3] **Regular Length Contact Location:** 1, 6, and 9

[4] **Short Length Contact Location:** 2 thru 5, 7, and 8

[5] **Finish** — Cadmium per QQ-P-416

[6] **Finish** — Tin plated per MIL-T-10727




| MS Shell Size | Connector Style | Dimensions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | G | H | J | K | M |
| 1 | Plug | **1.213**<br>30.81 | **.666**<br>16.92 | **.984**<br>24.99 | **.329**<br>8.36 | **.494**<br>12.55 | **.759**<br>19.28 | **.422**<br>10.72 | **.020/.040**<br>0.51/1.02 | **.223**<br>5.66 | **.412/.432**<br>10.46/10.97 |
| | Receptacle | **1.213**<br>30.81 | **.643**<br>16.33 | **.984**<br>24.99 | **.311**<br>7.90 | **.494**<br>12.55 | **.759**<br>19.28 | **.422**<br>10.72 | **.238/.248**<br>6.05/6.30 | **.178**<br>4.52 | **.419/.439**<br>10.64/11.15 |
| 2 | Receptacle | **1.541**<br>39.14 | **.971**<br>24.66 | **1.312**<br>33.32 | **.311**<br>7.90 | **.494**<br>12.55 | **1.083**<br>27.51 | **.422**<br>10.72 | **.238/.248**<br>6.05/6.30 | **.178**<br>4.52 | **.419/.439**<br>10.64/11.15 |
| 3 | Plug | **2.088**<br>53.04 | **1.534**<br>38.96 | **1.852**<br>47.04 | **.329**<br>8.36 | **.494**<br>12.55 | **1.625**<br>41.28 | **.422**<br>10.72 | **.029/.049**<br>0.74/1.24 | **.217**<br>5.51 | **.416/.435**<br>10.57/11.07 |

### Plug Assemblies

| Shell Size | No. Pos. | Post Dia. | Plug Part Number | |
|---|---|---|---|---|
| | | | Tin Plated Shells | Cadmium Plated Shells |
| 1 | 9 | **.037/.043**<br>0.94/1.09 | 443638-2 | 443638-1 |
| 3 | 25 | **.037/.043**<br>0.94/1.09 | 443631-2 | 443631-1 |

### Receptacle Assemblies

| Shell Size | No. Pos. | Post Dia. | Plug Part Number | |
|---|---|---|---|---|
| | | | Tin Plated Shells | Cadmium Plated Shells |
| 1 | 9 | **.037/.043**<br>0.94/1.09 | 443637-2 | 443637-1 |
| 2 | 15 | **.037/.043**<br>0.94/1.09 | 443646-2 | 443646-1 |



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Dimensions are in millimeters unless otherwise specified.

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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Plugs, Series 109, Standard Density Connectors (MIL Qualified)

#### Material and Finish

**Shell** — Steel, cadmium plated

**Insert and Post Spacer** — Approved material per MIL-DTL-24308

**Contact** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

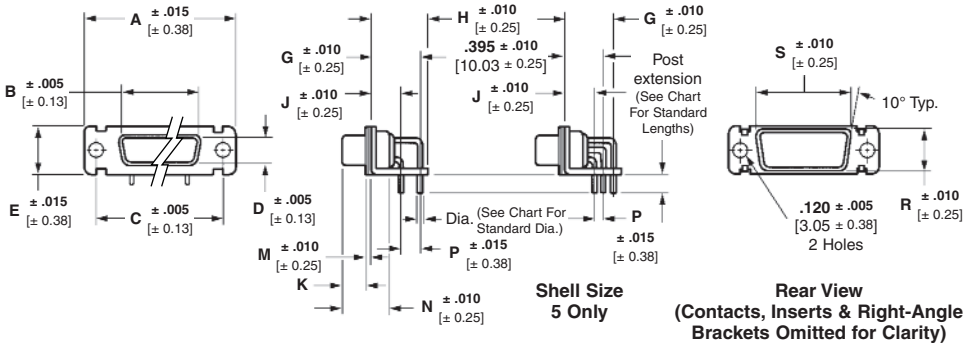
#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.




**Shell Size 5 Only**

**Rear View (Contacts, Inserts & Right-Angle Brackets Omitted for Clarity)**

| MS Shell Size | Connector Style | Dimensions | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | G | H | J | K | M | N | P | R | S |
| 1 | Plug | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.238/.229** 6.04/5.81 | **.030** 0.76 | **.422** 10.72 | **.112** 2.84 | **.422** 10.72 | **.759** 19.28 |
| 2 | Plug | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.33 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.238/.229** 6.04/5.81 | **.030** 0.76 | **.422** 10.72 | **.112** 2.84 | **.422** 10.72 | **1.083** 27.51 |
| 3 | Plug | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.422** 10.72 | **1.625** 29.59 |
| 4 | Plug | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.5 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.422** 10.72 | **2.272** 57.71 |
| 5 | Plug | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 10.44 | **.605** 15.37 | **.507** 12.88 | **.594** 15.09 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.534** 13.56 | **2.178** 55.32 |

### Plug Assemblies — .030 [0.76] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells: Military Part No. M24308/ | Zinc Plated Shells: Part No. | Cadmium Plated Shells: Military Part No. M24308/ | Cadmium Plated Shells: Part No. |
|---|---|---|---|---|---|---|
| 1 | 9 | **.125** 3.18 | 24-25 | 1757835-1 | 24-25F | 1218440-1 |
| 2 | 15 | **.125** 3.18 | 24-26 | 1757835-2 | 24-26F | 1218440-2 |
| 3 | 25 | **.125** 3.18 | 24-27 | 1757835-3 | 24-27F | 1218440-3 |
| 4 | 37 | **.125** 3.18 | 24-28 | 1757835-4 | 24-28F | 1218440-4 |
| 5 | 50 | **.125** 3.18 | 24-29 | 1757835-5 | 24-29F | 1218440-5 |
| 1 | 9 | **.156** 3.96 | 24-31 | 1757837-1 | 24-31F | 1218441-1 |
| 2 | 15 | **.156** 3.96 | 24-32 | 1757837-2 | 24-32F | 1218441-2 |
| 3 | 25 | **.156** 3.96 | 24-33 | 1757837-3 | 24-33F | 1218441-3 |
| 4 | 37 | **.156** 3.96 | 24-34 | 1757837-4 | 24-34F | 1218441-4 |
| 5 | 50 | **.156** 3.96 | 24-35 | 1757837-5 | 24-35F | 1218441-5 |
| 1 | 9 | **.188** 4.78 | 24-49 | 1757839-1 | 24-49F | 1218444-1 |
| 2 | 15 | **.188** 4.78 | 24-50 | 1757839-2 | 24-50F | 1218444-2 |
| 3 | 25 | **.188** 4.78 | 24-51 | 1757839-3 | 24-51F | 1218444-3 |
| 4 | 37 | **.188** 4.78 | 24-52 | 1757839-4 | 24-52F | 1218444-4 |
| 5 | 50 | **.188** 4.78 | 24-53 | 1757839-5 | 24-53F | 1218444-5 |

### Plug Assemblies — .040 [1.02] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells: Military Part No. M24308/ | Zinc Plated Shells: Part No. | Cadmium Plated Shells: Military Part No. M24308/ | Cadmium Plated Shells: Part No. |
|---|---|---|---|---|---|---|
| 1 | 9 | **.125** 3.18 | 24-37 | 1757841-1 | 24-37F | 1218442-1 |
| 2 | 15 | **.125** 3.18 | 24-38 | 1757841-2 | 24-38F | 1218442-2 |
| 3 | 25 | **.125** 3.18 | 24-39 | 1757841-3 | 24-39F | 1218442-3 |
| 4 | 37 | **.125** 3.18 | 24-40 | 1757841-4 | 24-40F | 1218442-4 |
| 5 | 50 | **.125** 3.18 | 24-41 | 1757841-5 | 24-41F | 1218442-5 |
| 1 | 9 | **.156** 3.96 | 24-43 | 1757843-1 | — | — |
| 2 | 15 | **.156** 3.96 | 24-44 | 1757843-2 | — | — |
| 3 | 25 | **.156** 3.96 | 24-45 | 1757843-3 | — | — |
| 4 | 37 | **.156** 3.96 | 24-46 | 1757843-4 | — | — |
| 5 | 50 | **.156** 3.96 | 24-47 | 1757843-5 | — | — |
| 1 | 9 | **.188** 4.78 | 24-55 | 1757845-1 | 24-55F | 1218445-1 |
| 2 | 15 | **.188** 4.78 | 24-56 | 1757845-2 | 24-56F | 1218445-2 |
| 3 | 25 | **.188** 4.78 | 24-57 | 1757845-3 | 24-57F | 1218445-3 |
| 4 | 37 | **.188** 4.78 | 24-58 | 1757845-4 | 24-58F | 1218445-4 |
| 5 | 50 | **.188** 4.78 | 24-59 | 1757845-5 | 24-59F | 1218445-5 |

**Note:** The suffix "F" on M24308 part numbers designates cadmium shell plating.





Catalog 1308940
Revised 9-14

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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (MIL Qualified)

#### Material and Finish

**Shell** — Steel, cadmium or zinc plated

**Insert and Post Spacer** — Approved material per MIL-DTL-24308

**Contacts** —

**Socket Body** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

**Mating Area** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

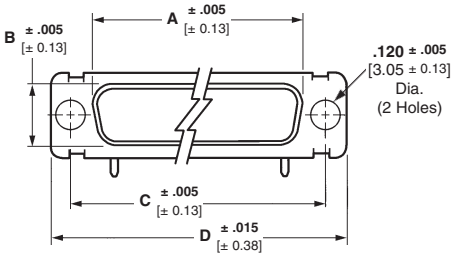
#### Related Product Data

**Cavity Identification** — page 8-39

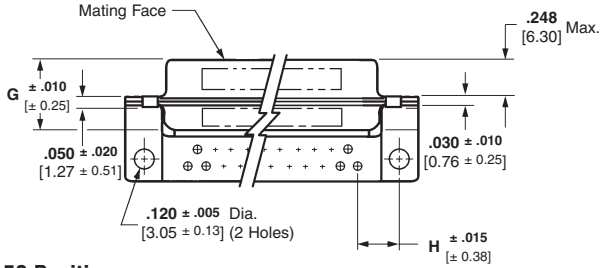
**Mounting, Mating Specifications** — page 8-90

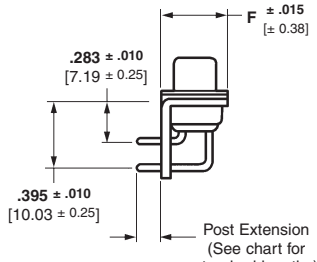
**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

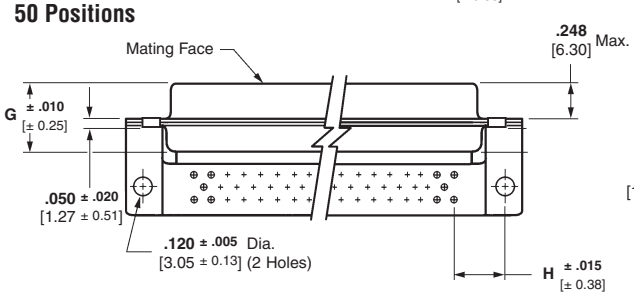


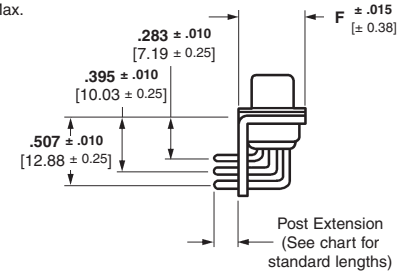

### 9, 15, 25 and 37 Positions




### 50 Positions




### Receptacle Assemblies

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | |
|---|---|---|---|---|---|---|---|
| | A (Outside) | B (Outside) | C | D | F | G | H |
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.494** 12.55 | **.429** 10.97 | **.276** 7.01 |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **.494** 12.55 | **.429** 10.97 | **.278** 7.06 |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **.494** 12.55 | **.429** 10.97 | **.274** 6.96 |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **.494** 12.55 | **.429** 10.97 | **.272** 6.91 |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **.605** 15.37 | **.429** 10.97 | **.333** 8.46 |

### Receptacle Assemblies — .030 [0.76] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells: Military Part No. M24308/ | Zinc Plated Shells: Part No. | Cadmium Plated Shells: Military Part No. M24308/ | Cadmium Plated Shells: Part No. |
|---|---|---|---|---|---|---|
| 1 | 9 | **.125** 3.18 | 23-25 | 1757836-1 | 23-25F | 1218434-1 |
| 2 | 15 | **.125** 3.18 | 23-26 | 1757836-2 | 23-26F | 1218434-2 |
| 3 | 25 | **.125** 3.18 | 23-27 | 1757836-3 | 23-27F | 1218434-3 |
| 4 | 37 | **.125** 3.18 | 23-28 | 1757836-4 | 23-28F | 1218434-4 |
| 5 | 50 | **.125** 3.18 | 23-29 | 1757836-5 | 23-29F | 1218434-5 |
| 1 | 9 | **.156** 3.96 | 23-31 | 1757838-1 | 23-31F | 1218408-1 |
| 2 | 15 | **.156** 3.96 | 23-32 | 1757838-2 | 23-32F | 1218408-2 |
| 3 | 25 | **.156** 3.96 | 23-33 | 1757838-3 | 23-33F | 1218408-3 |
| 4 | 37 | **.156** 3.96 | 23-34 | 1757838-4 | 23-34F | 1218408-4 |
| 5 | 50 | **.156** 3.96 | 23-35 | 1757838-5 | 23-35F | 1218408-5 |
| 1 | 9 | **.188** 4.78 | 23-49 | 1757840-1 | 23-49F | 1218437-1 |
| 2 | 15 | **.188** 4.78 | 23-50 | 1757840-2 | 23-50F | 1218437-2 |
| 3 | 25 | **.188** 4.78 | 23-51 | 1757840-3 | 23-51F | 1218437-3 |
| 4 | 37 | **.188** 4.78 | 23-52 | 1757840-4 | 23-52F | 1218437-4 |
| 5 | 50 | **.188** 4.78 | 23-53 | 1757840-5 | 23-53F | 1218437-5 |

### Receptacle Assemblies — .040 [1.02] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Zinc Plated Shells: Military Part No. M24308/ | Zinc Plated Shells: Part No. | Cadmium Plated Shells: Military Part No. M24308/ | Cadmium Plated Shells: Part No. |
|---|---|---|---|---|---|---|
| 1 | 9 | **.125** 3.18 | 23-37 | 1757842-1 | 23-37F | 1218435-1 |
| 2 | 15 | **.125** 3.18 | 23-38 | 1757842-2 | 23-38F | 1218435-2 |
| 3 | 25 | **.125** 3.18 | 23-39 | 1757842-3 | 23-39F | 1218435-3 |
| 4 | 37 | **.125** 3.18 | 23-40 | 1757842-4 | 23-40F | 1218435-4 |
| 5 | 50 | **.125** 3.18 | 23-41 | 1757842-5 | 23-41F | 1218435-5 |
| 1 | 9 | **.156** 3.96 | 23-43 | 1757844-1 | 23-43F | 1218436-1 |
| 2 | 15 | **.156** 3.96 | 23-44 | 1757844-2 | 23-44F | 1218436-2 |
| 3 | 25 | **.156** 3.96 | 23-45 | 1757844-3 | 23-45F | 1218436-3 |
| 4 | 37 | **.156** 3.96 | 23-46 | 1757844-4 | 23-46F | 1218436-4 |
| 5 | 50 | **.156** 3.96 | 23-47 | 1757844-5 | 23-47F | 1218436-5 |
| 1 | 9 | **.188** 4.78 | 23-55 | 1757846-1 | 23-55F | 1218438-1 |
| 2 | 15 | **.188** 4.78 | 23-56 | 1757846-2 | 23-56F | 1218438-2 |
| 3 | 25 | **.188** 4.78 | 23-57 | 1757846-3 | 23-57F | 1218438-3 |
| 4 | 37 | **.188** 4.78 | 23-58 | 1757846-4 | 23-58F | 1218438-4 |
| 5 | 50 | **.188** 4.78 | 23-59 | 1757846-5 | 23-59F | 1218438-5 |

**Note:** The suffix "F" on M24308 part numbers designates cadmium shell plating.



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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Plugs, Series 109, Standard Density Connectors (Industrial Grade)

#### Material and Finish

**Shell** — Steel, see below

**[1] Tin Plated RoHS Compliant Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

**[2] Zinc Plated RoHS Compliant Finish** — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

**Insert and Post Spacer** — Approved material per MIL-DTL-24308

**Contact** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

#### Related Product Data

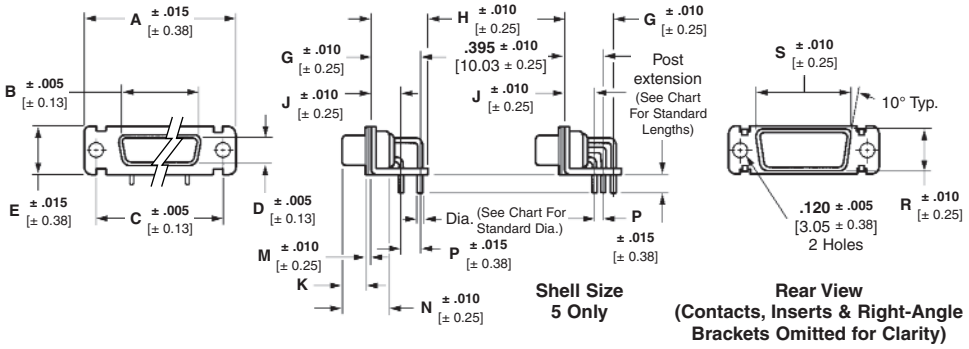
**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

**Product Specification** — 108-1770




**Shell Size 5 Only**

**Rear View (Contacts, Inserts & Right-Angle Brackets Omitted for Clarity)**

| MS Shell Size | Connector Style | Dimensions | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | G | H | J | K | M | N | P | R | S |
| 1 | Plug | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.238/.229** 6.04/5.81 | **.030** 0.76 | **.422** 10.72 | **.112** 2.84 | **.422** 10.72 | **.759** 19.28 |
| 2 | Plug | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.33 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.238/.229** 6.04/5.81 | **.030** 0.76 | **.422** 10.72 | **.112** 2.84 | **.422** 10.72 | **1.083** 27.51 |
| 3 | Plug | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.422** 10.72 | **1.625** 29.59 |
| 4 | Plug | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.5 | **.329** 8.36 | **.494** 12.55 | **.395** 10.03 | **.484** 12.29 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.422** 10.72 | **2.272** 57.71 |
| 5 | Plug | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 10.44 | **.605** 15.37 | **.507** 12.88 | **.594** 15.09 | **.283** 7.19 | **.236/.224** 5.99/5.68 | **.039** 0.99 | **.426** 10.82 | **.112** 2.84 | **.534** 13.56 | **2.178** 55.32 |

### Plug Assemblies — .030 [0.76] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Part Number | |
|---|---|---|---|---|
| | | | Tin Plated Shells[1] | Zinc Plated RoHS Shells[2] |
| 1 | 9 | **.125** 3.18 | 1218830-1 | 1218831-1 |
| 2 | 15 | **.125** 3.18 | 1218830-2 | 1218831-2 |
| 3 | 25 | **.125** 3.18 | 1218830-3 | 1218831-3 |
| 4 | 37 | **.125** 3.18 | 1218830-4 | 1218831-4 |
| 5 | 50 | **.125** 3.18 | 1218830-5 | 1218831-5 |
| 1 | 9 | **.156** 3.96 | 1218832-1 | 1218833-1 |
| 2 | 15 | **.156** 3.96 | 1218832-2 | 1218833-2 |
| 3 | 25 | **.156** 3.96 | 1218832-3 | 1218833-3 |
| 4 | 37 | **.156** 3.96 | 1218832-4 | 1218833-4 |
| 5 | 50 | **.156** 3.96 | 1218832-5 | 1218833-5 |
| 1 | 9 | **.188** 4.78 | 1218838-1 | 1218839-1 |
| 2 | 15 | **.188** 4.78 | 1218838-2 | 1218839-2 |
| 3 | 25 | **.188** 4.78 | 1218838-3 | 1218839-3 |
| 4 | 37 | **.188** 4.78 | 1218838-4 | 1218839-4 |
| 5 | 50 | **.188** 4.78 | 1218838-5 | 1218839-5 |

3 See Zinc Plated RoHS compliant finish above.

### Plug Assemblies — .040 [1.02] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Part Number | |
|---|---|---|---|---|
| | | | Tin Plated Shells[1] | Zinc Plated RoHS Shells[2] |
| 1 | 9 | **.125** 3.18 | 1218834-1 | 1218835-1 |
| 2 | 15 | **.125** 3.18 | 1218834-2 | 1218835-2 |
| 3 | 25 | **.125** 3.18 | 1218834-3 | 1218835-3 |
| 4 | 37 | **.125** 3.18 | 1218834-4 | 1218835-4 |
| 5 | 50 | **.125** 3.18 | 1218834-5 | 1218835-5 |
| 1 | 9 | **.156** 3.96 | — | 1218837-1 |
| 2 | 15 | **.156** 3.96 | — | 1218837-2 |
| 3 | 25 | **.156** 3.96 | — | 1218837-3 |
| 4 | 37 | **.156** 3.96 | — | 1218837-4 |
| 5 | 50 | **.156** 3.96 | — | 1218837-5 |
| 1 | 9 | **.188** 4.78 | 1218840-1 | 1218841-1 |
| 2 | 15 | **.188** 4.78 | 1218840-2 | 1218841-2 |
| 3 | 25 | **.188** 4.78 | 1218840-3 | 1218841-3 |
| 4 | 37 | **.188** 4.78 | 1218840-4 | 1218841-4 |
| 5 | 50 | **.188** 4.78 | 1218840-5 | 1218841-5 |

2 See Tin Plated RoHS compliant finish above.
3 See Zinc Plated RoHS compliant finish above.





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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (Industrial Grade)

#### Material and Finish

**Shell** — Steel, see below for finish options

**Tin Plated RoHS Compliant Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

**Zinc Plated RoHS Compliant** — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

**Insert and Post Spacer** — Approved material per MIL-DTL-24308

**Contacts** —

**Socket Body** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[a]**Mating Area** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

#### Related Product Data

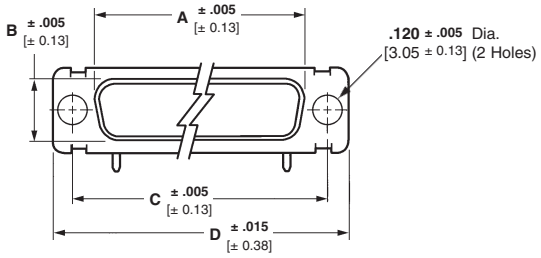
**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

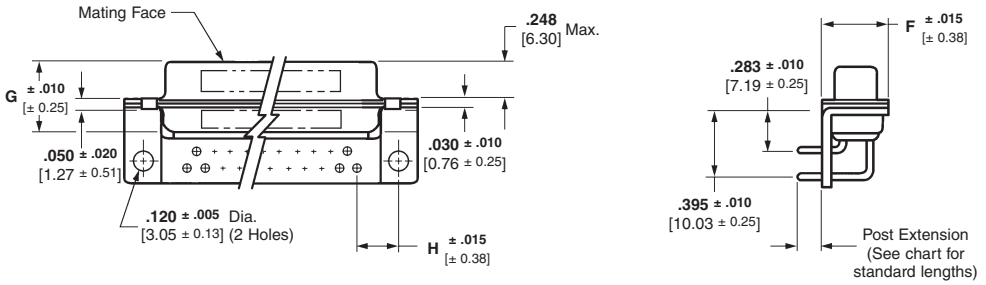
**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

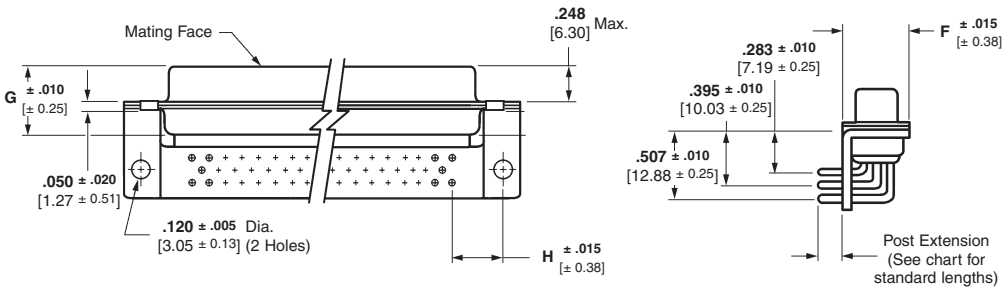
**Product Specification** — 108-1770




#### 9, 15, 25 and 37 Positions




#### 50 Positions




#### Receptacle Assemblies

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | |
|---|---|---|---|---|---|---|---|
| | A (Outside) | B (Outside) | C | D | F | G | H |
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.494** 12.55 | **.429** 10.97 | **.276** 7.01 |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **.494** 12.55 | **.429** 10.97 | **.278** 7.06 |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **.494** 12.55 | **.429** 10.97 | **.274** 6.96 |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **.494** 12.55 | **.429** 10.97 | **.272** 6.91 |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **.605** 15.37 | **.429** 10.97 | **.333** 8.46 |

## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Receptacles, Series 109, Standard Density Connectors (Industrial Grade) (Continued)

#### Material and Finish

**Shell** — Steel

**Insert and Post Spacer** — Approved material per MIL-DTL-24308

**Contacts** —

**Socket Body** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[a]**Mating Area** — Copper alloy with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

[b]**Mating Area** — Copper alloy with .000030 [0.00076] min. gold plate over .000050 [0.00127] min. nickel underplate

#### Related Product Data

**Cavity Identification** — page 8-39

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97

**PCB Layouts** — See page 8-91 or TE Connectivity customer drawing.

**Product Specification** — 108-1770

### Receptacle Assemblies — .030 [0.76] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Part Number | | |
|---|---|---|---|---|---|
| | | | Tin Plated Shells[b] | Tin Plated Shells[a] | Zinc Plated Shells[a] |
| 1 | 9 | .125 3.18 | 1218842-1 | 1218844-1 | 1218843-1 |
| 2 | 15 | .125 3.18 | 1218842-2 | 1218844-2 | 1218843-2 |
| 3 | 25 | .125 3.18 | 1218842-3 | 1218844-3 | 1218843-3 |
| 4 | 37 | .125 3.18 | 1218842-4 | 1218844-4 | 1218843-4 |
| 5 | 50 | .125 3.18 | 1218842-5 | 1218844-5 | 1218843-5 |
| 1 | 9 | .156 3.96 | 1218845-1 | 1218847-1 | 1218846-1 |
| 2 | 15 | .156 3.96 | 1218845-2 | 1218847-2 | 1218846-2 |
| 3 | 25 | .156 3.96 | 1218845-3 | 1218847-3 | 1218846-3 |
| 4 | 37 | .156 3.96 | 1218845-4 | 1218847-4 | 1218846-4 |
| 5 | 50 | .156 3.96 | 1218845-5 | 1218847-5 | 1218846-5 |
| 1 | 9 | .188 4.78 | 1218854-1 | 1218856-1 | 1218855-1 |
| 2 | 15 | .188 4.78 | 1218854-2 | 1218856-2 | 1218855-2 |
| 3 | 25 | .188 4.78 | 1218854-3 | 1218856-3 | 1218855-3 |
| 4 | 37 | .188 4.78 | 1218854-4 | 1218856-4 | 1218855-4 |
| 5 | 50 | .188 4.78 | 1218854-5 | 1218856-5 | 1218855-5 |

### Receptacle Assemblies — .040 [1.02] Post Dia.

| Shell Size | No. Pos. | Post Ext. ± .020 [± 0.51] | Part Number | | |
|---|---|---|---|---|---|
| | | | Tin Plated Shells[b] | Tin Plated Shells[a] | Zinc Plated Shells[a] |
| 1 | 9 | .125 3.18 | 1218848-1 | 1218850-1 | 1218849-1 |
| 2 | 15 | .125 3.18 | 1218848-2 | 1218850-2 | 1218849-2 |
| 3 | 25 | .125 3.18 | 1218848-3 | 1218850-3 | 1218849-3 |
| 4 | 37 | .125 3.18 | 1218848-4 | 1218850-4 | 1218849-4 |
| 5 | 50 | .125 3.18 | 1218848-5 | 1218850-5 | 1218849-5 |
| 1 | 9 | .156 3.96 | — | — | 1218852-1 |
| 2 | 15 | .156 3.96 | — | — | 1218852-2 |
| 3 | 25 | .156 3.96 | — | — | 1218852-3 |
| 4 | 37 | .156 3.96 | — | — | 1218852-4 |
| 5 | 50 | .156 3.96 | — | — | 1218852-5 |
| 1 | 9 | .188 4.78 | 1218857-1 | 1218859-1 | 1218858-1 |
| 2 | 15 | .188 4.78 | 1218857-2 | 1218859-2 | 1218858-2 |
| 3 | 25 | .188 4.78 | 1218857-3 | 1218859-3 | 1218858-3 |
| 4 | 37 | .188 4.78 | 1218857-4 | 1218859-4 | 1218858-4 |
| 5 | 50 | .188 4.78 | 1218857-5 | 1218859-5 | 1218858-5 |





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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Plugs, Series 109, with One Piece Insert (Industrial Grade)

#### Material and Finish

**Shell** — Steel, see below

**[1] Tin Plated Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

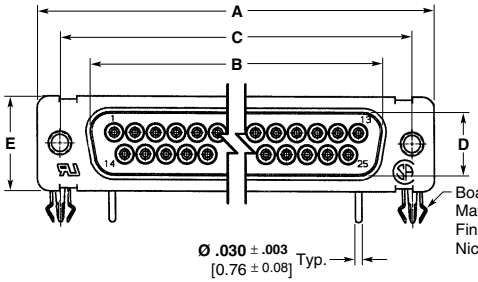
**[2] Zinc Plated RoHS Compliant Finish** — Zinc .000200–.000400 [0.00508–0.01016] thick, yellow trivalent chromate

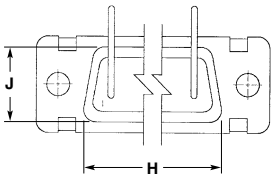
**Insert** — Thermoplastic

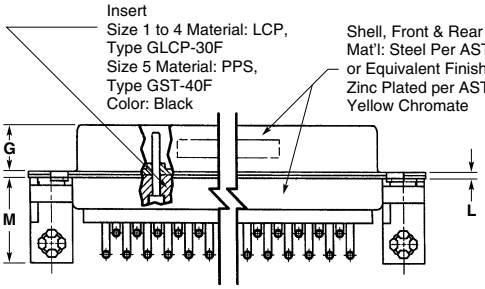
**Contact Material** — Brass or Beryllium copper

**Contact Finish** — Gold with .000010 [0.00025] min. gold plate over .000050 [0.00127] min. nickel underplate

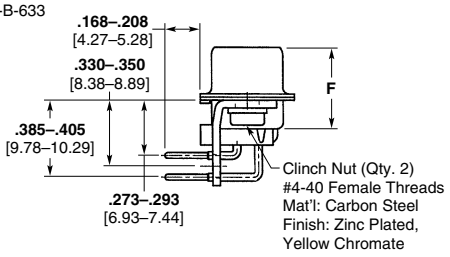
**Interfacial Seal** — Fluorosilicone

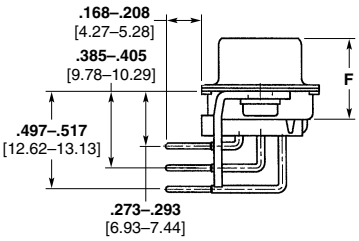


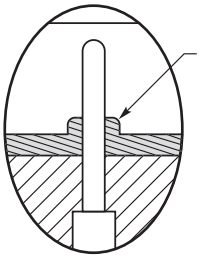



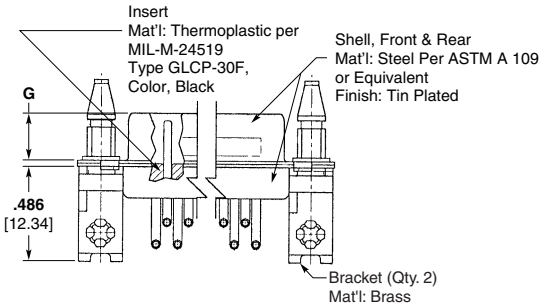

**3 and 5 Positions (with Interfacial Seal)**

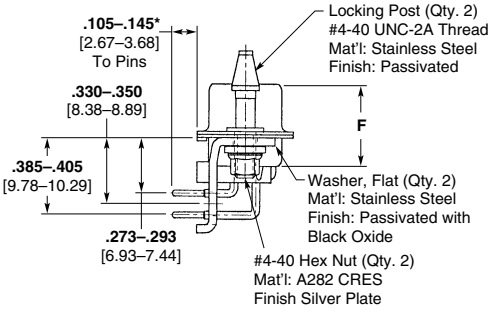



**9 Position (with Locking Post)**




*Signal Contacts are solder dipped with SnPb 63/37 to meet the requirements of MIL-DTL-24308, method 208.

| MS Shell Size | Connector Style | Dimensions | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | J | L | M |
| 1 | Plug | **1.198/1.228**<br>30.43/31.19 | **.661/.671**<br>16.21/16.46 | **.979/.989**<br>24.87/25.12 | **.324/.334**<br>8.23/8.48 | **.479/.509**<br>12.17/12.93 | **.412/.432**<br>10.46/10.97 | **.229/.238**<br>5.82/6.05 | **.749/.769**<br>19.02/19.53 | **.412/.432**<br>10.46/10.97 | **.020/.040**<br>0.51/1.02 | — |
| 3 | Plug | **2.073/2.103**<br>52.65/53.42 | **1.529/1.539**<br>38.25/38.51 | **1.847/1.857**<br>46.91/47.17 | **.324/.334**<br>8.23/8.48 | **.479/.509**<br>12.17/12.93 | **.416/.436**<br>10.57/11.07 | **.224/.236**<br>5.69/5.99 | **1.615/1.635**<br>41.02/41.53 | **.412/.432**<br>10.46/10.97 | **.029/.049**<br>0.74/1.24 | **.435/.443**<br>11.05/11.25 |
| 5 | Plug | **2.620/2.650**<br>66.55/67.31 | **2.074/2.084**<br>52.30/52.55 | **2.401/2.411**<br>60.99/61.24 | **.436/.446**<br>11.07/11.33 | **.590/.620**<br>14.99/15.75 | **.416/.436**<br>10.57/11.07 | **.224/.236**<br>5.69/5.99 | **2.168/2.188**<br>55.07/55.58 | **.524/.544**<br>13.31/13.82 | **.029/.049**<br>0.74/1.24 | **.490/.498**<br>12.45/12.65 |

### Plug Assemblies — .030 [0.76] Post Dia.

| Shell Size | No. Pos. | With interfacial Seal | Part Number | |
|---|---|---|---|---|
| | | | Tin Plated Shells[1] | Zinc Plated RoHS Shells[2] |
| 1 | 9 | No | 1218606-6 | — |
| 3 | 25 | Yes | — | 1218538-3 |
| 5 | 50 | Yes | — | 1218538-5 |

[1] See Material and Finish above.
[2] See RoHS compliant Material and Finish above.



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## AMPLIMITE Connectors, Series 109 (Continued)

### Right-Angle, PCB Receptacles, Series 109, with One Piece Insert (Industrial Grade)

#### Material and Finish

**Shell** — Steel, tin plated

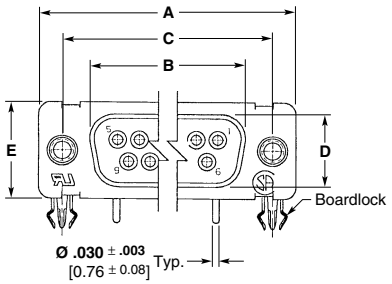
**[1] Tin Plated RoHS Compliant Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over copper .000050 [0.00127] min. thick

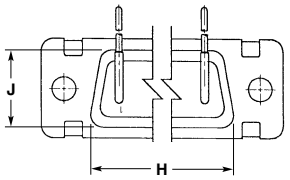
**Insert** — Thermoplastic

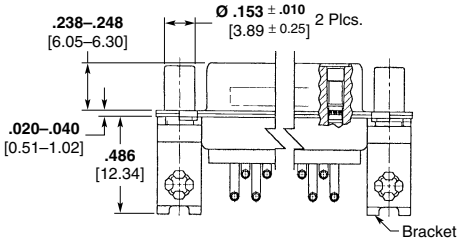
**Contact Material** — Brass or Beryllium copper

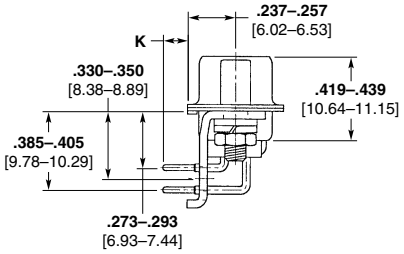
**Contact Finish** — Gold with .000010 [0.00025] min. gold over .000050 [0.00127] min. nickel underplate

**9 Position**

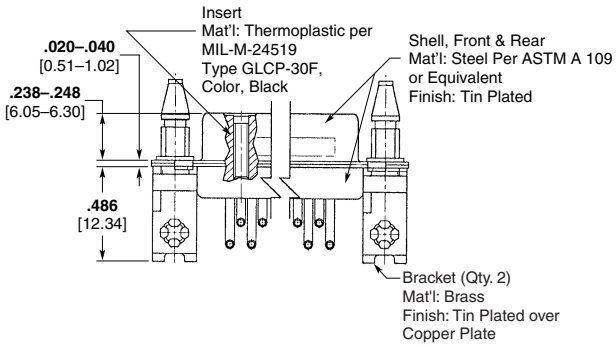


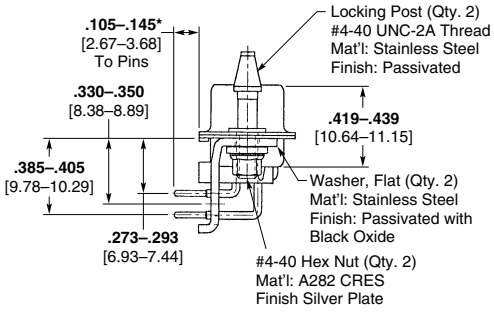




**9 Position (with Locking Post)**




*Signal Contacts are solder dipped with SnPb 63/37 to meet the requirements of MIL-DTL-24308, method 208.

| MS Shell Size | Connector Style | Dimensions | | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | H | J | K | |
| 1 | Receptacle | **1.198/1.228**<br>30.43/31.19 | **.638/.648**<br>16.21/16.46 | **.979/.989**<br>24.87/25.12 | **.306/.316**<br>7.77/8.03 | **.479/.509**<br>12.17/12.93 | **.749/.769**<br>19.02/19.53 | **.412/.432**<br>10.46/10.97 | **.105/.145**<br>2.67/3.68 | 1218665-1[1] |
| | | | | | | | | | **.136/.176**<br>3.45/4.47 | 1218665-6[1] |
| | | | | | | | **.749/.769**<br>19.02/19.53 | **.412/.432**<br>10.46/10.97 | — | 1218607-6[1] |

[1] See Material and Finish above.
[2] See RoHS compliant Material and Finish above.





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## AMPLIMITE Connectors, Series 109 (Continued)

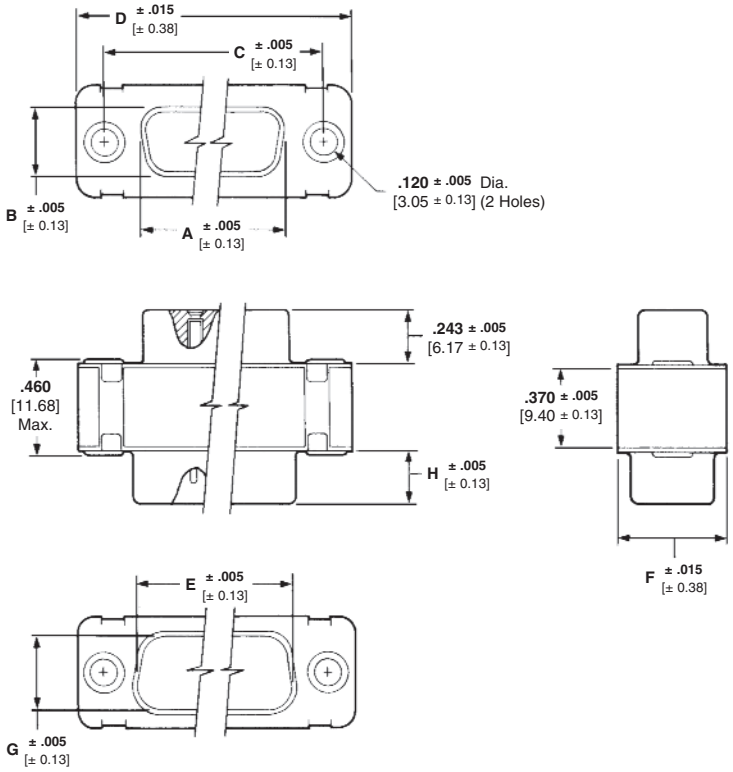
### Connector Savers, Series 109, Standard Density

Connector savers prolong the life of permanently installed connectors which would otherwise be subjected to repeated cycles of mating and unmating, in applications such as test interfaces or on testing devices.

### Material and Finish

**Standard** —
**Shell** — Steel, cadmium plated
**Contact Body** — Beryllium copper with .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate
**Socket Hood** — Passivated stainless steel
**Insert** — Glass filled polyester
**Spacer** — Black nylon

**Non Magnetic** —
**Shell** — Brass, gold plated
**Contact Body** — Beryllium copper with .000050 [0.00127] min. gold plate over .000100 [0.00254] min. copper underplate
**Socket Hood** — Brass with .000050 [0.00127] min. gold over .000100 [0.00254] min. copper underplate
**Insert** — Glass filled polyester
**Spacer** — Black nylon




| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | A (outside) | B (outside) | C | D | E (inside) | F | G (inside) | H |
| 9 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.666** 16.92 | **.494** 12.55 | **.329** 8.36 | **.235** 5.97 |
| 15 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **.994** 25.25 | **.494** 12.55 | **.329** 8.36 | **.235** 5.97 |
| 25 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.534** 38.96 | **.494** 12.55 | **.329** 8.36 | **.230** 5.84 |
| 37 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.182** 55.42 | **.494** 12.55 | **.329** 8.36 | **.230** 5.84 |
| 50 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.079** 52.81 | **.605** 15.37 | **.441** 11.20 | **.230** 5.84 |

| No. of Contact Pos. (Shell Size) | Standard (Cadmium Plated Steel Shell) | Non-Magnetic (Gold Plated Brass Shell) |
|---|---|---|
| 9 (1) | 212559-1 | 212559-2 |
| 15 (2) | 212560-1 | 212560-2 |
| 25 (3) | 212561-1 | 212561-2 |
| 37 (4) | 212562-1 | 212562-2 |
| 50 (5) | 212563-1 | 212563-2 |



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## AMPLIMITE Connectors, Series 109 Cross Reference

### Material and Finish

**Shell** — Steel, tin plated per ASTM-B-545, .000400–.000550 [0.01016–0.01397] thick.

**Insert** — Approved material per MIL-DTL-24308.

**Retention Clips** — Stainless steel or copper alloy.

### Related Product Data

**Series 109 Connectors** — page 8-43

### Attention: Connector Marking

Connector marking may differ from package marking.

**Note:** Meets 48 hr. salt spray requirements of MIL-DTL-24308.

### Series 109 Connectors

| No. of Contact Pos. (Shell Size) | Part Number | Description | Dimensions |
|---|---|---|---|
| 9 (1) | 205162-6 | Plug Only | Refer to page 8-43 |
| | 205162-5 | Plug Only with Grounding Indents | |
| | 205161-5 | Receptacle Only | |
| 15 (2) | 205164-6 | Plug Only | Refer to page 8-43 |
| | 205164-5 | Plug Only with Grounding Indents | |
| | 205163-5 | Receptacle Only | |
| 25 (3) | 205166-5 | Plug Only | Refer to page 8-43 |
| | 205166-4 | Plug Only with Grounding Indents | |
| | 205165-4 | Receptacle Only | |
| 37 (4) | 205168-7 | Plug Only | Refer to page 8-43 |
| | 205168-6 | Plug Only with Grounding Indents | |
| | 205167-5 | Receptacle Only | |
| 50 (5) | 205170-5 | Plug Only | Refer to page 8-43 |
| | 205170-4 | Plug Only with Grounding Indents | |
| | 205169-4 | Receptacle Only | |





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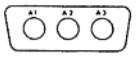
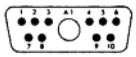
## AMPLIMITE Connectors, Coax Mix

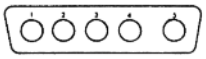
### Crimp, Power/Coax/Signal Combination Standard Density, Series 109 Connectors



| | |
|---|---|
| Shell Size | 2 |
| Contact Arrangement | 3C3[5] |
| No. of Signal Contacts | 0 |
| No. of Coaxial Contacts | 3 |

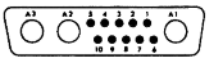


| | |
|---|---|
| Shell Size | 2 |
| Contact Arrangement | 11C1 |
| No. of Signal Contacts | 10 |
| No. of Coaxial Contacts | 1 |



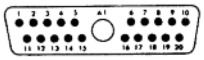
| | |
|---|---|
| Shell Size | 3 |
| Contact Arrangement | 5C5 |
| No. of Signal Contacts | 0 |
| No. of Coaxial Contacts | 5 |

| | |
|---|---|
| Shell Size | 3 |
| Contact Arrangement | 9C4 |
| No. of Signal Contacts | 5 |
| No. of Coaxial Contacts | 4 |



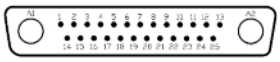
| | |
|---|---|
| Shell Size | 3 |
| Contact Arrangement | 13C3 |
| No. of Signal Contacts | 10 |
| No. of Coaxial Contacts | 3 |

| | |
|---|---|
| Shell Size | 3 |
| Contact Arrangement | 17C2 |
| No. of Signal Contacts | 15 |
| No. of Coaxial Contacts | 2 |

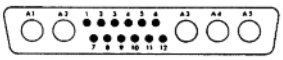


| | |
|---|---|
| Shell Size | 3 |
| Contact Arrangement | 21C1 |
| No. of Signal Contacts | 20 |
| No. of Coaxial Contacts | 1 |

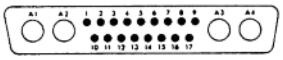
| | |
|---|---|
| Shell Size | 4 |
| Contact Arrangement | 8C8 |
| No. of Signal Contacts | 0 |
| No. of Coaxial Contacts | 8 |



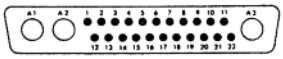
| | |
|---|---|
| Shell Size | 4 |
| Contact Arrangement | 27C2 |
| No. of Signal Contacts | 25 |
| No. of Coaxial Contacts | 2 |



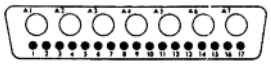
| | |
|---|---|
| Shell Size | 4 |
| Contact Arrangement | 17C5 |
| No. of Signal Contacts | 12 |
| No. of Coaxial Contacts | 5 |



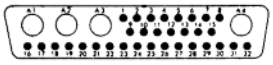
| | |
|---|---|
| Shell Size | 4 |
| Contact Arrangement | 21C4 |
| No. of Signal Contacts | 17 |
| No. of Coaxial Contacts | 4 |



| | |
|---|---|
| Shell Size | 4 |
| Contact Arrangement | 25C3 |
| No. of Signal Contacts | 22 |
| No. of Coaxial Contacts | 3 |



| | |
|---|---|
| Shell Size | 5 |
| Contact Arrangement | 24C7 |
| No. of Signal Contacts | 17 |
| No. of Coaxial Contacts | 7 |



| | |
|---|---|
| Shell Size | 5 |
| Contact Arrangement | 36C4 |
| No. of Signal Contacts | 32 |
| No. of Coaxial Contacts | 4 |

### Material and Finish

**Shell** — Steel or copper alloy
[a] .000200 [.0000079] min. thick plating.
[b] .000400 [.0000157] min. thick plating.
**Plating** — Cadmium, tin, gold or zinc

**Insert** — Approved material per MIL-DTL-24308
**Retention Clips** — Stainless steel or copper alloy

### Contact Selection

**Standard:**
Size 8 coax: Table I, page 8-66
Size 8 power: page 8-65
Size 20 signal: pages 8-40 to 8-42, 8-46 and 8-47

| Insert Arrangement | Standard | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cad Plated Steel Shell (.120 Mounting Hole) | | RoHS Zinc Plated Steel Shell (.120 Mntg. Hole) | | RoHS Tin Plated Steel Shell (.120 Mntg. Hole)[a] | | NASA Gold Plated Brass (.120 Mounting Hole) | | NASA Gold Plated Brass (.154 Mounting Hole) | |
| | Plug (Pin) | Receptacle (Socket) | Plug (Pin) | Receptacle (Socket) | Plug[6] (Pin) | Receptacle (Socket) | Plug (Pin) | Receptacle (Socket) | Plug (Pin) | Receptacle (Socket) |
| 3C3 | 448153-1 | 445705-4 | 5-448153-1 | 5-445705-4 | 448153-4[6] | 445705-1 | 448153-2 | 445705-2 | 448153-3 | 445705-3 |
| 11C1 | 211111-1 | 211112-1 | 5-211111-1 | 5-211112-1 | 211111-4[6] | 211112-4 | 211111-2 | 211112-2 | 211111-3 | 211112-3 |
| 5C5 | 212491-1 | 212059-1 | 5-212491-1 | 5-212059-1 | 212491-3[6] | 212059-3 | 212491-6 | 212059-2 | 212491-7 | 212059-6 |
| 9C4 | 212498-1 | 212502-1 | 5-212498-1 | 5-212502-1 | 212498-4[6] | 212502-5 | 212498-2 | 212502-2 | 212498-3 | 212502-3 |
| 13C3 | 208810-1 | 208811-1 | 5-208810-1 | 5-208811-1 | 208810-2[6] | 208811-2 | 208810-3 | 208811-3 | 208810-4 | 208811-4 |
| 17C2 | 212506-1 | 212510-1 | 5-212506-1 | 5-212510-1 | 212506-5[6] | 212510-4 | 212506-2 | 212510-2 | 212506-4 | 212510-3 |
| 21C1 | 212522-1 | 212526-1 | 5-212522-1 | 5-212526-1 | 212522-2[6] | 212526-2 | 212522-3 | 212526-3 | 212522-4 | 212526-4 |
| 8C8 | 446405-1 | 445730-1 | 5-446405-1 | 5-445730-1 | 446405-4[6] | 445730-5 | 446405-2 | 445730-3 | 446405-3 | 445730-4 |
| 27C2 | 212538-1 | 212542-1 | 5-212538-1 | 5-212542-1 | 212538-4[6] | 212542-4 | 212538-2 | 212542-2 | 212538-3 | 212542-3 |
| 17C5 | 212514-1 | 212518-1 | 5-212514-1 | 5-212518-1 | 212514-5[6] | 212518-5 | 212514-3 | 212518-3 | 212514-4 | 212518-4 |
| 21C4 | 212530-1 | 212534-1 | 5-212530-1 | 5-212534-1 | 212530-4[6] | 212534-4 | 212530-2 | 212534-2 | 212530-3 | 212534-3 |
| 25C3 | 208742-1 | 208551-1 | 5-208742-1 | 5-208551-1 | 208742-4[6] | 208551-4 | 208742-2 | 208551-2 | 208742-3 | 208551-3 |
| 24C7 | 208743-1 | 208552-1 | 5-208743-1 | 5-208552-1 | 208743-4[6] | 208552-4 | 208743-2 | 208552-2 | 208743-6 | 208552-5 |
| 36C4 | 208744-1 | 208550-1 | 5-208744-1 | 5-208550-1 | 208744-5[6] | 208550-4 | 208744-3 | 208550-2 | 208744-4 | 208550-3 |

**Notes:**
1. NASA connectors listed above are qualified to NASA specification 311-P-405. See pages 8-104 and 8-105 for NASA cross reference.
2. Plug insert arrangements shown. Receptacle arrangement is mirror image.
3. Cable clamp/strain relief hardware cannot be used with these arrangements.
4. See pages 8-93 and 8-94 for PCB layouts.
5. The 3C3 arrangement can be mismated 180°. Contact TE Connectivity or call Technical Support for keyed Part Numbers, 1218654-1 and 1218655-1.
6. Tin plated plugs only include grounding indents.



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## AMPLIMITE Connectors, Coax Mix (Continued)

### Crimp, Power/Coax/Signal Combination Standard Density, Series 109 Connectors

(Continued)

### Material and Finish

**Shell** — Steel or copper alloy
[a] .000200 [.0000079] min. thick plating.
[b] .000400 [.0000157] min. thick plating.

**Plating** — Cadmium, tin-lead, tin, gold or zinc

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel or copper alloy

### Contact Selection

**Blindmate:**

Size 8 coax: Table II, page 8-67
Size 8 power: page 8-65
Size 20 signal: pages 8-40 to 8-42, 8-46 and 8-47

| Insert Arrangement | Blindmate | | | |
|---|---|---|---|---|
| | Cad Plated Steel Shell (.120 Mounting Hole) | | RoHS Zinc Plated Steel Shell (.120 Mntg. Hole) | |
| | Plug (Pin) | Receptacle (Socket) | Plug (Pin) | Receptacle (Socket) |
| 3C3 | 447717-1 | 447718-1 | 5-447717-1 | 5-447718-1 |
| 11C1 | 447721-1 | 447722-1 | 5-447721-1 | 5-447722-1 |
| 5C5 | 446630-1 | 212049-3 | — | 5-212049-3 |
| 9C4 | 445701-1 | 212051-2 | — | — |
| 13C3 | 447723-1 | 212057-2 | 5-447723-1 | 5-212057-2 |
| 17C2 | 447724-1 | 212053-3 | 5-447724-1 | 5-212053-3 |
| 21C1 | 447727-1 | 212055-2 | — | — |
| 8C8 | 447719-1 | 447720-1 | 5-447719-1 | 5-447720-1 |
| 27C2 | 447732-1 | 447733-1 | — | — |
| 17C5 | 447725-1 | 447726-1 | — | — |
| 21C4 | 447728-1 | 445726-1 | — | 5-445726-1 |
| 25C3 | 447730-1 | 447731-1 | — | — |
| 24C7 | 446631-1 | 445000-2 | — | — |
| 36C4 | 446710-1 | 446711-1 | 5-446710-1 | 5-446711-1 |

**Notes:**
1. Plug insert arrangements shown. Receptacle arrangement is mirror image.
2. Cable clamp/strain relief hardware cannot be used with these arrangements.
3. See pages 8-93 and 8-94 for PCB layouts.
4. **Blindmate** plugs feature a chamfered lead-in on the front shell, which is constructed of aluminum alloy. See page 8-48 for shell dimensions. **Blindmate** receptacles feature float bushings installed in the mounting holes. See pages 8-43 and 8-44 for shell dimensions.
5. The 3C3 arrangement can be mismated 180°. Contact TE Connectivity or call Technical Support for keyed Part Numbers, 1218654-1 and 1218655-1.
6. All connector plugs with grounding indents except the cadmium plated.





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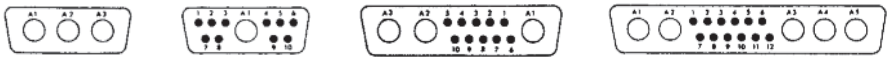
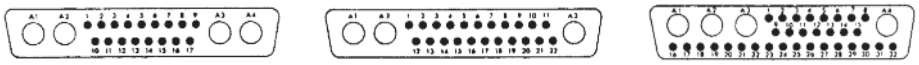
## AMPLIMITE Connectors, Coax Mix (Continued)

### Boardmount Power/Coax/ Signal/Combination Standard Density, Series 109 Connectors



| | | | | |
|---|---|---|---|---|
| **Shell Size** | **2** | **2** | **3** | **4** |
| **Contact Arrangement** | **3C3[4]** | **11C1** | **13C3** | **17C5** |
| **No. of Signal Contacts** | **0** | **10** | **10** | **12** |
| **No. of Coaxial Contacts** | **3** | **1** | **3** | **5** |



| | | | |
|---|---|---|---|
| **Shell Size** | **4** | **4** | **5** |
| **Contact Arrangement** | **21C4** | **25C3** | **36C4** |
| **No. of Signal Contacts** | **17** | **22** | **32** |
| **No. of Coaxial Contacts** | **4** | **3** | **4** |

### Material and Finish

**Shell** — Steel or copper alloy

**Plating** — Cadmium or tin

[a] **Tin Plated Finish** — Tin .000400–.000550 [0.01020–0.01400] thick over .000050 [0.00127] copper min.

[b] **Tin Plated RoHS Compliant Finish** — Tin .000200–.000400 [0.00508–0.01016] thick over .000100–.000200 [0.00254–0.00508] copper

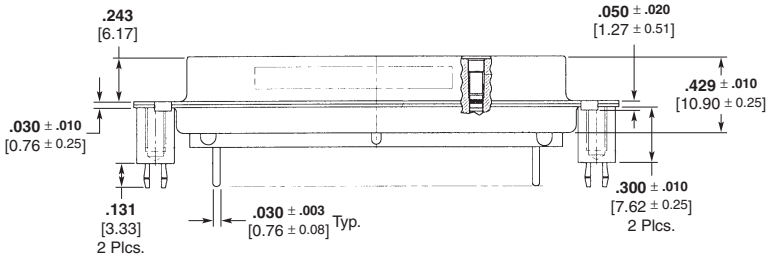
**Insert** — Approved material per MIL-DTL-24308

### Contact Selection

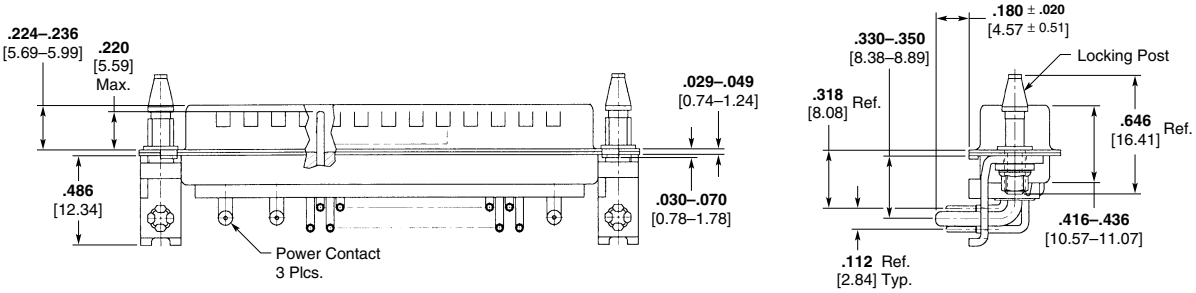
**Standard (If not shown with connector):**

Size 8 coax: Table I, page 8-66

Size 8 power: page 8-65




**Typical Vertical Receptacle**




**Typical Right-Angle Plug**

| Contact Config. | Shell Plating | Style | Hardware Options | | 4-40 Standoff | | | Contacts | | Spacers | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Screwlocks | Boardlocks | Clinchnuts | w/ Boardlocks | Locking Posts | Power | Coax | | |
| 3C3 | Tin | Vertical Recept. | No | No | No | Yes | No | No | No | No | 1218896-1[a] |
| 11C1 | Cad. | Vertical Plug | No | No | No | No | No | No | Yes | Yes | 1218128-1[a] |
| 11C1 | Cad. | Vertical Recept. | No | No | No | No | No | No | Yes | Yes | 1218129-1[a] |
| 13C3 | Tin | Vertical Plug | No | No | No | Yes | No | No | No | No | 1218816-1[a] |
| 17C5 | Tin | Right-Angle Plug | Yes | Yes | No | No | No | Yes | No | No | 1218939-1[a] |
| 21C4 | Tin | Vertical Recept. | No | No | No | Yes | No | No | No | No | 1218887-1[a] |
| 25C3 | Tin | Right-Angle Plug | No | Yes | No | No | Yes | Yes | No | No | 1218611-1[a] |
| 36C4 | Tin | Vertical Recept. | No | Yes | No | Yes | No | No | No | No | 1218807-1[a] 5-1218807-1[b] |

**Notes:**

1. Plug insert arrangements shown. Receptacle arrangement is mirror image.
2. See TE Connectivity customer drawing for PCB layouts.
3. The 3C3 arrangement can be mismated 180°. Contact your TE Sales Engineer or call Technical Support for keyed Part Numbers.

[a] See Tin Plated finish above.

[b] See Tin Plated RoHS compliant finish above.



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## AMPLIMITE Connectors, Coax Mix (Continued)

### Size 8 Contacts (Power) for Standard Density, Series 109 Power/Coax/ Signal Connectors

#### Crimp Contacts

#### Material and Finish

Copper alloy, plated gold over nickel underplate

**Retention Clips** — Stainless steel or phosphor bronze

**Note:** clip may differ from view shown

#### Product Specification

**For Crimp Contacts** — 108-10045 (current rating and wire size)

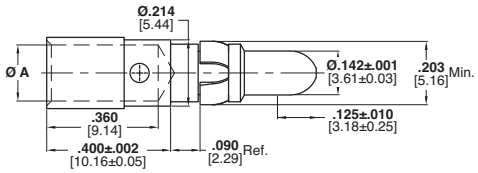
**For PCB Contacts** — 108-10045-1

**Hand Crimp Tool** — AMP 608651-1 with positioner AMP 608651-2

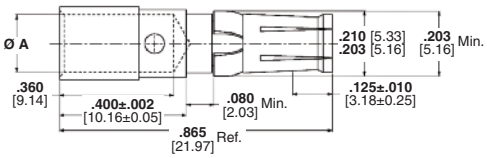
**Extraction Tool** — 318813-1

#### Printed Circuit Board Contacts

(Use these contacts only with the **Standard** connectors on pages 8-62 and 8-63. Do not use with **Blindmate** connectors.)




Pin

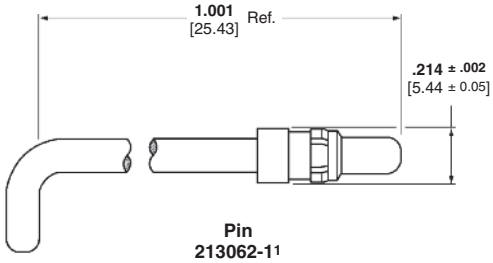



Socket

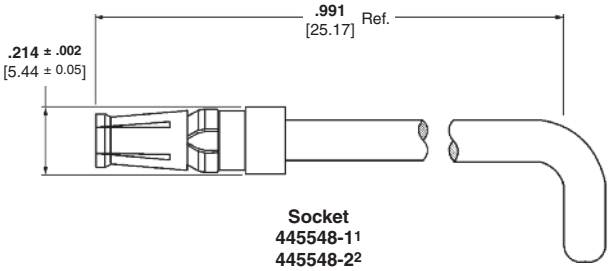
| Wire Size Range AWG | Wire Size Range mm² | Dim. A | Part Numbers 50 Gold Pins[3] | 30 Gold Pins[3] | 50 Gold Sockets | 30 Gold Sockets | Blindmate 50 Gold Pins | 30 Blindmate Gold Pins |
|---|---|---|---|---|---|---|---|---|
| 8[2] | 8 | **.230** 5.84 | 211159-1 | 211159-3 | 211161-1 | 211161-3 | 1218385-1 | — |
| 10[2] | 5 | **.185** 4.69 | 211159-2 | 211159-4 | 211161-2 | 211161-4 | — | — |
| 12-14 | 2-3 | **.150** 3.81 | 212007-1 | 212007-2 | 212008-1 | 212008-2 | 1218483-1 | 1218483-2 |
| 16-18 | 0.8-1.4 | **.102** 2.59 | 212013-1[1] | 212013-2[1] | 212014-1[1] | 212014-2[1] | — | — |

**Notes:** 1. 16-18 size use 608668-1 with Positioner 608668-2.
2. Retention clip shown is for 12-14, 16-18 Awg. See TE Connectivity customer drawing for 8, 10 AWG Retention Clip.
3. Use these contacts only with the **Standard** connectors on pages 8-62 and 8-63. Do not use with **Blindmate** connectors.

#### Right-Angle

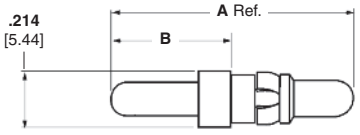



**Pin**
**213062-1[1]**
**213062-2[2]**

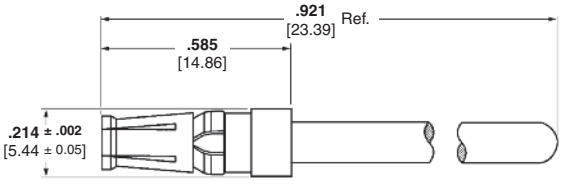



**Socket**
**445548-1[1]**
**445548-2[2]**

#### Vertical




**Pin**
**See Table**




**Socket**
**445798-1[1]**
**445798-2[2]**

| Part Number | Dim A | Dim B |
|---|---|---|
| 449379-1[1] | **.931** [23.65] | **.461** [11.71] |
| 449379-2[1] | **.845** [21.46] | **.375** [9.52] |
| 1-449379-0[2] | **.931** [23.65] | **.461** [11.71] |
| 1-449379-1[2] | **.845** [21.46] | **.375** [9.52] |

**Note:** 1. Standard connector, .000050 [0.00127] gold plating.
2. Standard connector, .000030 [0.00076] gold plating.





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## AMPLIMITE Connectors, Coax Mix (Continued)

### RF Contacts for Standard Density, Series 109 Power/ Coax/Signal Connectors

#### Performance Characteristics

**Frequency Range** — 0 to 500 MHz

**Operating Voltage, Max.** — 275 vac rms @ sea level

**Termination Resistance, Max.** — Center Contact — 6.0 milliohms Outer Contact — 3.0 milliohms

**Insulation Resistance, Min.** — 5,000 megohms @ 500 vdc

**Dielectric Withstanding Voltage** — Sea Level — 800 Volts rms 30,000 ft [9,144 m] — 525 volts rms 70,000 ft [21,336m] — 275 volts rms

**VSWR to 500MHz, Max.**

| Pin/Socket | VSWR |
|---|---|
| Straight/Straight | 1.30 |
| Right-Angle/Straight | 1.35 |
| Right-Angle/Right-Angle | 1.40 |

**RF Crosstalk** — 90dB @ 5-500 MHz

**Mating Force, Max.** — 4.0 lb [17.8 N]

**Unmating Force, Min.** — 2.0 oz [0.556 N]

**Contact Retention** — 20 lb [89 N]

**Contact Durability** — 500 cycles

| Cable RG/U | Force lb | Force [N] |
|---|---|---|
| 316, 188, 174, 179, 179A, 179B | 20 | 89 |
| 188-type Double-Braid | 35 | 155.8 |
| 142, 142A, 142B | 50 | 222.5 |

**Operating Temperature** — 131°F to 257°F [55°C to +125°C]

**Thermal Shock** — 131°F to 257°F [55°C to +125°C] per MIL-STD-1344, Method 1003, Cond. A

**Physical Shock** — 50 G's per MIL-STD-1344, Method 2004, Cond. A

**Vibration** — MIL-STD-1344, Method 2005, Cond. II

**Moisture Resistance** — 240 hours per MIL-STD-1344, Method 1002, Cond. II

**Salt Fog** — 48 hours per MIL-STD-1344, Method 1001, Cond. B

#### Extraction Tool Numbers

**Subminiature D Housings** — 58095-1 AMPLIMITE Connector

**AMP-HDI Connector Housings** — 58095-2

#### Material and Finish

**Brass** — per QQ-B-626 and MIL-C-50

**Phosphor Bronze** — per QQ-B-750

**Beryllium Copper** — per QQ-C-530

**PTFE**—per MIL-P-19468

**Nylon**—per MIL-M-20693

#### Finish

[a] **Bright Tin-Lead Plating** — per ASTM-B-571

[b] **Bright Tin Plating** — per ASTM-B-545

**Copper Plating** — per MIL-C-14550

**Gold Plating** — per MIL-G-45204

**Nickel Plating** — per QQ-N-290

**Extraction Tool** — 318813-1

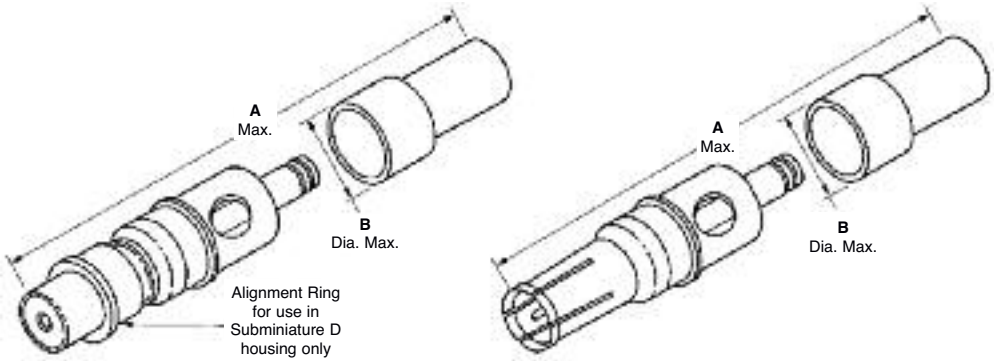
**Hand Crimp Tool** — 69710-1

**Pneu. Crimp Tool** — 69365-8

**Dies for Crimp Tools** — See table

**Instruction Sheet** —

408-6755 Size 8 Coaxial RF 50-Ohm and Non-Impedance Matched Pin and Socket Contact Kits




**Pin** **Socket**

#### Table I - Standard

| RG/U Cable | Dimensions A | Dimensions B | Contact Part Numbers Non-Impedance Matched Pin | Non-Impedance Matched Socket | 50 Ohm Pin | 50 Ohm Socket | Die Insert for Tools |
|---|---|---|---|---|---|---|---|
| 178, 178A, 178B 196, 196A | **.950** 24.13 | **.235** 5.94 | 228618-5[a] 5-228618-5[b] | — | — | — | 59993-1 |
| 174, 316 188, 188A | **.956** 24.28 | **.234** 5.94 | 228618-1[a] 5-228618-1[b] | 228596-1[a] 5-228596-1[b] | 221980-1 | 1883630-1 | 59993-1 |
| 179, 179A, 179B 187, 187A, 161 Belden 9221 | **.956** 24.28 | **.234** 5.94 | 228618-2[a] 5-228618-2[b] | 228596-2[a] 5-228596-2[b] | 221980-3 | — | 59993-1 |
| 188-Type Double Braid | **.956** 24.28 | **.234** 5.94 | 228618-3 | 228596-3 | — | — | 59993-1 |
| 142, 142A, 142B 400, Belden 9246 | **1.080** 27.43 | **.255** 6.48 | 228618-4[a] 5-228618-4[b] | 228596-4[a] 5-228596-4[b] | — | — | 58212-1 |

**Notes:**
1. Non Impedance Matched contacts and 50 ohm contacts are not intermateable.
2. Use these contacts only with the **Standard** connectors on pages 8-62 and 8-64.

[a] See Material and Finish above.

[b] See Material and Finish for RoHS compliant Part Numbers above.



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## AMPLIMITE Connectors, Coax Mix (Continued)

### RF Contacts for Standard Density, Series 109 Power/ Coax/Signal Connectors
(Continued)

#### Material and Finish

**Center Contacts** — Beryllium Copper or Brass per QQ-B-626, per QQ-C-530, gold plated

**Outer Contacts** — Beryllium copper per QQ-C-530, gold plated

**Plugs** — Beryllium copper per QQ-C-530, gold plated

**Jack** — Stainless steel per ASTM-A-582, gold plated

**Shells** — Stainless steel per ASTM-A-582, passivated

**Panel Shells** — Brass per QQ-B-626, nickel plated

**Dielectrics** — PTFE per ASTM-D-1457

**Grip Rings** — Brass per MIL-C-50 or Beryllium Copper per QQ-C-530, nickel plated

**Springs** — Steel wire per QQ-W-470

**Bushings** — Stainless steel per ASTM-A-582, passivated

**Retention Springs** — Beryllium Copper per QQ-C-530, Tin-Lead Plated

#### Finishes

Passivate per QQ-P-35
Gold per MIL-G-45204
Nickel per QQ-N-290
Tin-Lead per ASTM-B-545

#### Performance Characteristics

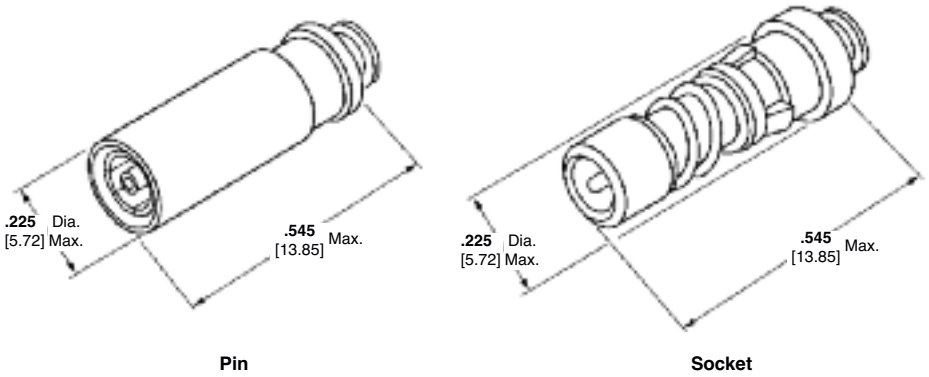
#### Electrical Characteristics

**Nominal Impedance** — 50 ohms

**Frequency Range** —
2.8 mm: 0 to 26.5 GHz
2.8 mm for size 8 cavities: 0 to 40 GHz

**Operating Voltage** —
RG-402/U Cable (3.58 [.141] O.D.)
500 volts rms at 60 Hz (sea level)
125 volts rms at 60 Hz
(21 336 m [70,000 ft])

RG-405/U Cable (2.18 [.086] O.D.)
335 volts rms at 60 Hz (sea level)
85 volts rms at 60 Hz
70,000 ft [21,336 m]




**Pin** **Socket**

**Table II - 2.8 mm Blindmate**

| RG/U Cable | Contact Type | Part Number | Crimp Tool | Die Set | Locator | Insertion Tool | Extraction Tool |
|---|---|---|---|---|---|---|---|
| 405 Semi-Rigid **.086** [2.18] | Pin (Plug) | 413242-1 | 59980-1 | 312253-2 | 852113-1 | 852115-1 | 2-305183-0 |
| | Socket (Jack) | 413249-1 | 59980-1 | 312253-2 | 852114-1 | — | 318813-1 |

**Note:**
1. Use these contacts only with the **Blindmate** connectors on page 8-63.

#### Mechanical Characteristics

**Cable Retention** —
RG-402/U Cable (3.58 [.141] O.D.)–
60 lb [266.9 N], min.
RG-405/U Cable (2.18 [.086] O.D.)–
30 lb [133.4 N], min.

**Connector Mating Force** —
2.8 mm: 3 lbs Max.

#### Environmental Characteristics

**Temperature Range** —
–85°F to +221°F [–65°C to +105°C]

#### Technical Documents

**Instruction Sheet** —
408-9582 Insertion tool 852115-1 for blindmate 2.8mm plug contact 413242-1
408-9585 Blindmate 2.8mm contacts for semi-rigid .086 in. coaxial cable





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## AMPLIMITE Connectors, Coax Mix Cross Reference

### Material and Finish

**Shell** — Steel, tin plated per ASTM-B-545, .000400–.000550 [0.01016–0.01397] thick.

**Insert** — Approved material per MIL-DTL-24308.

**Retention Clips** — Stainless steel or copper alloy.

### Related Product Data

**Coax Mix Connectors** — page 8-62

### Attention: Connector Marking

Connector marking may differ from package marking.

**Note:** Meets 48 hr. salt spray requirements of MIL-DTL-24308.

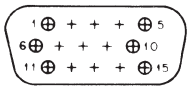
### Coax Mix Connectors

| Insert Arrangement (Shell Size) | Part Number | Description | Dimensions |
|---|---|---|---|
| 11C1 (2) | — | Plug Only | Refer to page 8-43 |
| | 211111-6 | Plug Only with Grounding Indents | |
| | 211112-6 | Receptacle Only | |
| 21C1 (3) | 212522-7 | Plug Only | Refer to page 8-43 |
| | 212522-6 | Plug Only with Grounding Indents | |
| | 212526-6 | Receptacle Only | |
| 5C5 (3) | 1-212491-0 | Plug Only | Refer to page 8-43 |
| | 212491-9 | Plug Only with Grounding Indents | |
| | 1-212059-0 | Receptacle Only | |
| 21C4 (4) | 212530-6 | Plug Only | Refer to page 8-43 |
| | 212530-5 | Plug Only with Grounding Indents | |
| | 212534-5 | Receptacle Only | |
| 24C7 (5) | 208743-5 | Plug Only | Refer to page 8-43 |
| | 208743-7 | Plug Only with Grounding Indents | |
| | 208552-6 | Receptacle Only | |

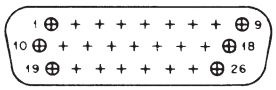
## AMPLIMITE Connectors, Series 90

### Series 90 Connectors

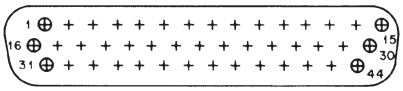
#### Insert Arrangements



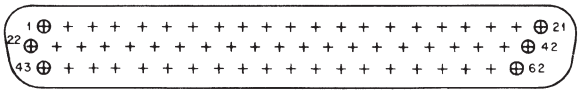
15 Position, Shell Size 1
MS 18273-2



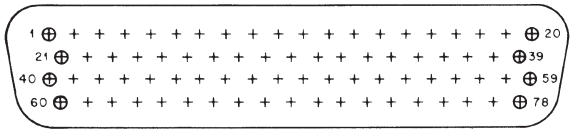
26 Position, Shell Size 2
MS 18274-2



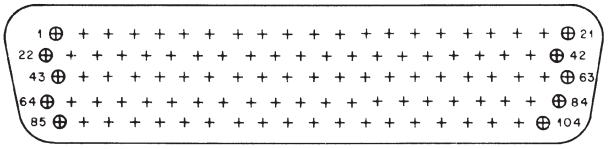
44 Position, Shell Size 3
MS 18275-2



62 Position, Shell Size 4
MS 18276-2



78 Position, Shell Size 5
MS 18277-2



104 Position, Shell Size 6
MS 14004-1

**Note:** Mating face of plug shown: receptacle is mirror image.

**Performance Specifications**

All Series 90 AMPLIMITE military connectors conform to the latest amendments of military specification MIL-DTL-24308. For more detailed information, refer to MIL-DTL-24308.

All Series 90 connectors are designed for a –67°F to 257°F [–55°C to +125°C] temperature range.

**Technical Documents List**

The following is a list of technical documents that cover the application and performance of AMPLIMITE Series 90 military connectors, contacts, tooling and accessories.

**Military Specifications**

| | |
|---|---|
| MIL-DTL-24308 | Connectors, Electric, Rectangular, Miniature Polarized Shell, Rack and Panel, General Specifications for |
| MIL-C-39029 | Contacts, Electrical Connector, General Specification for |

**NASA Specification**

| | |
|---|---|
| GSFC-S-311-P-4 | Non-Magnetic Connectors, General Specification for |

**Instruction Sheets**

| | |
|---|---|
| 408-7516 | Application Tooling for MIL-C-39029 Contacts |
| 408-7610 | Application and Maintenance for Hand Crimping Tool 90294-1 |
| 408-7508 | Insertion/Extraction Tools 91067-1, 91067-2 and 91067-3 |
| 408-7837 | Female Screwlock Kit 205817-8 and Male Screw/Retainer Kit 211883-5 |





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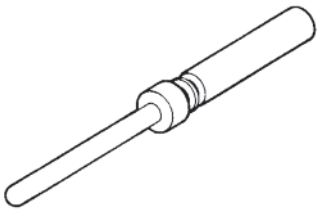
## AMPLIMITE Connectors, Series 90 (Continued)

### Size 22 Crimp Contacts for Series 90 Connectors (AS39029)

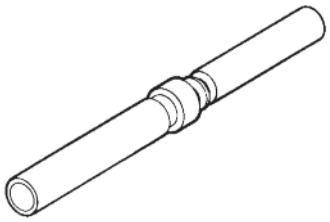
### Snap-In Contacts .030 [0.76] Pin Diameter

#### Material and Finish

[a] **Contact Body** — Copper alloy plated gold .000005 [0.000127] min. thick. over nickel underplate
[a] **Mating Area** — Gold .00005 [0.00127] min. thick. over nickel underplate
[b] **Contact Body and Mating Area** — Gold min. .00005 [0.00127] min. thick. over nickel underplate
**Socket Hood** — Passivated stainless steel



**Pin**
**M39029/58-360**
(Supersedes M24308/13-1)



**Socket**
**M39029/57-354**
(Supersedes M24308/12-1)

| Wire Size Range AWG | Wire Size Range [mm²] | Ins. Dia. (Max.) | Contact Configuration | Tape Mounted Contacts[1] AMP Part No. | Loose Piece Contacts Military Part No. (AS39029/) | Loose Piece Contacts AMP Part No. | Hand Tool Tool No. (M22520/) | Hand Tool Positioner No. (M22520/) | Contact Color Bands |
|---|---|---|---|---|---|---|---|---|---|
| 22-28 | 0.4-0.8 | .054 1.38 | Pin | 204370-5[a] | 58-360 | 204370-2[a] | 02-01 | 02-09 | orange, blue, black |
| | | | Socket | 204351-2[a] | 57-354 | 204351-1[a] | 02-01 | 02-06 | orange, green, yellow |
| 22-28 | 0.4-0.8 | .054 1.38 | Pin | 1-204370-2[b] | 58-360 | 1-204370-3[b] | 02-01 | 02-09 | orange, blue, black |
| | | | Socket | 204351-6[b] | 57-354 | 204351-5[b] | 02-01 | 02-06 | orange, green, yellow |

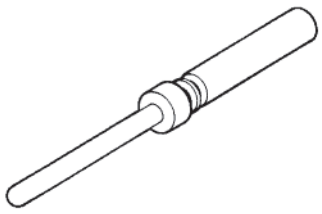
[1]Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
**Notes:** 1. These contacts are used in Series 90 military connectors.
2. Insertion/Extraction Tool Part Number **91067-1** (Military Part Number **M81969/1-04**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.
4. Color bands are read in the direction of terminal (wire barrel) end to mating end.

### Size 22 Crimp Contacts for Series 90 Connectors (Industrial Grade)

### Snap-In Contacts .030 [0.76] Pin Diameter

#### Material and Finish

**Pin Body** — Copper alloy with .000050–.000100 [0.00127–0.00254] gold plate over .000050–.000150 [0.00127–0.00381] nickel underplate



**Pin**

| Wire Size Range AWG | Wire Size Range [mm²] | Ins. Dia. (Max.) | Contact Configuration | Tape Mounted Contacts[1] Part Number | Loose Piece Contacts Part Number | Hand Tool Tool No. (M22520/) | Hand Tool Positioner No. (M22520/) |
|---|---|---|---|---|---|---|---|
| 22-28 | 0.4-0.8 | .054 1.38 | Pin | 1218699-2 | 1218699-1 | 02-01 | 02-09 |
| | | | Socket | — | — | — | — |

[1]Tape mounted contacts are used in the AMP-TAPEMATIC Stripper/Crimper Machine Part Number **599406-7** (page 8-89).
**Notes:** 1. These contacts are used in Series 90 connectors.
2. Insertion/Extraction Tool Part Number **91067-1** (Military Part Number **M81969/1-04**) is used to install and remove pin and socket contacts.
3. See Instruction Sheet 408-7516 for wire length, tool and selector settings.

## AMPLIMITE Connectors, Series 90 (Continued)

### Size 22 Posted Contacts for Series 90 Connectors

#### Material and Finish

**Pin and Socket Body** — Leaded nickel copper or beryllium copper

**Socket Hood** — See chart below

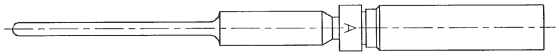
**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-1 or
MIL Part Number M81969/1-04

Insertion tip, for replacement
Part Number 126237-1

Extraction tip, for replacement
Part Number 126195-2

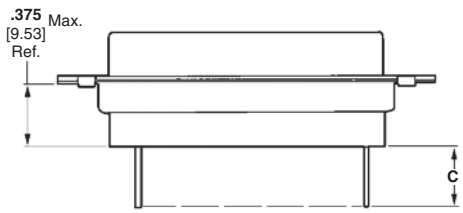
**Pin**
**(See Drawing Number 207683 for Latest Configurations)**



**Socket**
**(See Drawing Number 207684 for Latest Configurations)**

**Notes:**
1. Contacts on this page can be used with connectors on pages 8-72 to 8-78, 8-85. See page 8-92 for PCB layouts.
2. Mating End of pin and socket complies with MIL-C-39029.

| Post Diameter ± .002 [± .050] | Post Extension C ± .025 [± 0.63] | Part Numbers | | Contact Plating | | Socket Hood Material and Finish |
|---|---|---|---|---|---|---|
| | | Pin | Socket | Pin | Socket | |
| .018 0.46 | .175 4.45 | 207683-6 | 207684-3 | .000050–.000100 [0.00127–0.00254] thick gold plate over .000100–.000150 [0.00254–0.00381] thick copper underplate | .000050–.000100 [0.00127–0.00254] thick gold plate over .000100–.000250 [0.00254–0.00635] thick copper underplate | Brass or Beryllium copper with .000050–.000100 [0.00127–0.00254] thick gold plate over .000100–.000250 [0.00254–0.00635] thick copper underplate |
| | .275 6.99 | 207683-2 | 207684-1 | | | |
| | .525 13.34 | 207683-4 | 207684-2 | | | |
| .025 0.64 | .275 6.99 | 207683-8 | 207684-4 | .000050–.000100 [0.00127–0.00254] thick gold plate over .000050–.000150 [0.00127–0.00381] thick nickel underplate | | Passivated Stainless Steel |
| .018 0.46 | .275 6.99 | — | 207684-5 | .000050–.000100 [0.00127–0.00254] thick gold plate over .000050–.000150 [0.00127–0.00381] thick nickel underplate | | Passivated Stainless Steel |
| | .525 13.34 | 207683-9 | — | | | |
| | .175 4.45 | 1-207683-1 | — | .000050–.000100 [0.00127–0.00254] thick gold plate over .000200–.000250 [0.00508–0.00635] thick nickel underplate | | — |




**Post Extension When Used in a Standard Connector**





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Dimensions are in millimeters unless otherwise specified.

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UK: +44 800 267 666

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## AMPLIMITE Connectors, Series 90 (Continued)

### Crimp Plugs, Series 90, High Density Connectors

### (MIL Qualified)

#### Material and Finish

**Shell** — Steel, cadmium plated, yellow chromate

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel or copper alloy

### (Industrial Grade)

#### Material and Finish

**Shell** — Steel, zinc plated, yellow trivalent chromate or tin plated with grounding indents (not shown)

**Insert** — Polyphenylene Sulfide (PPS)

**Retention Clips** — Stainless steel or copper alloy

#### Related Product Data

**Cavity Identification** — page 8-69

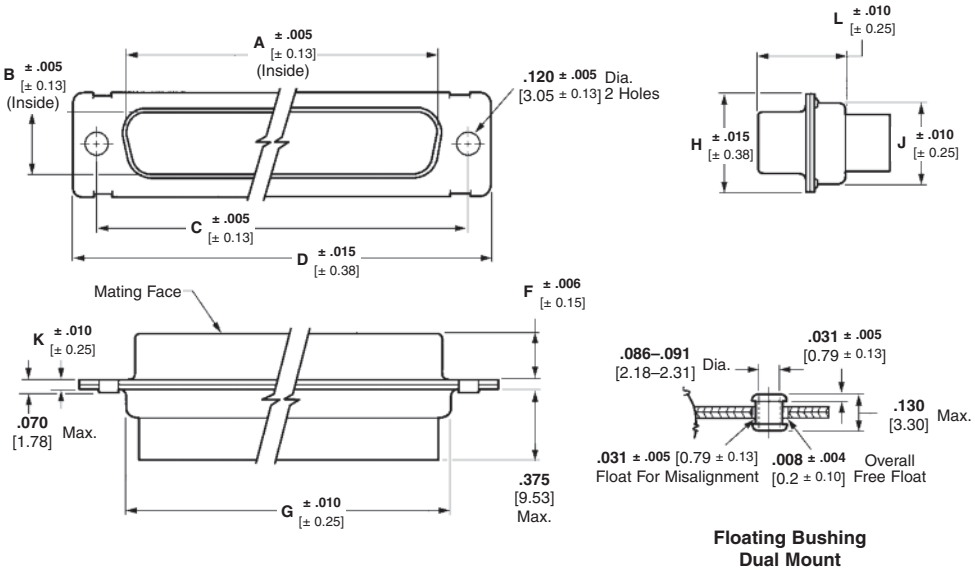
**Contacts** — pages 8-70 and 8-71

**Mounting, Mating Dimensions** — page 8-90

**Accessories** — pages 8-95 to 8-97

#### Attention: MIL Qualified Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.




**Floating Bushing Dual Mount**

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | MIL Qualified | | | | Description | Industrial Grade[3] Standard Mount RoHS Part No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Standard Mount | | Floating Bushing Mount | | | |
| | A | B | C | D | F | G | H | J | K | L | Military Part No.[2] M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | | |
| 15 (1) | .666 16.92 | .329 8.36 | .984 24.99 | 1.213 30.81 | .235 5.97 | .759 19.28 | .494 12.55 | .422 10.72 | .030 0.76 | .422 10.72 | 4-264F | 204501-1 | 4-329F | 204525-1 | Plug only | 1218746-1[4] 204501-5[5] |
| | | | | | | | | | | | 4-11F | 204513-2 | 4-307F | 204537-2 | Plug with pins[1] | — |
| 26 (2) | .994 25.25 | .329 8.36 | 1.312 33.32 | 1.541 39.14 | .235 5.97 | 1.083 27.51 | .494 12.55 | .422 10.72 | .030 0.76 | .422 10.72 | 4-265F | 204503-1 | 4-330F | 204527-1 | Plug only | 1218746-2[4] 204503-4[5] |
| | | | | | | | | | | | 4-12F | 204515-2 | 4-308F | 204539-2 | Plug with pins[1] | — |
| 44 (3) | 1.534 38.96 | .329 8.36 | 1.852 47.04 | 2.088 53.04 | .230 5.84 | 1.625 4.13 | .494 12.55 | .422 10.72 | .039 0.99 | .426 10.82 | 4-266F | 204505-1 | 4-331F | 204529-1 | Plug only | 1218746-3[4] 204505-5[5] |
| | | | | | | | | | | | 4-13F | 204517-2 | 4-309F | 204541-2 | Plug with pins[1] | — |
| 62 (4) | 2.182 55.42 | .329 8.36 | 2.500 63.5 | 2.729 69.32 | .230 5.84 | 2.272 57.7 | .494 12.55 | .422 10.72 | .039 0.99 | .426 10.82 | 4-267F | 204507-1 | 4-332F | 204531-1 | Plug only | 1218746-4[4] 204507-5[5] |
| | | | | | | | | | | | 4-14F | 204519-2 | 4-310F | 204543-2 | Plug with pins[1] | — |
| 78 (5) | 2.079 52.81 | .441 11.2 | 2.406 61.11 | 2.635 66.93 | .230 5.84 | 2.178 55.32 | .605 15.37 | .534 13.56 | .039 0.99 | .426 10.82 | 4-268F | 204509-1 | 4-333F | 204533-1 | Plug only | 1218746-5[4] 204509-7[5] |
| | | | | | | | | | | | 4-15F | 204521-2 | 4-311F | 204545-2 | Plug with pins[1] | — |
| 104 (6) | 2.212 56.18 | .503 12.78 | 2.500 63.5 | 2.729 69.32 | .230 5.84 | 2.302 58.47 | .668 16.97 | .596 15.14 | .039 0.99 | .426 10.82 | 4-269F | 204511-1 | 4-334F | 204535-1 | Plug only | 1218746-6[4] |
| | | | | | | | | | | | 4-16F | 204523-2 | 4-312F | 204547-2 | Plug with pins[1] | — |

**Notes:** See pages 8-99 through 8-103 (military to AMP Part Number cross reference) for additional part numbers.

[1] Size 22 contacts supplied with connectors are loose piece.

[2] "F" is stamped on connectors following **M24308** part number as required. "F" designates cadmium shell plating.

[3] Meets requirements of MIL-DTL-24308.

[4] Zinc plated.

[5] Tin plated.



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UK: +44 800 267 666

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## AMPLIMITE Connectors, Series 90 (Continued)

### Crimp Plugs, Series 90, High Density Connectors — Zinc Plated, RoHS Compliant

### (MIL Qualified)

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel or copper alloy

### (Industrial Grade)

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Polyphenylene Sulfide (PPS)

**Retention Clips** — Stainless steel or copper alloy

#### Related Product Data

**Cavity Identification** — page 8-69

**Contacts** — pages 8-70 and 8-71

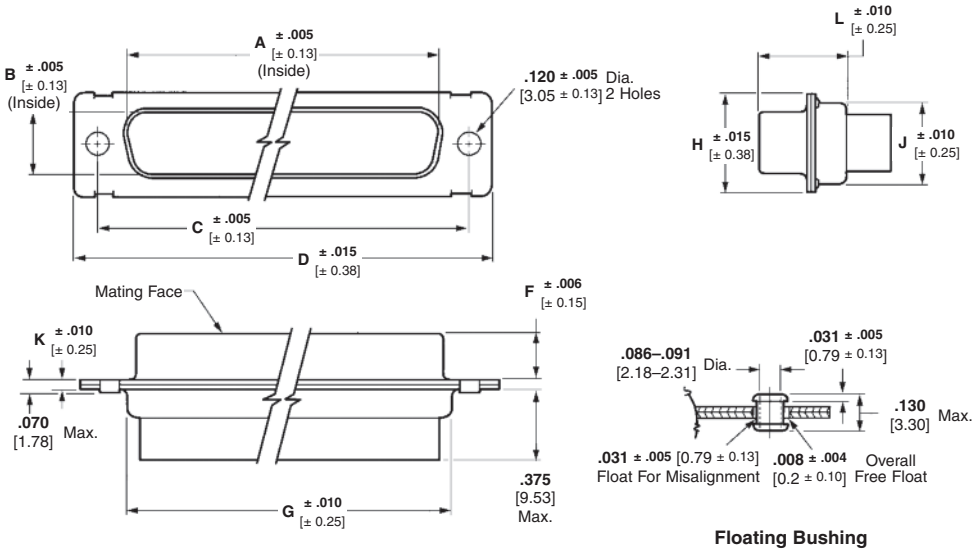
**Mounting, Mating Dimensions** — page 8-90

**Accessories** — pages 8-95 to 8-97

#### Attention: MIL Qualified Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.

RoHS Ready




**Floating Bushing Dual Mount**

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | | MIL Qualified | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Standard Mount | | Floating Bushing Mount | |
| | A | B | C | D | F | G | H | J | K | L | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. |
| 15 | **.666** | **.329** | **.984** | **1.213** | **.235** | **.759** | **.494** | **.422** | **.030** | **.422** | 4-264 | 1757823-1 | 4-329 | 1757825-1 |
| (1) | 16.92 | 8.36 | 24.99 | 30.81 | 5.97 | 19.28 | 12.55 | 10.72 | 0.76 | 10.72 | 4-11 | 1757823-7 | 4-307 | 1757825-7 |
| 26 | **.994** | **.329** | **1.312** | **1.541** | **.235** | **1.083** | **.494** | **.422** | **.030** | **.422** | 4-265 | 1757823-2 | 4-330 | 1757825-2 |
| (2) | 25.25 | 8.36 | 33.32 | 39.14 | 5.97 | 27.51 | 12.55 | 10.72 | 0.76 | 10.72 | 4-12 | 1757823-8 | 4-308 | 1757825-8 |
| 44 | **1.534** | **.329** | **1.852** | **2.088** | **.230** | **1.625** | **.494** | **.422** | **.039** | **.426** | 4-266 | 1757823-3 | 4-331 | 1757825-3 |
| (3) | 38.96 | 8.36 | 47.04 | 53.04 | 5.84 | 4.13 | 12.55 | 10.72 | 0.99 | 10.82 | 4-13 | 1757823-9 | 4-309 | 1757825-9 |
| 62 | **2.182** | **.329** | **2.500** | **2.729** | **.230** | **2.272** | **.494** | **.422** | **.039** | **.426** | 4-267 | 1757823-4 | 4-332 | 1757825-4 |
| (4) | 55.42 | 8.36 | 63.5 | 69.32 | 5.84 | 57.7 | 12.55 | 10.72 | 0.99 | 10.82 | 4-14 | 1-1757823-0 | 4-310 | 1-1757825-0 |
| 78 | **2.079** | **.441** | **2.406** | **2.635** | **.230** | **2.178** | **.605** | **.534** | **.039** | **.426** | 4-268 | 1757823-5 | 4-333 | 1757825-5 |
| (5) | 52.81 | 11.2 | 61.11 | 66.93 | 5.84 | 55.32 | 15.37 | 13.56 | 0.99 | 10.82 | 4-15 | 1-1757823-1 | 4-311 | 1-1757825-1 |
| 104 | **2.212** | **.503** | **2.500** | **2.729** | **.230** | **2.302** | **.668** | **.596** | **.039** | **.426** | 4-269 | 1757823-6 | 4-334 | 1757825-6 |
| (6) | 56.18 | 12.78 | 63.5 | 69.32 | 5.84 | 58.47 | 16.97 | 15.14 | 0.99 | 10.82 | 4-16 | 1-1757823-2 | 4-312 | 1-1757825-2 |

**Notes:** See pages 8-99 through 8-103 (military to AMP Part Number cross reference) for additional part numbers.





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## AMPLIMITE Connectors, Series 90 (Continued)

### Crimp Receptacles, Series 90, High Density Connectors

### (MIL Qualified)

#### Material and Finish

**Shell** — Steel, cadmium plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel or copper alloy

### (Industrial Grade)

#### Material and Finish

**Shell** — Steel, zinc plated, yellow trivalent chromate or tin plated

**Insert** — Polyphenylene Sulfide (PPS)

**Retention Clips** — Stainless steel or copper alloy

#### Related Product Data

**Cavity Identification** — page 8-69

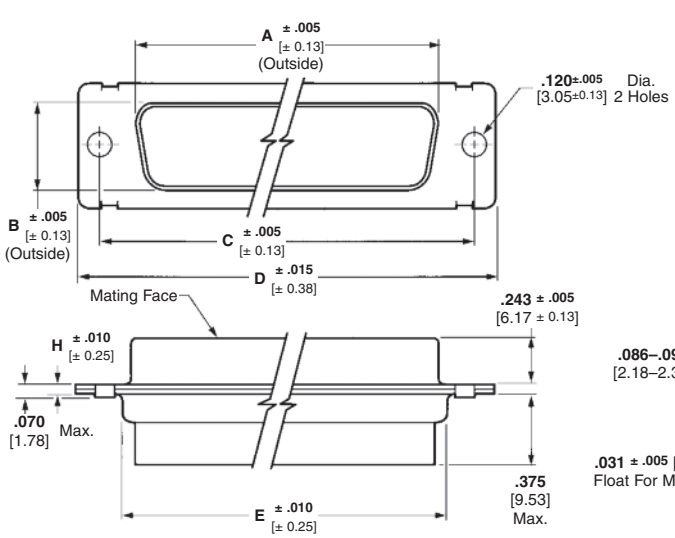
**Contacts** — pages 8-70 and 8-71

**Mounting, Mating Dimensions** — page 8-90

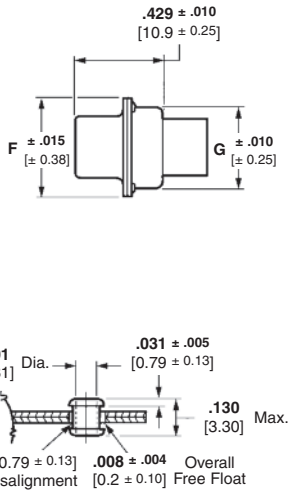
**Accessories** — pages 8-95 to 8-97

#### Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.




Floating Bushing Dual Mount




Clinch Nut Mount

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | MIL Qualified | | | | Description | Industrial Grade[3] RoHS Part No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Standard Mount | | Floating Bushing Mount | | | |
| | A | B | C | D | E | F | G | H | Military Part No.[2] M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | | |
| 15 (1) | .643 16.33 | .311 7.9 | .984 24.99 | 1.213 30.81 | .759 19.28 | .494 12.55 | .422 10.72 | .030 0.76 | 2-286F | 204500-1 | 2-297F | 204524-1 | Recept. only | 1218747-1[4] 204500-4[5] |
| | | | | | | | | | 2-11F | 204512-2 | 2-28F | 204536-2 | Recept. with sockets[1] | — |
| 26 (2) | .971 24.66 | .311 7.9 | 1.312 33.32 | 1.541 39.14 | 1.083 27.51 | .494 12.55 | .422 10.72 | .030 0.76 | 2-287F | 204502-1 | 2-298F | 204526-1 | Recept. only | 1218747-2[4] 204502-4[5] |
| | | | | | | | | | 2-12F | 204514-2 | 2-29F | 204538-2 | Recept. with sockets[1] | — |
| 44 (3) | 1.511 38.38 | .311 7.9 | 1.852 47.04 | 2.088 53.04 | 1.625 41.3 | .494 12.55 | .422 10.72 | .039 0.99 | 2-288F | 204504-1 | 2-299F | 204528-1 | Recept. only | 1218747-3[4] 204504-5[5] |
| | | | | | | | | | 2-13F | 204516-2 | 2-30F | 204540-2 | Recept. with sockets[1] | — |
| 62 (4) | 2.159 54.84 | .311 8.36 | 2.500 63.5 | 2.729 69.32 | 2.272 57.7 | 494 12.55 | .422 10.72 | .039 0.99 | 2-289F | 204506-1 | 2-300F | 204530-1 | Recept. only | 1218747-4[4] |
| | | | | | | | | | 2-14F | 204518-2 | 2-31F | 204542-2 | Recept. with sockets[1] | — |
| 78 (5) | 2.064 52.43 | .423 10.74 | 2.406 61.11 | 2.635 66.93 | 2.178 55.32 | .605 15.37 | .534 13.56 | .039 0.99 | 2-290F | 204508-1 | 2-301F | 204532-1 | Recept. only | 1218747-5[4] |
| | | | | | | | | | 2-15F | 204520-2 | 2-32F | 204544-2 | Recept. with sockets[1] | — |
| 104 (6) | 2.189 55.6 | .485 12.32 | 2.500 63.5 | 2.729 69.32 | 2.302 58.47 | .668 16.97 | .596 15.14 | .039 0.99 | 2-291F | 204510-1 | 2-302F | 204534-1 | Recept. only | 1218747-6[4] |
| | | | | | | | | | 2-16F | 204522-2 | 2-33F | 204546-2 | Recept. with sockets[1] | — |

**Notes:** See pages 8-99 through 8-103 (military to AMP Part Number cross reference) for additional part numbers.

[1] Size 22 contacts supplied with connectors are loose piece.

[2] "F" is stamped on connectors following **M24308** part number as required. "F" designates cadmium shell plating.

[3] Meets requirements of MIL-DTL-24308.

[4] Clinch Nut Mount, Zinc plated.

[5] Standard Mount, Tin plated.



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## AMPLIMITE Connectors, Series 90 (Continued)

### Crimp Receptacles, Series 90, High Density Connectors — Zinc Plated, RoHS Compliant

### (MIL Qualified)

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel or copper alloy

### (Industrial Grade)

#### Material and Finish

**Shell** — Steel, zinc plated

**Insert** — Polyphenylene Sulfide (PPS)

**Retention Clips** — Stainless steel or copper alloy

#### Related Product Data

**Cavity Identification** — page 8-69

**Contacts** — pages 8-70 and 8-71

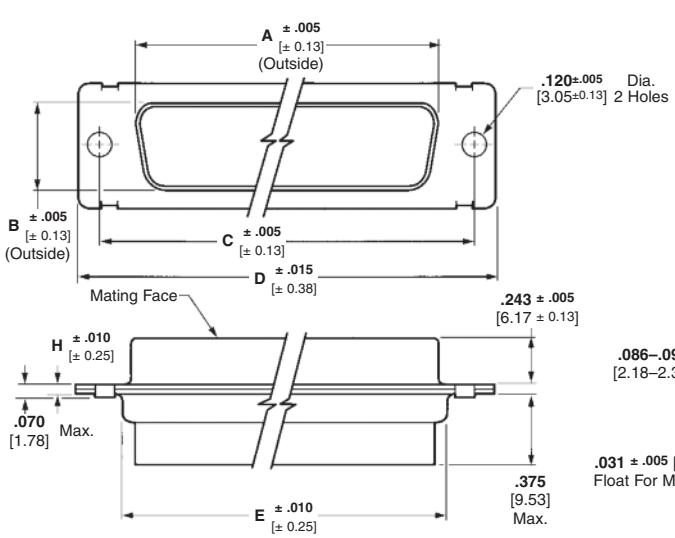
**Mounting, Mating Dimensions** — page 8-90

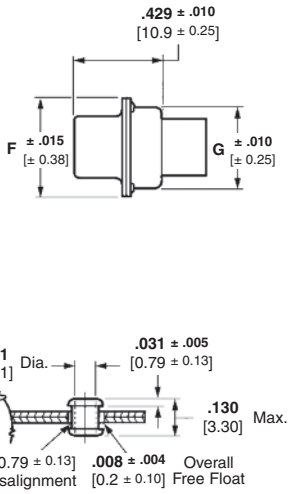
**Accessories** — pages 8-95 to 8-97

#### Attention: Connector Marking

Connector marking may differ from package marking. All connectors marked per MIL-DTL-24308.

RoHS Ready




**Floating Bushing Dual Mount**

**Clinch Nut Mount**

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | MIL Qualified | | | | Description |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Standard Mount | | Floating Bushing Mount | | |
| | A | B | C | D | E | F | G | H | Military Part No. M24308/ | AMP Part No. | Military Part No. M24308/ | AMP Part No. | |
| 15 (1) | .643 16.33 | .311 7.9 | .984 24.99 | 1.213 30.81 | .759 19.28 | .494 12.55 | .422 10.72 | .030 0.76 | 2-286 | 1757824-1 | 2-297 | 1757826-1 | Recept. only |
| | | | | | | | | | 2-11 | 1757824-7 | 2-28 | 1757826-7 | Recept. with sockets[1] |
| 26 (2) | .971 24.66 | .311 7.9 | 1.312 33.32 | 1.541 39.14 | 1.083 27.51 | .494 12.55 | .422 10.72 | .030 0.76 | 2-287 | 1757824-2 | 2-298 | 1757826-2 | Recept. only |
| | | | | | | | | | 2-12 | 1757824-8 | 2-29 | 1757826-8 | Recept. with sockets[1] |
| 44 (3) | 1.511 38.38 | .311 7.9 | 1.852 47.04 | 2.088 53.04 | 1.625 41.3 | .494 12.55 | .422 10.72 | .039 0.99 | 2-288 | 1757824-3 | 2-299 | 1757826-3 | Recept. only |
| | | | | | | | | | 2-13 | 1757824-9 | 2-30 | 1757826-9 | Recept. with sockets[1] |
| 62 (4) | 2.159 54.84 | .311 8.36 | 2.500 63.5 | 2.729 69.32 | 2.272 57.7 | 494 12.55 | .422 10.72 | .039 0.99 | 2-289 | 1757824-4 | 2-300 | 1757826-4 | Recept. only |
| | | | | | | | | | 2-14 | 1-1757824-0 | 2-31 | 1-1757826-0 | Recept. with sockets[1] |
| 78 (5) | 2.064 52.43 | .423 10.74 | 2.406 61.11 | 2.635 66.93 | 2.178 55.32 | .605 15.37 | .534 13.56 | .039 0.99 | 2-290 | 1757824-5 | 2-301 | 1757826-5 | Recept. only |
| | | | | | | | | | 2-15 | 1-1757824-1 | 2-32 | 1-1757826-1 | Recept. with sockets[1] |
| 104 (6) | 2.189 55.6 | .485 12.32 | 2.500 63.5 | 2.729 69.32 | 2.302 58.47 | .668 16.97 | .596 15.14 | .039 0.99 | 2-291 | 1757824-6 | 2-302 | 1757826-6 | Recept. only |
| | | | | | | | | | 2-16 | 1-1757824-2 | 2-33 | 1-1757826-2 | Recept. with sockets[1] |

**Notes:** See pages 8-99 through 8-103 (military to AMP Part Number cross reference) for additional part numbers.





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## AMPLIMITE Connectors, Series 90 (Continued)

### Non-Magnetic Crimp Plugs, Series 90, High Density Connectors (NASA Qualified)

#### Connector Material and Finish

**Shell** — Brass, gold plated

**Insert** — Approved material per MIL-DTL-24308

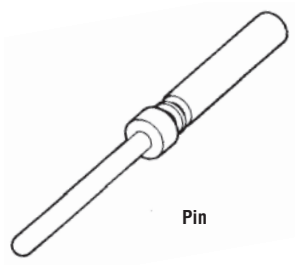
**Retention Clips** — Copper alloy

#### Related Product Data

Cavity Identification — page 8-69

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97



Pin

| Wire Size Range | AMP Part No. / NASA No. |
|---|---|
| 22-28<br>0.4-0.08 | 204370-8<br>G-08-P1 |
| 26-28<br>0.15-0.08 | 206495-3<br>— |

Max. insulation diameter .054 [1.38]

Hand tool AMP Part Number 601966-1 or MIL Part Number M22520/2-01

Positioner AMP Part Number 601966-6 or MIL Part Number M22520/2-09

#### Contact Material and Finish

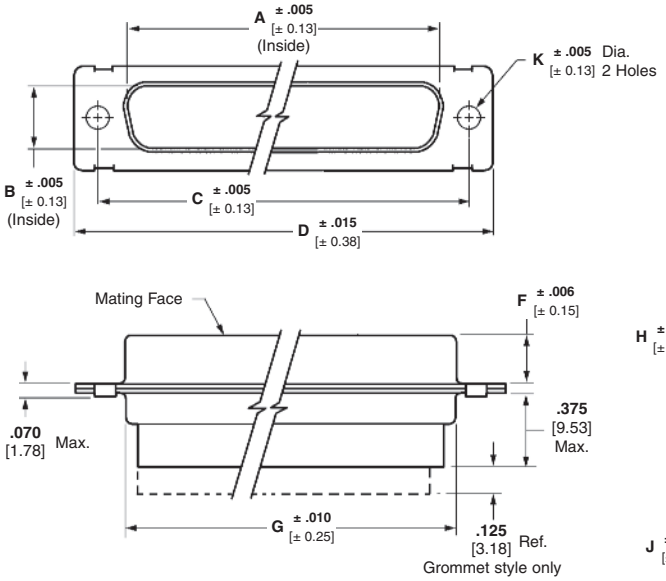
Copper alloy, .000050–.000100 [0.00127–0.0254] thick gold plate over .000100–.000150 [0.0254–0.00381] thick copper underplate

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-1 or MIL Part Number M81969/1-04

Insertion tip, for replacement Part Number 126237-1

Extraction tip, for replacement Part Number 126195-2




### Non-Magnetic Plugs per NASA Specification

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | F | G | H | J | L | K | NASA Part Number | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.235** 5.97 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.154** 3.91 | 311P407-1P-B-15 | 206498-1 |
| | | | | | | | | | | **.120** 3.05 | 311P407-1P-B-12 | 206498-4 |
| 26 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **.235** 5.97 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | **.154** 3.91 | 311P407-2P-B-15 | 206500-1 |
| | | | | | | | | | | **.120** 3.05 | 311P407-2P-B-12 | 206500-4 |
| 44 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **.230** 5.84 | **1.625** 4.13 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.154** 3.91 | 311P407-3P-B-15 | 206063-2 |
| | | | | | | | | | | **.120** 3.05 | 311P407-3P-B-12 | 206063-4 |
| 62 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | **.154** 3.91 | 311P407-4P-B-15 | 206502-1 |
| | | | | | | | | | | **.120** 3.05 | 311P407-4P-B-12 | 206502-4 |
| 78 (5) | **2.079** 52.81 | **.441** 11.20 | **2.406** 61.11 | **2.635** 66.93 | **.230** 5.84 | **2.178** 57.7 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | **.154** 3.91 | 311P407-5P-B-15 | 206504-1 |
| | | | | | | | | | | **.120** 3.05 | 311P407-5P-B-12 | 206504-4 |
| 104 (6) | **2.212** 56.18 | **.503** 12.78 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.302** 58.47 | **.668** 16.97 | **.596** 15.14 | **.426** 10.82 | **.154** 3.91 | 311P407-6P-B-15 | 206066-2 |
| | | | | | | | | | | **.120** 3.05 | 311P407-6P-B-12 | 206066-4 |

### Non-Magnetic Plugs With Silicone Rubber Rear Grommet[1]

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | F | G | H | J | K | L | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.235** 5.97 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | **.422** 10.72 | 211673-4 |
| 26 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **.235** 5.97 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | **.422** 10.72 | 211674-4 |
| 44 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **.230** 5.84 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | **.426** 10.82 | 211675-4 |
| 62 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | **.426** 10.82 | 211676-4 |
| 78 (5) | **2.079** 52.81 | **.441** 11.20 | **2.406** 61.11 | **2.635** 66.93 | **.230** 5.84 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.120** 3.05 | **.426** 10.82 | 211677-4 |
| 104 (6) | **2.212** 56.18 | **.503** 12.78 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.302** 58.47 | **.668** 16.97 | **.596** 15.14 | **.120** 3.05 | **.426** 10.82 | 211678-4 |

[1] Grommet provided for cable strain relief.



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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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## AMPLIMITE Connectors, Series 90 (Continued)

### Non-Magnetic Crimp Receptacles, Series 90, High Density Connectors (NASA Qualified)

#### Connector Material and Finish

**Shell** — Brass, gold plated

**Insert** — Approved material per MIL-DTL-24308

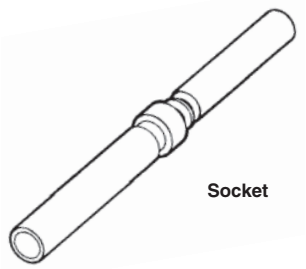
**Retention Clips** — Copper alloy

#### Related Product Data

**Cavity Identification** — page 8-69

**Mounting, Mating Specifications** — page 8-90

**Accessories** — pages 8-95 to 8-97



Socket

| Wire Size Range | AMP Part No. / NASA No. |
|---|---|
| 22-28<br>0.4-0.08 | 206071-1<br>G-08-S1 |
| 26-28<br>0.15-0.08 | 206496-1<br>— |

Max. insulation diameter .054 [1.38]

Hand tool AMP Part Number 601966-1 or MIL Part Number M22520/2-01

Positioner AMP Part Number 601966-4 or MIL Part Number M22520/2-06

#### Contact and Hood Material and Finish

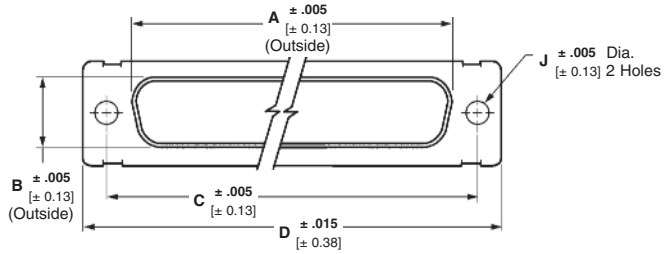
Copper alloy, .000050–.000100 [0.00127–0.0254] thick gold plate over .000100–.000150 [0.0254–0.00381] thick copper underplate

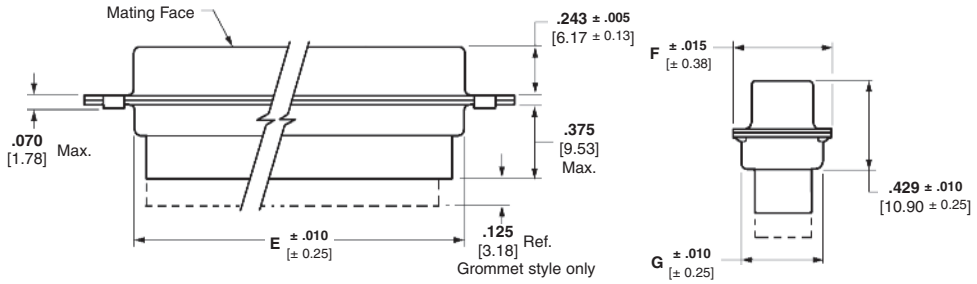
**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-1 or MIL Part Number M81969/1-04

Insertion tip, for replacement Part Number 126237-1

Extraction tip, for replacement Part Number 126195-2




### Non-Magnetic Receptacles per NASA Specification

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | J | NASA Part Number | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.154** 3.91 | 311P407-1S-B-15 | 206499-1 |
| | | | | | | | | **.120** 3.05 | 311P407-1S-B-12 | 206499-4 |
| 26 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.154** 3.91 | 311P407-2S-B-15 | 206501-1 |
| | | | | | | | | **.120** 3.05 | 311P407-2S-B-12 | 206501-4 |
| 44 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.154** 3.91 | 311P407-3S-B-15 | 206064-2 |
| | | | | | | | | **.120** 3.05 | 311P407-3S-B-12 | 206064-4 |
| 62 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.154** 3.91 | 311P407-4S-B-15 | 206503-1 |
| | | | | | | | | **.120** 3.05 | 311P407-4S-B-12 | 206503-4 |
| 78 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.154** 3.91 | 311P407-5S-B-15 | 206505-1 |
| | | | | | | | | **.120** 3.05 | 311P407-5S-B-12 | 206505-4 |
| 104 (6) | **2.189** 55.6 | **.485** 12.32 | **2.500** 63.5 | **2.729** 69.32 | **2.302** 58.47 | **668** 16.97 | **.596** 15.14 | **.154** 3.91 | 311P407-6S-B-15 | 206065-2 |
| | | | | | | | | **.120** 3.05 | 311P407-6S-B-12 | 206065-4 |

### Non-Magnetic Receptacles With Silicone Rubber Rear Grommet[1]

| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | J | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|
| 15 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | 211667-4 |
| 26 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | 211668-4 |
| 44 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | 211669-4 |
| 62 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.120** 3.05 | 211670-4 |
| 78 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.120** 3.05 | 211671-4 |
| 104 (6) | **2.189** 55.6 | **.485** 12.32 | **2.500** 63.5 | **2.729** 69.32 | **2.302** 58.47 | **.668** 16.97 | **.596** 15.14 | **.120** 3.05 | 211672-4 |

[1] Grommet provided for cable strain relief.





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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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## AMPLIMITE Connectors, Series 90 (Continued)

### Crimp Blindmate Plugs, Series 90, High Density Connectors

#### Material and Finish

**Shell, Front** — Aluminum alloy, cadmium plated with yellow chromate

[1] **Shell, Front for RoHS Compliant** — Aluminum alloy, zinc plated with yellow trivalent chromate

**Shell, Rear** — Steel, cadmium plated with yellow chromate

[1] **Shell, Rear for RoHS Compliant** — Steel, zinc plated with yellow trivalent chromate

**Insert Assembly** — Approved material per MIL-DTL-24308

**Retention Clips** — Stainless steel

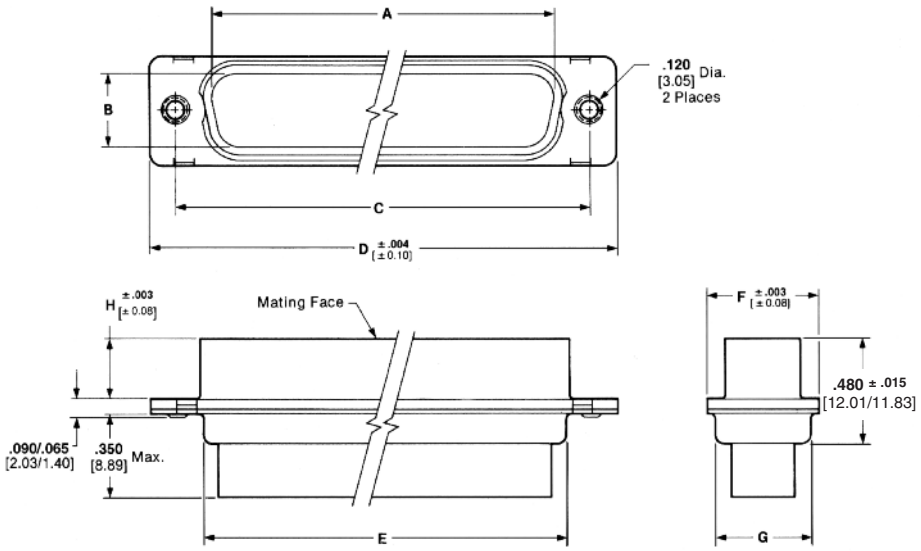
#### Related Product Data

**Cavity Identification** — page 8-69

**Contacts** — pages 8-70 and 8-71

**Mounting Specifications** — page 8-90

Flange to flange spacing can be a max. of .270 [6.86] for Blindmate connectors.




| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | Part Number |
|---|---|---|---|---|---|---|---|---|---|
| 15 (1) | **.656** 16.66 | **.324** 8.23 | **.984** 24.99 | **1.224** 31.09 | **.769/.750** 19.53/19.05 | **.506** 12.85 | **.432/.413** 10.97/10.49 | **.257** 6.53 | 213153-1 |
| 26 (2) | **.984** 25.0 | **.324** 8.23 | **1.312** 33.32 | **1.552** 39.42 | **1.093/1.074** 27.76/27.28 | **.506** 12.85 | **.432/.413** 10.97/10.49 | **.257** 6.53 | 445010-1 |
| 44 (3) | **1.524** 38.71 | **.324** 8.23 | **1.852** 47.04 | **2.099** 53.31 | **1.635/1.616** 41.53/41.05 | **.506** 12.85 | **.432/.413** 10.97/10.49 | **.257** 6.53 | 445011-1<br>5-445011-1[1] |
| 62 (4) | **2.172** 55.17 | **.324** 8.23 | **2.500** 63.5 | **2.740** 69.6 | **2.282/2.263** 57.96/57.48 | **.506** 12.85 | **.432/.413** 10.97/10.49 | **.257** 6.53 | 213118-1 |
| 78 (5) | **2.082** 52.88 | **.444** 11.28 | **2.406** 61.11 | **2.646** 67.21 | **2.188/2.167** 55.58/55.04 | **.617** 15.67 | **.544/.525** 13.82/13.34 | **.257** 6.53 | 445012-1<br>5-445012-1[1] |
| 104 (6) | **2.212** 56.18 | **.503** 12.78 | **2.500** 63.5 | **2.740** 69.6 | **2.302** 58.47 | **.680** 17.27 | **.606/.587** 15.39/14.91 | **.267** 6.78 | 212933-3 |

[1] See Material and Finish for RoHS compliant Part Numbers above.

### Blindmate Plugs with Floating Bushings

#### Material and Finish

**Shell** — Aluminum alloy per 6061, cadmium plated per QQ-P-416, Type II, Class 2 over copper per MIL-C-14550, Class 4.

**Insert Assembly** — Diallyl phthalate per MIL-M-14, Type SDG-F; or polyester per MIL-M-24519, Type GPT-30F; or polyphenylene sulfide (PPS) per MIL-M-24519, Type GST-40F.

**Floating Bushing/Washer** — Stainless steel per ASTM-A-582, passivated per QQ-P-35B. Floats .008 ± .004 [0.20 ± 0.10] vertically and .031 [0.79] horizontally.

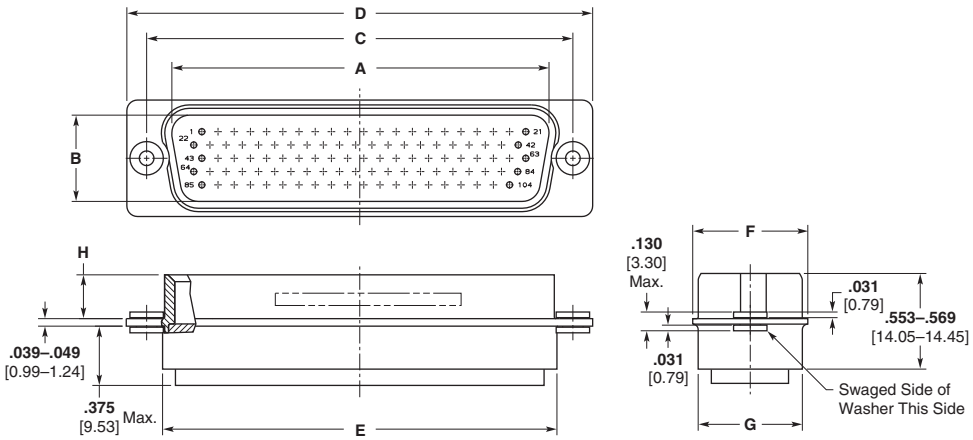
#### Related Product Data

**Cavity Identification** — page 8-69

**Contacts** — pages 8-70 and 8-71

**Mounting Specifications** — page 8-90

Flange to flange spacing can be a max. of .270 [6.86] for Blindmate connectors.




| No. of Contact Pos. (Shell Size) | Dimensions A | B | C | D | E | F | G | H | Part Number |
|---|---|---|---|---|---|---|---|---|---|
| 104 (6) | **2.213/2.217** 56.21/56.31 | **.504/.508** 12.80/12.90 | **2.495/2.505** 63.37/63.63 | **2.714/2.744** 68.94/69.70 | **2.307/2.319** 58.60/58.90 | **.673/.683** 17.09/17.35 | **.602/.614** 15.29/15.59 | **.254/.260** 6.45/6.60 | 1757207-6 |
| 44 (3) | **1.522/1.526** 38.66/38.76 | **.321/.327** 8.15/8.31 | **1.847/1.857** 46.91/47.17 | **2.073/2.103** 52.65/53.42 | **1.630/1.642** 41.40/41.71 | **.499/.509** 12.67/12.93 | **.432/.444** 10.97/11.28 | **.254/.260** 6.45/6.60 | 1757207-3 |

**Note:** Additional sizes available upon request.



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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
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UK: +44 800 267 666

For additional support numbers please visit www.te.com

## AMPLIMITE Connectors, Series 90 (Continued)

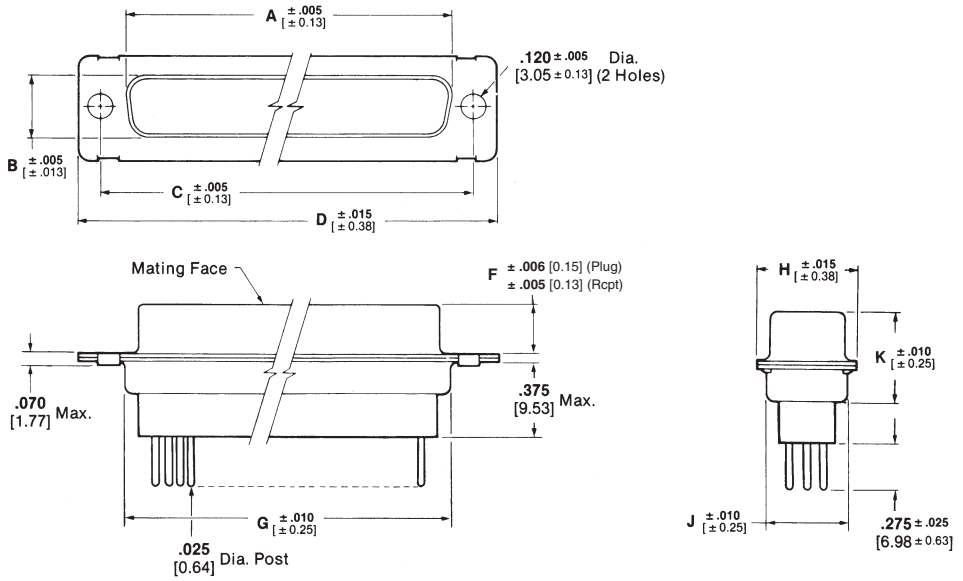
### Straight PCB, Series 90, High Density Connectors (Industrial Grade)

#### Material and Finish

[1] **Shell** — Steel, cadmium plated
[2] **Shell for RoHS Compliant** — Steel, zinc plated
**Insert** — Polyphenylene Sulfide (PPS)
**Retention Clips** — Stainless steel

#### Related Product Data

**Cavity Identification** — page 8-69
**Contacts** — page 8-71
**Mounting, Mating Dimensions** — page 8-90
**Accessories** — pages 8-95 to 8-97
**PCB Layouts** — See page 8-92 or TE Connectivity customer drawing




Replacement Pin Contact Part Number 207683-8

### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A (Inside) | B (Inside) | C | D | F | G | H | J | K | |
| 15 (1) | **.666** 16.92 | **.329** 8.36 | **.984** 24.99 | **1.213** 30.81 | **.235** 5.97 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | 208866-1[1] 5-208866-1[2] |
| 26 (2) | **.994** 25.25 | **.329** 8.36 | **1.312** 33.32 | **1.541** 39.14 | **.235** 5.97 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.422** 10.72 | 208867-1[1] 5-208867-1[2] |
| 44 (3) | **1.534** 38.96 | **.329** 8.36 | **1.852** 47.04 | **2.088** 53.04 | **.230** 5.84 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | 208868-1[1] 5-208868-1[2] |
| 62 (4) | **2.182** 55.42 | **.329** 8.36 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.426** 10.82 | 208869-1[1] 5-208869-1[2] |
| 78 (5) | **2.079** 52.81 | **.441** 11.20 | **2.406** 61.11 | **2.635** 66.93 | **.230** 5.84 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.426** 10.82 | 208870-1[1] 5-208870-1[2] |
| 104 (6) | **2.212** 56.18 | **.503** 12.78 | **2.500** 63.5 | **2.729** 69.32 | **.230** 5.84 | **2.302** 58.47 | **.668** 16.97 | **.596** 15.14 | **.426** 10.82 | 208871-1[1] 5-208871-1[2] |

[1] See Material and Finish above.
[2] See Material and Finish for RoHS compliant Part Numbers above.

Replacement Socket Contact Part Number 207684-4

### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A (Outside) | B (Outside) | C | D | F | G | H | J | K | |
| 15 (1) | **.643** 16.33 | **.311** 7.9 | **.984** 24.99 | **1.213** 30.81 | **.243** 6.17 | **.759** 19.28 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | 208872-1[1] 5-208872-1[2] |
| 26 (2) | **.971** 24.66 | **.311** 7.9 | **1.312** 33.32 | **1.541** 39.14 | **.243** 6.17 | **1.083** 27.51 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | 208873-1[1] 5-208873-1[2] |
| 44 (3) | **1.511** 38.38 | **.311** 7.9 | **1.852** 47.04 | **2.088** 53.04 | **.243** 6.17 | **1.625** 41.3 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | 208874-1[1] 5-208874-1[2] |
| 62 (4) | **2.159** 54.84 | **.311** 7.9 | **2.500** 63.5 | **2.729** 69.32 | **.243** 6.17 | **2.272** 57.7 | **.494** 12.55 | **.422** 10.72 | **.429** 10.9 | 208875-1[1] 5-208875-1[2] |
| 78 (5) | **2.064** 52.43 | **.423** 10.74 | **2.406** 61.11 | **2.635** 66.93 | **.243** 6.17 | **2.178** 55.32 | **.605** 15.37 | **.534** 13.56 | **.429** 10.9 | 208876-1[1] 5-208876-1[2] |
| 104 (6) | **2.189** 55.6 | **.485** 12.32 | **2.500** 63.5 | **2.729** 69.32 | **.243** 6.17 | **2.302** 58.47 | **.668** 16.97 | **.596** 15.14 | **.429** 10.9 | 208877-1[1] 5-208877-1[2] |

[1] See Material and Finish above.
[2] See Material and Finish for RoHS compliant Part Numbers above.





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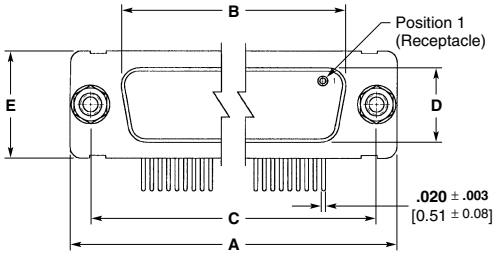
## AMPLIMITE Connectors, Series 90 (Continued)

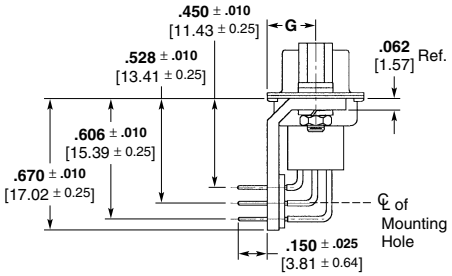
### Right-Angle PCB, Series 90, with Female Screwlocks

#### Material and Finish

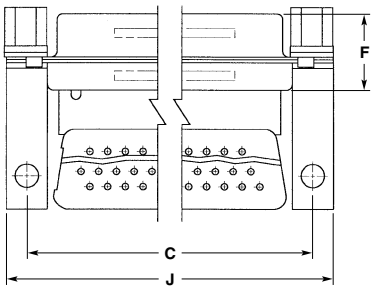
**Shell** — Brass, gold over copper plated

**Insert** — Diallyl phthalate or polyester or Polyphenylene Sulfide (PPS)




**Shell Size 1 thru 4**




### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | J | |
| 15 (1) | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.422** 10.72 | **.246 ±.010** 6.25 ± 0.25 | **1.204** 30.58 | 1-593326-7 |
| 26 (2) | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.32 | **.329** 8.36 | **.494** 12.55 | **.422** 10.72 | **.246 ±.010** 6.25 ± 0.25 | **1.532** 38.91 | 1-593326-8 |
| 44 (3) | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **.426** 10.82 | **.246 ±.010** 6.25 ± 0.25 | **2.077** 52.76 | 1-593326-9 |
| 62 (4) | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.50 | **.329** 8.36 | **.494** 12.55 | **.426** 10.82 | **.246 ±.010** 6.25 ± 0.25 | **2.720** 69.09 | 2-593326-0 |
| 78 (5) | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 11.20 | **.605** 15.37 | **.426** 10.82 | **.246 ±.010** 6.25 ± 0.25 | **2.626** 66.70 | 2-593326-1 |
| 104 (6) | **2.729** 69.32 | **2.213** 56.21 | **2.500** 63.50 | **.503** 12.78 | **.668** 16.97 | **.426** 10.82 | **.246 ±.010** 6.25 ± 0.25 | **2.720** 69.09 | 2-593326-2 |

### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | Part Number |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | J | |
| 15 (1) | **1.213** 30.81 | **.643** 16.33 | **.984** 24.99 | **.311** 7.90 | **.494** 12.55 | **.422** 10.72 | **.248 ±.010** 6.30 ± 0.25 | **1.204** 30.58 | 1-593327-7 |
| 26 (2) | **1.541** 39.14 | **.971** 24.66 | **1.312** 33.32 | **.311** 7.90 | **.494** 12.55 | **.422** 10.72 | **.248 ±.010** 6.30 ± 0.25 | **1.532** 38.91 | 1-593327-8 |
| 44 (3) | **2.088** 53.04 | **1.511** 38.38 | **1.852** 47.04 | **.311** 7.90 | **.494** 12.55 | **.426** 10.82 | **.248 ±.010** 6.30 ± 0.25 | **2.077** 52.76 | 1-593327-9 |
| 62 (4) | **2.729** 69.32 | **2.159** 54.84 | **2.500** 63.50 | **.311** 7.90 | **.494** 12.55 | **.426** 10.82 | **.248 ±.010** 6.30 ± 0.25 | **2.720** 69.09 | 2-593327-0 |
| 78 (5) | **2.635** 66.93 | **2.064** 52.43 | **2.406** 61.11 | **.423** 10.74 | **.605** 15.37 | **.426** 10.82 | **.248 ±.010** 6.30 ± 0.25 | **2.626** 66.70 | 2-593327-1 |
| 104 (6) | **2.729** 69.32 | **2.188** 55.58 | **2.500** 63.50 | **.485** 12.32 | **.668** 16.97 | **.426** 10.82 | **.248 ±.010** 6.30 ± 0.25 | **2.726** 69.24 | 2-593327-2 |

## AMPLIMITE Connectors, Series 90 (Continued)

### Connector Savers, Series 90, High Density Connectors

Connector savers prolong the life of permanently installed connectors which would otherwise be subjected to repeated cycles of mating and unmating, in applications such as test interfaces or on testing devices.

### Material and Finish

**Standard**

**Shell** — Steel, cadmium plated

**Contact Body** — Beryllium copper, .000050 [0.00127] min. gold plate over .000050 [0.00127] min. nickel underplate

**Socket Hood** — Passivated stainless steel

**Insert** — Polyphenylene Sulfide (PPS)

**Spacer** — Black nylon

**Non Magnetic**

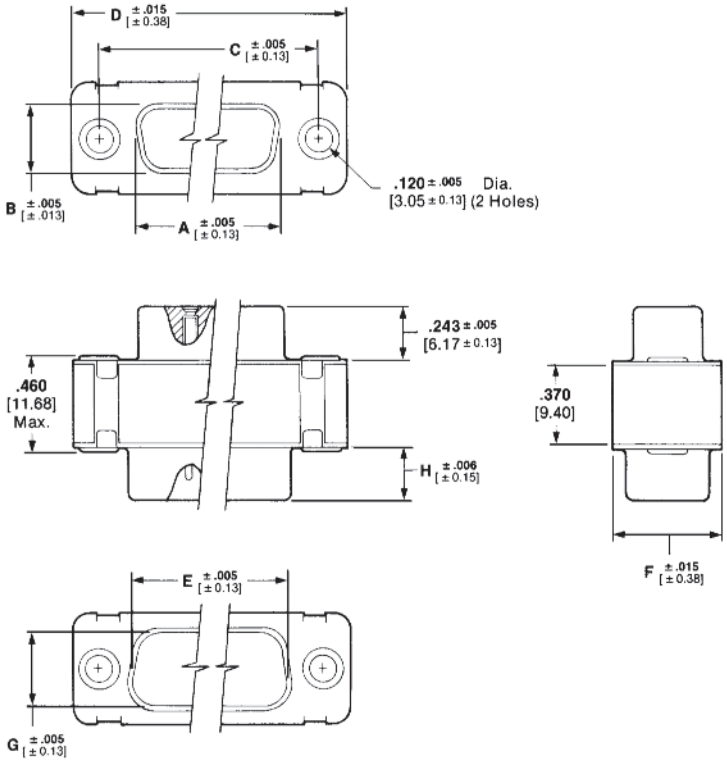
**Shell** — Brass, gold plated

**Contact Body** — Beryllium copper, .000050 [0.00127] min. gold plate over .000050 [0.00127] min. copper underplate

**Socket Hood** — Brass, .000050 [0.00127] min. gold plate over .000100 [0.00254] min. copper underplate

**Insert** — Polyphenylene Sulfide (PPS)

**Spacer** — Black nylon




| Dimensions | | | | | | | |
|---|---|---|---|---|---|---|---|
| A (Outside) | B (Outside) | C | D | E (Inside) | F | G (Inside) | H |
| .643<br>16.33 | .311<br>7.9 | .984<br>24.99 | 1.213<br>30.81 | .666<br>16.92 | .494<br>12.55 | .329<br>8.36 | .235<br>5.97 |
| .971<br>24.66 | .311<br>7.9 | 1.312<br>33.32 | 1.541<br>39.14 | .994<br>25.25 | .494<br>12.55 | .329<br>8.36 | .235<br>5.97 |
| 1.511<br>38.38 | .311<br>7.9 | 1.852<br>47.04 | 2.088<br>53.04 | 1.534<br>38.96 | .494<br>12.55 | .329<br>8.36 | .230<br>5.84 |
| 2.159<br>54.84 | .311<br>7.9 | 2.500<br>63.5 | 2.729<br>69.32 | 2.182<br>55.42 | .494<br>12.55 | .329<br>8.36 | .230<br>5.84 |
| 2.064<br>52.43 | .423<br>10.74 | 2.406<br>61.11 | 2.635<br>66.93 | 2.079<br>52.81 | .605<br>15.37 | .441<br>11.20 | .230<br>5.84 |
| 2.189<br>55.60 | .485<br>12.32 | 2.500<br>63.5 | 2.729<br>69.32 | 2.212<br>56.18 | .668<br>16.97 | .503<br>12.78 | .230<br>5.84 |

| No. of Contact Pos. (Shell Size) | Standard (Cadmium Over Steel) | Non-Magnetic (Gold Over Brass) |
|---|---|---|
| 15<br>(1) | 211010-1 | 211010-4 |
| 26<br>(2) | 211011-1 | 211011-4 |
| 44<br>(3) | 211012-1 | 211012-4 |
| 62<br>(4) | 211013-1 | 211013-4 |
| 78<br>(5) | 211014-1 | 211014-4 |
| 104<br>(6) | 211015-1 | 211015-4 |





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## AMPLIMITE Connectors, Series 90 Cross Reference

### Material and Finish

**Shell** — Steel, tin plated per ASTM-B-545, .000400–.000550 [0.01016–0.01397] thick.

**Insert** — Approved material per MIL-DTL-24308.

**Retention Clips** — Stainless steel or copper alloy.

### Related Product Data

**Series 90 Connectors** — pages 8-72 to 8-75

### Attention: Connector Marking

Connector marking may differ from package marking.

**Note:** Meets 48 hr. salt spray requirements of MIL-DTL-24308.

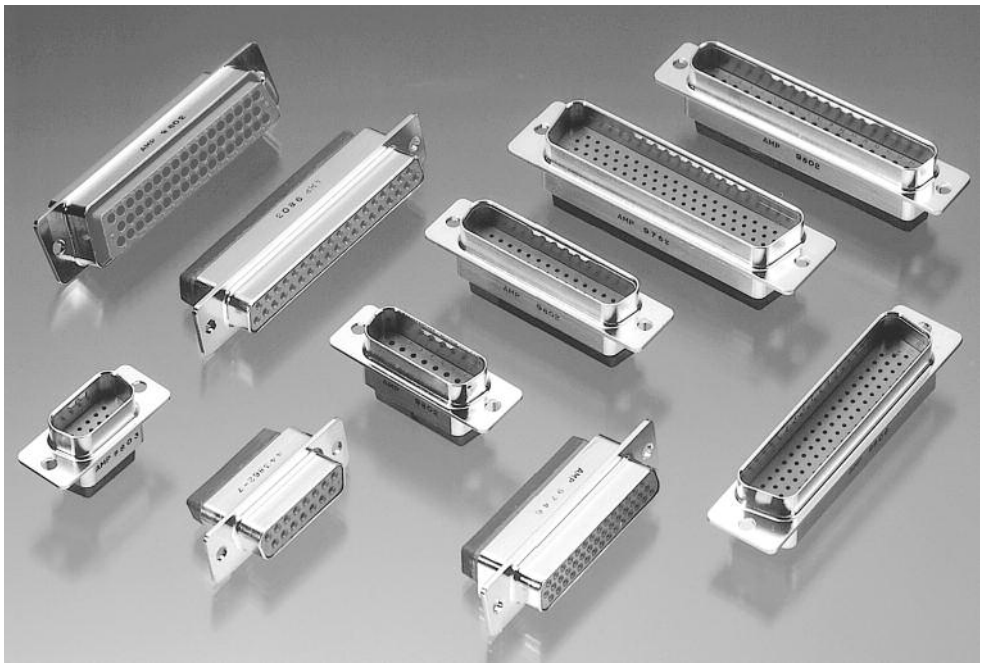
### Series 90 Connectors

| No. of Contact Pos. (Shell Size) | Part Number | Description | Dimensions |
|---|---|---|---|
| 15 (1) | 204501-6 | Plug Only | Refer to pages 6-69 to 6-72 |
| | 204501-5 | Plug Only with Grounding Indents | |
| | 204500-4 | Receptacle Only | |
| 26 (2) | 204503-5 | Plug Only | Refer to pages 6-69 to 6-72 |
| | 204503-4 | Plug Only with Grounding Indents | |
| | 204502-4 | Receptacle Only | |
| 44 (3) | 204505-6 | Plug Only | Refer to pages 6-69 to 6-72 |
| | 204505-5 | Plug Only with Grounding Indents | |
| | 204504-5 | Receptacle Only | |
| 62 (4) | 204507-6 | Plug Only | Refer to pages 6-69 to 6-72 |
| | 204507-5 | Plug Only with Grounding Indents | |
| | 204506-6 | Receptacle Only | |
| 78 (5) | 204509-7 | Plug Only | Refer to pages 6-69 to 6-72 |
| | 204509-8 | Plug Only with Grounding Indents | |
| | 204508-5 | Receptacle Only | |
| 104 (6) | — | Plug Only | Refer to pages 6-69 to 6-72 |
| | — | Plug Only with Grounding Indents | |
| | — | Receptacle Only | |

## AMPLIMITE Connectors, ULTRA-LITE Connectors

### Product Facts

- **One-piece aluminum shells for light-weight and enhanced EMI performance**
- **Connectors are typically 15–20% lighter than brass counterparts**
- **Intermates/interchanges with existing designs**
- **Enhanced EMI performance over brass shells by 10–20 dB**
- **Series 109 Plugs & Receptacles shell size 1 through 5 (9-50 positions)**
- **Series 90 Plugs & Receptacles in shell size 1 through 6 (15-104 positions)**
- **Can be provided with or without grommet**
- **Plug shells include grounding indents**
- **Designed to meet NASA 311P**
- **Designed to meet MIL-DTL-24308D specification**
- **DSCC Drawings 99012 through 99015**



### Material and Finish

**Housing Material** — Polyphenylene Sulfide (PPS)

**Shell Finish** — .000050 [0.00127] min. gold plate over .00100–.00125 [0.0254–0.0318] nickel underplate

**Shell Material** — Aluminum alloy

**Temperature Range** — –67°F to 257°F [–55°C to 125°C]

**Voltage Rating** — 300 V

**Current Rating** — Contact current rating per MIL-C-39029
Size 20 — 7.5 amps in free air
Size 22 — 5.0 amps in free air
(refer to MIL Spec. for cable specifications)

**Low Level Termination Resistance** — 11 Ohm max. 109 Series, 17 milliohms only for 90 Series per MIL-C-39029

### Performance Characteristics

**Dielectric Withstanding Voltage** — 1000 VAC between adjacent pos.

**Insulation Resistance** — Min. 1000 milliohm between adjacent pos.

**Voltage Rating** — 300 V

**Durability** — Up to 500 matings/cycle

**Vibration** — 3.13 G's RMS between 5–500 Hz 15 minutes per plane

**Physical Shock** — 18 drops, half-sine 30 G's at 11 millisecond

**Temperature Range** — –67°F to 257°F [–55°C to 125°C]

**Thermal Shock** — –67°F to 257°F [–55°C to 125°C]

**Temperature-Humidity** — 77°F to 149°F [+25°C to +65°C] at 95% relative humidity

**Corrosion** — Mixed flowing gas, class II

**Product Specifications** — 108-1834 (Design objectives)

### Weight Comparisons for the AMPLIMITE Connector Series 90 (1) PC AL vs the (2) PC Brass NASA Grade Connector Assemblies

#### Receptacles

| Shell Size | Connector Position | Aluminum Shell Assy. Without Grommet | Brass Shell Assy. Without Grommet | Brass to Aluminum % Difference Without Grommet |
|---|---|---|---|---|
| 1 | 15 | 4 | 5.2 | 23.1% |
| 2 | 26 | 6.2 | 7.5 | 17.3% |
| 3 | 44 | 9 | 10.9 | 17.4% |
| 4 | 62 | 12.4 | 15.3 | 19.0% |
| 5 | 78 | 15.3 | 17.9 | 14.5% |
| 6 | 104 | 17.2 | 20 | 14.0% |

**Note:** All weight values are in grams.

#### Plugs

| Shell Size | Connector Position | Aluminum Shell Assy. Without Grommet | Brass Shell Assy. Without Grommet | Brass to Aluminum % Difference Without Grommet |
|---|---|---|---|---|
| 1 | 15 | 3.6 | 4.6 | 21.7% |
| 2 | 26 | 5.3 | 6.2 | 14.5% |
| 3 | 44 | 7.8 | 10.3 | 24.3% |
| 4 | 62 | 10.9 | 14.1 | 22.7% |
| 5 | 78 | 12.7 | 15.9 | 20.1% |
| 6 | 104 | 14.3 | 17.5 | 18.3% |

**Note:** All weight values are in grams.





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## AMPLIMITE Connectors, ULTRA-LITE Connectors (Continued)

### ULTRA-LITE Connector Plugs and Receptacles, Series 109

#### Connector Material and Finish

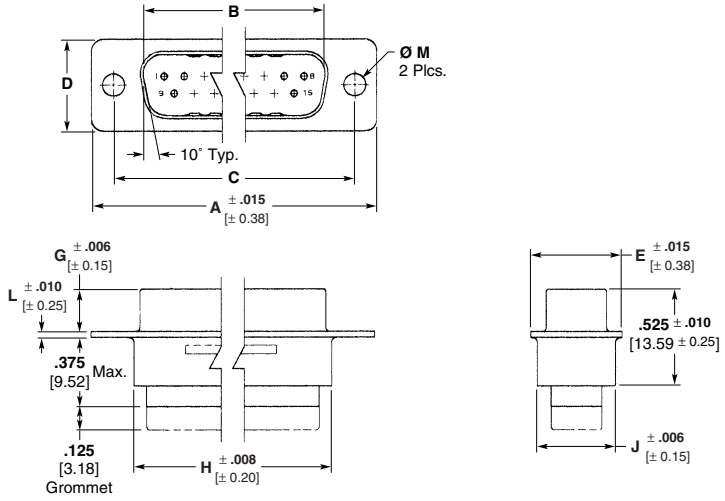
**Shell** — Aluminum alloy, gold plated per MIL-G-45204 over nickel per MIL-C-26074.

**Insert** — Blue diallyl phthalate per MIL-M-14 or black Polyphenylene Sulfide (PPS) per MIL-M-24519 or blue thermoplastic per MIL-M-24519

**Retention Clips** — Beryllium copper

**Grommet** — Silicon rubber per ZZ-R-765, color: red

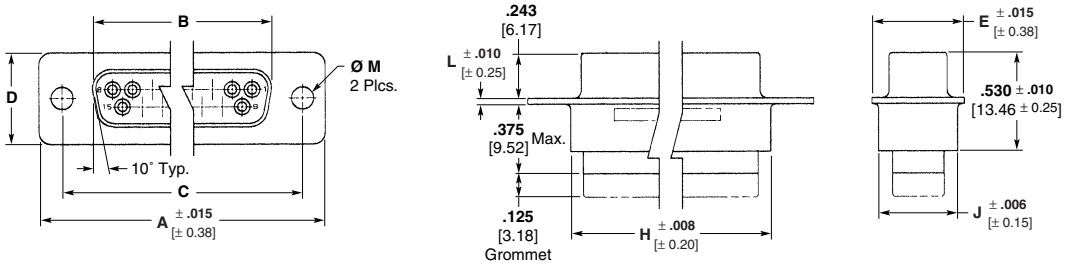
**Contacts** — Uses size 20 crimp or posted contacts, ref. pages 8-40 to 8-42.




### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | NASA[1] Part Number for reference only | AMP RoHS Part Number | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G | H | J | L | | M = .120 [3.05] | M = .154 [3.91] |
| 9 (1) | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.235** 5.97 | **.770** 19.56 | **.438** 11.13 | **.030** 0.76 | 311P409-1P-B-15 | 1218234-1 / 1218234-6* | 1883005-1 |
| 15 (2) | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.32 | **.329** 8.36 | **.494** 12.55 | **.235** 5.97 | **1.094** 27.79 | **.438** 11.13 | **.030** 0.76 | 311P409-2P-B-15 | 1218234-2 / 1218234-7* | 1883005-2 |
| 25 (3) | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **.230** 5.84 | **1.636** 41.55 | **.438** 11.13 | **.039** 0.99 | 311P409-3P-B-15 | 1218234-3 / 1218234-8* | 1883005-3 |
| 37 (4) | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.50 | **.329** 8.36 | **.494** 12.55 | **.230** 5.84 | **2.284** 58.01 | **.438** 11.13 | **.039** 0.99 | 311P409-4P-B-15 | 1218234-4 / 1218234-9* | 1883005-4 |
| 50 (5) | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 11.20 | **.605** 15.38 | **.230** 5.84 | **2.189** 55.60 | **.550** 13.97 | **.039** 0.99 | 311P409-5P-B-15 | 1218234-5 / 1-1218234-0* | 1883005-5 |

*Rubber Grommet




### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP RoHS Part Number | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | H | J | L | | M = .120 [3.05] | M = .154 [3.91] |
| 9 (1) | **1.213** 30.81 | **.643** 16.33 | **.984** 24.99 | **.311** 7.90 | **.494** 12.55 | **.770** 19.56 | **.438** 11.13 | **.030** 0.76 | 311P409-1S-B-15 | 1218235-1 / 1218235-6* | 1883006-1 |
| 15 (2) | **1.541** 39.14 | **.971** 24.66 | **1.312** 33.32 | **.311** 7.90 | **.494** 12.55 | **1.094** 27.79 | **.438** 11.13 | **.030** 0.76 | 311P409-2S-B-15 | 1218235-2 / 1218235-7* | 1883006-2 |
| 25 (3) | **2.088** 53.04 | **1.511** 38.38 | **1.852** 47.04 | **.311** 7.90 | **.494** 12.55 | **1.636** 41.55 | **.438** 11.13 | **.039** 0.99 | 311P409-3S-B-15 | 1218235-3 / 1218235-8* | 1883006-3 |
| 37 (4) | **2.729** 69.32 | **2.159** 54.84 | **2.500** 63.50 | **.311** 7.90 | **.494** 12.55 | **2.284** 58.01 | **.438** 11.13 | **.039** 0.99 | 311P409-4S-B-15 | 1218235-4 / 1218235-9* | 1883006-4 |
| 50 (5) | **2.635** 66.93 | **2.064** 52.43 | **2.406** 61.11 | **.423** 10.74 | **.605** 15.38 | **2.189** 55.60 | **.550** 13.97 | **.039** 0.99 | 311P409-5S-B-15 | 1218235-5 / 1-1218235-0* | 1883006-5 |

*Rubber Grommet

[1]Tyco Electronic part numbers are not NASA qualified parts but can replace referenced NASA part numbers.



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## AMPLIMITE Connectors, ULTRA-LITE Connectors (Continued)

### ULTRA-LITE Connector Plugs and Receptacles, Series 90

#### Connector Material and Finish

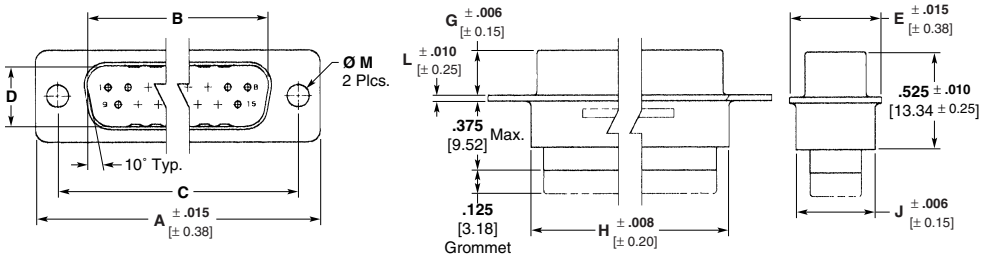
**Shell** — Aluminum alloy, gold plated per MIL-G-45204 over nickel per MIL-C-26074.

**Insert** — Blue diallyl phthalate per MIL-M-14 or black Polyphenylene Sulfide (PPS) per MIL-M-24519 or blue thermoplastic per MIL-M-24519

**Retention Clips** — Beryllium copper

**Grommet** — Silicon rubber per ZZ-R-765, color: red

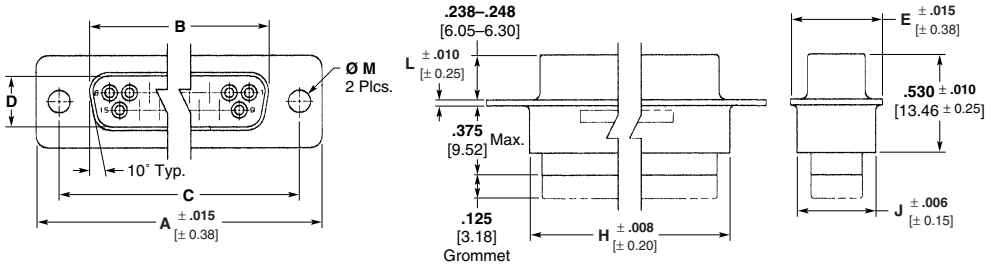
**Contacts** — Uses size 22 crimp and posted contacts, ref. pages 8-70 and 8-71.




#### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | | NASA[1] Part Number for reference only | AMP RoHS Part Number | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G | H | J | L | | M = .120 [3.05] | M = .154 [3.91] |
| 15 (1) | **1.213** 30.81 | **.666** 16.92 | **.984** 24.99 | **.329** 8.36 | **.494** 12.55 | **.235** 5.97 | **.770** 19.56 | **.438** 11.13 | **.030** 0.76 | 311P407-1P-B-15 | 1218232-1 / 1218232-7* | 1883007-1 |
| 26 (2) | **1.541** 39.14 | **.994** 25.25 | **1.312** 33.32 | **.329** 8.36 | **.494** 12.55 | **.235** 5.97 | **1.094** 27.79 | **.438** 11.13 | **.030** 0.76 | 311P407-2P-B-15 | 1218232-2 / 1218232-8* | 1883007-2 |
| 44 (3) | **2.088** 53.04 | **1.534** 38.96 | **1.852** 47.04 | **.329** 8.36 | **.494** 12.55 | **.230** 5.84 | **1.636** 41.55 | **.438** 11.13 | **.039** 0.99 | 311P407-3P-B-15 | 1218232-3 / 1218232-9* | 1883007-3 |
| 62 (4) | **2.729** 69.32 | **2.182** 55.42 | **2.500** 63.50 | **.329** 8.36 | **.494** 12.55 | **.230** 5.84 | **2.284** 58.01 | **.438** 11.13 | **.039** 0.99 | 311P407-4P-B-15 | 1218232-4 / 1-1218232-0* | 1883007-4 |
| 78 (5) | **2.635** 66.93 | **2.079** 52.81 | **2.406** 61.11 | **.441** 11.20 | **.605** 15.38 | **.230** 5.84 | **2.189** 55.60 | **.550** 13.97 | **.039** 0.99 | 311P407-5P-B-15 | 1218232-5 / 1-1218232-1* | 1883007-5 |
| 104 (6) | **2.729** 69.32 | **2.212** 56.18 | **2.500** 63.50 | **.503** 12.78 | **.668** 16.97 | **.230** 5.84 | **2.313** 58.75 | **.608** 15.44 | **.039** 0.99 | 311P407-6P-B-15 | 1218232-6 / 1-1218232-2* | 1883007-6 |

*Rubber Grommet




#### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP RoHS Part Number | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | H | J | L | | M = .120 [3.05] | M = .154 [3.91] |
| 15 (1) | **1.213** 30.81 | **.644** 16.36 | **.984** 24.99 | **.311** 7.90 | **.494** 12.55 | **.770** 19.56 | **.438** 11.13 | **.030** 0.76 | 311P407-1S-B-15 | 1218233-1 / 1218233-7* | -1 |
| 26 (2) | **1.541** 39.14 | **.972** 24.69 | **1.312** 33.32 | **.311** 7.90 | **.494** 12.55 | **1.094** 27.79 | **.438** 11.13 | **.030** 0.76 | 311P407-2S-B-15 | 1218233-2 / 1218233-8* | 1883008-2 |
| 44 (3) | **2.088** 53.04 | **1.512** 38.40 | **1.852** 47.04 | **.311** 7.90 | **.494** 12.55 | **1.636** 41.55 | **.438** 11.13 | **.039** 0.99 | 311P407-3S-B-15 | 1218233-3 / 1218233-9* | 1883008-3 |
| 62 (4) | **2.729** 69.32 | **2.160** 54.86 | **2.500** 63.50 | **.311** 7.90 | **.494** 12.55 | **2.284** 58.01 | **.438** 11.13 | **.039** 0.99 | 311P407-4S-B-15 | 1218233-4 / 1-1218233-0* | 1883008-4 |
| 78 (5) | **2.635** 66.93 | **2.065** 52.45 | **2.406** 61.11 | **.423** 10.74 | **.605** 15.38 | **2.189** 55.60 | **.550** 13.97 | **.039** 0.99 | 311P407-5S-B-15 | 1218233-5 / 1-1218233-1* | 1883008-5 |
| 104 (6) | **2.729** 69.32 | **2.190** 55.63 | **2.500** 63.50 | **.485** 12.32 | **.668** 16.97 | **2.313** 58.75 | **.608** 15.44 | **.039** 0.99 | 311P407-6S-B-15 | 1218233-6 / 1-1218233-2* | 1883008-6 |

*Rubber Grommet

[1]Tyco Electronic part numbers are not NASA qualified parts but can replace referenced NASA part numbers.





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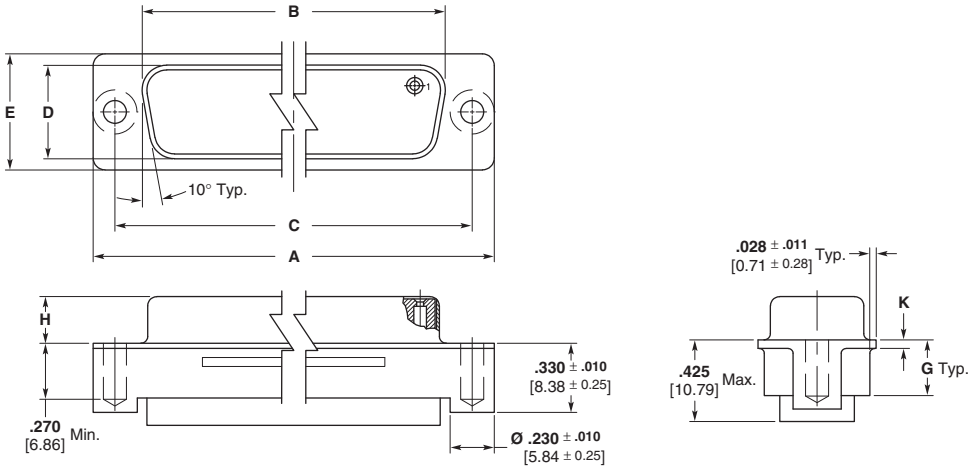
## AMPLIMITE Connectors, ULTRA-LITE Connectors (Continued)

### ULTRA-LITE Connector Plugs and Receptacles, Series 109, Crimp

### Meets EU Directive 2002/95/EC RoHS




### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G ± .010 [0.25] | H | K | | |
| 9 | **1.208/1.218** | **.661/.671** | **.979/.989** | **.324/.334** | **.489/.499** | **.294** | **.229/.241** | **.035** | 311P409-1P-B-440 | 1883053-1 |
| (1) | 30.68/30.94 | 16.79/17.04 | 24.87/25.12 | 8.23/8.48 | 12.42/12.67 | 7.47 | 5.82/6.12 | 0.89 | | |
| 15 | **1.536/1.546** | **.989/.999** | **1.307/1.317** | **.324/.334** | **.489/.499** | **.294** | **.229/.241** | **.035** | 311P409-2P-B-440 | 1883053-2 |
| (2) | 39.01/39.27 | 25.12/25.37 | 33.20/33.45 | 8.23/8.48 | 12.42/12.67 | 7.47 | 5.82/6.12 | 0.89 | | |
| 25 | **2.083/2.093** | **1.529/1.239** | **1.848/1.857** | **.324/.334** | **.489/.499** | **.299** | **.224/.236** | **.044** | 311P409-3P-B-440 | 1883053-3 |
| (3) | 52.91/53.16 | 38.84/39.09 | 46.91/47.17 | 8.23/8.48 | 12.42/12.67 | 7.59 | 5.69/5.99 | 1.12 | | |
| 37 | **2.724/2.734** | **2.177/2.187** | **2.495/2.505** | **.324/.334** | **.489/.499** | **.299** | **.224/.236** | **.044** | 311P409-4P-B-440 | 1883053-4 |
| (4) | 69.20/69.44 | 55.30/55.55 | 63.37/63.63 | 8.23/8.48 | 12.42/12.67 | 7.59 | 5.69/5.99 | 1.12 | | |
| 50 | **2.630/2.640** | **2.074/2.084** | **2.401/2.411** | **.436/.446** | **.500/.610** | **.299** | **.224/.236** | **.044** | 311P409-5P-B-440 | 1883053-5 |
| (5) | 66.80/67.06 | 52.68/52.93 | 60.99/61.24 | 11.07/11.33 | 15.24/15.49 | 7.59 | 5.69/5.99 | 1.12 | | |

### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G ± .010 [0.25] | H | K | | |
| 9 | **1.208/1.218** | **.638/.648** | **.979/.989** | **.306/.316** | **.489/.499** | **.290** | **.270** | **.035** | 311P409-1S-B-440 | 1883054-1 |
| (1) | 30.68/30.94 | 16.21/16.46 | 24.87/25.12 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.86 | 0.89 | | |
| 15 | **1.536/1.546** | **.966/.976** | **1.307/1.317** | **.306/.316** | **.489/.499** | **.290** | **.270** | **.035** | 311P409-2S-B-440 | 1883054-2 |
| (2) | 39.01/39.27 | 24.54/24.79 | 33.20/33.45 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.86 | 0.89 | | |
| 25 | **2.083/2.093** | **1.506/1.516** | **1.847/1.857** | **.306/.316** | **.489/.499** | **.290** | **.270** | **.044** | 311P409-3S-B-440 | 1883054-3 |
| (3) | 52.91/53.16 | 38.25/38.51 | 46.91/47.17 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.86 | 1.12 | | |
| 37 | **2.724/2.734** | **2.154/2.164** | **2.495/2.505** | **.306/.316** | **.489/.499** | **.290** | **.270** | **.044** | 311P409-4S-B-440 | 1883054-4 |
| (4) | 69.20/69.44 | 54.71/54.97 | 63.37/63.63 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.86 | 1.12 | | |
| 50 | **2.630/2.640** | **2.059/2.069** | **2.401/2.411** | **.418/.428** | **.600/.610** | **.290** | **.270** | **.044** | 311P409-5S-B-440 | 1883054-5 |
| (5) | 66.80/67.06 | 52.30/52.55 | 60.99/61.24 | 10.62/10.87 | 15.24/15.49 | 7.37 | 6.86 | 1.12 | | |

[1]Tyco Electronic part numbers are not NASA qualified parts but can replace referenced NASA part numbers.



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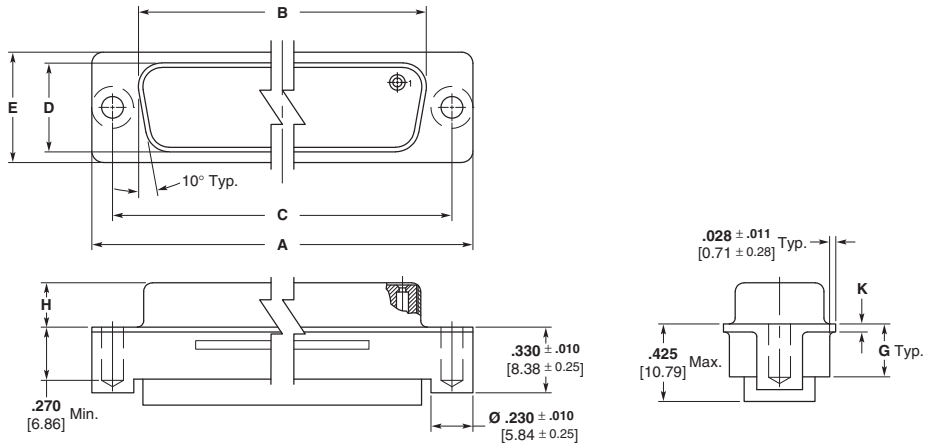
## AMPLIMITE Connectors, ULTRA-LITE Connectors (Continued)

### ULTRA-LITE Connector Plugs and Receptacles, Series 109, Crimp (Continued)

### Meets EU Directive 2002/95/EC RoHS



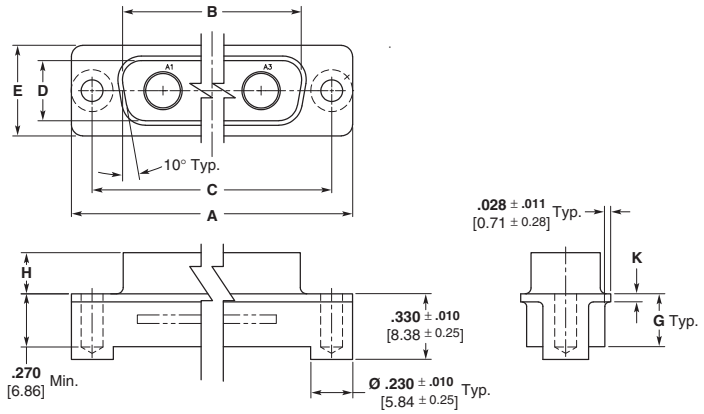

### Plugs

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G ± .010 [0.25] | H | K | | |
| 15 | **1.208/1.218** | **.661/.671** | **.979/.989** | **.324/.334** | **.489/.499** | **.294** | **.229/.241** | **.035** | 311P407-1P-B-440 | 1883055-1 |
| (1) | 30.68/30.94 | 16.79/17.04 | 24.87/25.12 | 8.23/8.48 | 12.42/12.67 | 7.47 | 5.82/6.12 | 0.89 | | |
| 26 | **1.536/1.546** | **.989/.999** | **1.307/1.317** | **.324/.334** | **.489/.499** | **.294** | **.229/.241** | **.035** | 311P407-2P-B-440 | 1883055-2 |
| (2) | 39.01/39.27 | 25.12/25.37 | 33.20/33.45 | 8.23/8.48 | 12.42/12.67 | 7.47 | 5.82/6.12 | 0.89 | | |
| 44 | **2.083/2.093** | **1.529/1.539** | **1.847/1.857** | **.324/.334** | **.489/.499** | **.299** | **.224/.236** | **.044** | 311P407-3P-B-440 | 1883055-3 |
| (3) | 52.91/53.16 | 38.84/39.09 | 46.91/47.17 | 8.23/8.48 | 12.42/12.67 | 7.59 | 5.69/5.99 | 1.12 | | |
| 62 | **2.724/2.734** | **2.177/2.187** | **2.495/2.505** | **.324/.334** | **.489/4.99** | **.299** | **.224/.236** | **.044** | 311P407-4P-B-440 | 1883055-4 |
| (4) | 69.20/69.44 | 55.30/55.55 | 63.37/63.63 | 8.23/8.48 | 12.42/12.67 | 7.59 | 5.69/5.99 | 1.12 | | |
| 78 | **2.630/2.640** | **2.074/2.084** | **2.401/2.411** | **.436/.446** | **.600/.610** | **.299** | **.224/.236** | **.044** | 311P407-5P-B-440 | 1883055-5 |
| (5) | 66.80/67.06 | 52.68/52.93 | 60.99/61.24 | 11.07/11.33 | 15.24/15.49 | 7.59 | 5.69/5.99 | 1.12 | | |

### Receptacles

| No. of Contact Pos. (Shell Size) | Dimensions | | | | | | | | NASA[1] Part Number for reference only | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G ± .010 [0.25] | H | K | | |
| 15 | **1.208/1.218** | **.638/.648** | **.979/.989** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.035** | 311P407-1S-B-440 | 1883056-1 |
| (1) | 30.68/30.94 | 16.21/16.46 | 24.87/25.12 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 0.89 | | |
| 26 | **1.536/1.546** | **.966/.976** | **1.307/1.317** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.035** | 311P407-2S-B-440 | 1883056-2 |
| (2) | 39.01/39.27 | 24.54/24.79 | 33.20/33.45 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 0.89 | | |
| 44 | **2.083/2.093** | **1.506/1.516** | **1.847/1.857** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.044** | 311P407-3S-B-440 | 1883056-3 |
| (3) | 52.91/53.16 | 38.25/38.51 | 46.91/47.17 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 1.12 | | |
| 62 | **2.724/2.734** | **2.154/2.164** | **2.495/2.505** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.044** | 311P407-4S-B-440 | 1883056-4 |
| (4) | 69.20/69.44 | 54.71/54.97 | 63.37/63.63 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 1.12 | | |
| 78 | **2.630/2.640** | **2.059/2.069** | **2.401/2.411** | **.418/.428** | **.600/.610** | **.290** | **.243** | **.044** | 311P407-5S-B-440 | 1883056-5 |
| (5) | 66.80/67.06 | 52.30/52.55 | 60.99/61.24 | 10.62/10.87 | 15.24/15.49 | 7.37 | 6.17 | 1.12 | | |

### ULTRA-LITE Connector Plugs and Receptacles, Coax Mix




| Insert Arrangement (Shell Size) | Dimensions | | | | | | | | NASA Part Number | AMP Part Number |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | G ± .010 [0.25] | H | K | | |
| 3C3 | **1.536/1.546** | **.989/.999** | **1.307/1.317** | **.324/.334** | **.489/.499** | **.294** | **.229/.241** | **.035** | 311P405-7P-B-440 | 1883057-1 |
| (2) | 39.01/39.27 | 25.12/25.37 | 33.20/33.45 | 8.23/8.48 | 12.42/12.67 | 7.47 | 5.82/6.12 | 0.89 | | |
| 3C3 | **1.536/1.546** | **.966/.976** | **1.307/1.317** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.035** | 311P405-7S-B-440 | 1883058-1 |
| (2) | 39.01/39.27 | 24.54/24.79 | 33.20/33.45 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 0.89 | | |
| 5C5 | **2.083/2.093** | **1.529/1.539** | **1.847/1.857** | **.324/.334** | **.489/.499** | **.299** | **.224/.236** | **.044** | 311P405-10P-B-440 | 1883059-1 |
| (3) | 52.91/53.16 | 38.84/39.09 | 46.91/47.17 | 8.23/8.48 | 12.42/12.67 | 7.59 | 5.69/5.99 | 1.12 | | |
| 5C5 | **2.083/2.093** | **1.506/1.516** | **1.847/1.857** | **.306/.316** | **.489/.499** | **.290** | **.243** | **.044** | 311P405-10S-B-440 | 1883060-1 |
| (3) | 52.91/53.16 | 38.25/38.51 | 46.91/47.17 | 7.77/8.03 | 12.42/12.67 | 7.37 | 6.17 | 1.12 | | |

[1]Tyco Electronic part numbers are not NASA qualified parts but can replace referenced NASA part numbers.





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## AMPLIMITE Connectors, ULTRA-LITE Connectors (Continued)

### ULTRA-LITE AMPLIMITE Connector Part Numbers vs. NASA's 311P Part Numbers and DSCC Part Numbers

### AMPLIMITE Connector Series 90 (High Density Sub "D"'s)

| DSCC[1] Part No. w/Grommet for reference only | DSCC[1] Part No. w/out Grommet for reference only | NASA[1] Part No. w/out Grommet for reference only | Plug / Receptacle | Shell Size | Position | ULTRA-LITE Connectors | |
|---|---|---|---|---|---|---|---|
| | | | | | | Part No. w/out Grommet | Part No. with Grommet |
| 99012SAFPRA-1 | 99012NAFPR-1 | 311P407-1P-B-12 | Plug | 1 | 15 | 1218232-1 | 1218232-7 |
| 99012SAFPRA-2 | 99012NAFPR-2 | 311P407-2P-B-12 | Plug | 2 | 26 | 1218232-2 | 1218232-8 |
| 99012SAFPRA-3 | 99012NAFPR-3 | 311P407-3P-B-12 | Plug | 3 | 44 | 1218232-3 | 1218232-9 |
| 99012SAFPRA-4 | 99012NAFPR-4 | 311P407-4P-B-12 | Plug | 4 | 62 | 1218232-4 | 1-1218232-0 |
| 99012SAFPRA-5 | 99012NAFPR-5 | 311P407-5P-B-12 | Plug | 5 | 78 | 1218232-5 | 1-1218232-1 |
| 99012SAFPRA-6 | 99012NAFPR-6 | 311P407-6P-B-12 | Plug | 6 | 104 | 1218232-6 | 1-1218232-2 |
| 99014SAESR-1 | 99014NAESR-1 | 311P407-1S-B-12 | Receptacle | 1 | 15 | 1218233-1 | 1218233-7 |
| 99014SAESR-2 | 99014NAESR-2 | 311P407-2S-B-12 | Receptacle | 2 | 26 | 1218233-2 | 1218233-8 |
| 99014SAESR-3 | 99014NAESR-3 | 311P407-3S-B-12 | Receptacle | 3 | 44 | 1218233-3 | 1218233-9 |
| 99014SAESR-4 | 99014NAESR-4 | 311P407-4S-B-12 | Receptacle | 4 | 62 | 1218233-4 | 1-1218233-0 |
| 99014SAESR-5 | 99014NAESR-5 | 311P407-5S-B-12 | Receptacle | 5 | 78 | 1218233-5 | 1-1218233-1 |
| 99014SAESR-6 | 99014NAESR-6 | 311P407-6S-B-12 | Receptacle | 6 | 104 | 1218233-6 | 1-1218233-2 |

### AMPLIMITE Connector Series 109 (Standard Density Sub "D"'s)

| DSCC[1] Part No. w/Grommet for reference only | DSCC[1] Part No. w/out Grommet for reference only | NASA[1] Part No. w/out Grommet for reference only | Plug / Receptacle | Shell Size | Position | ULTRA-LITE Connectors | |
|---|---|---|---|---|---|---|---|
| | | | | | | Part No. w/out Grommet | Part No. with Grommet |
| 99013SAEPR-1 | 99013NAEPR-1 | 311P409-1P-B-12 | Plug | 1 | 9 | 1218234-1 | 1218234-7 |
| 99013SAEPR-2 | 99013NAEPR-2 | 311P409-2P-B-12 | Plug | 2 | 15 | 1218234-2 | 1218234-8 |
| 99013SAEPR-3 | 99013NAEPR-3 | 311P409-3P-B-12 | Plug | 3 | 25 | 1218234-3 | 1218234-9 |
| 99013SAEPR-4 | 99013NAEPR-4 | 311P409-4P-B-12 | Plug | 4 | 37 | 1218234-4 | 1-1218234-0 |
| 99013SAEPR-5 | 99013NAEPR-5 | 311P409-5P-B-12 | Plug | 5 | 50 | 1218234-5 | 1-1218234-1 |
| 99015SAESR-1 | 99015NAESR-1 | 311P409-1S-B-12 | Receptacle | 1 | 9 | 1218235-1 | 1218235-7 |
| 99015SAESR-2 | 99015NAESR-2 | 311P409-2S-B-12 | Receptacle | 2 | 15 | 1218235-2 | 1218235-8 |
| 99015SAESR-3 | 99015NAESR-3 | 311P409-3S-B-12 | Receptacle | 3 | 25 | 1218235-3 | 1218235-9 |
| 99015SAESR-4 | 99015NAESR-4 | 311P409-4S-B-12 | Receptacle | 4 | 37 | 1218235-4 | 1-1218235-0 |
| 99015SAESR-5 | 99015NAESR-5 | 311P409-5S-B-12 | Receptacle | 5 | 50 | 1218235-5 | 1-1218235-1 |

[1]Tyco Electronic part numbers are not DSCC or NASA qualified parts but can replace referenced NASA part numbers.



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## AMPLIMITE Connectors

### Application Tools for Series 109 (Size 20) Crimp Contacts

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-2 or
MIL Part Number M81969/1-02

Insertion tip, for replacement
Part Number 126195-3

Extraction tip, for replacement
Part Number 126195-4

**AMP-TAPEMATIC Stripper/ Crimper Machine Part Number 599406-7**

**Funnel Part Number 125905-1 for Size 20 Contacts**

The AMP-TAPEMATIC Stripper/Crimper Machine strips wire and applies an 8-indent crimp termination per MIL-C-22520. The machine terminates pin and socket contacts which are tape mounted and reel fed. It offers production rates of up to 1200 finished leads per hour, provides overall lower applied costs and maintains a high degree of termination reliability.

**Hand Crimping Tool AMP Part Number 601966-1 or MIL Part Number M22520/2-01**

**Positioner AMP Part Number 601966-5 or MIL Part Number M22520/2-08**

This standard military-type hand tool terminates pins and sockets to wire with an 8-indent, M22520/2 crimp. It is ideally suited for prototype, field maintenance and other applications where volume production is not a factor.

### Application Tools for Series 90 (Size 22) Crimp Contacts

**Pin and Socket Insertion/Extraction Tool**

AMP Part Number 91067-1 or
MIL Part Number M81969/1-04

Insertion tip, for replacement
Part Number 126237-1

Extraction tip, for replacement
Part Number 126195-2

**AMP-TAPEMATIC Stripper/ Crimper Machine Part Number 599406-7**

**Funnel Part Number 125905-2 for Size 22 Contacts**

The AMP-TAPEMATIC Stripper/Crimper Machine strips wire and applies an 8-indent crimp termination per MIL-C-22520. The machine terminates pin and socket contacts which are tape mounted and reel fed. It offers production rates of up to 1200 finished leads per hour, provides overall lower applied costs and maintains a high degree of termination reliability.

**Hand Crimping Tool AMP Part Number 601966-1 or MIL Part Number M22520/2-01**

**Positioner (Pin) AMP Part Number 601966-6 or MIL Part Number M22520/2-09**

**Positioner (Socket) AMP Part Number 601966-4 or MIL Part Number M22520/2-06**

This standard military-type hand tool terminates pins and sockets to wire with an 8-indent, M22520/2 crimp. It is ideally suited for prototype, field maintenance and other applications where volume production is not a factor.





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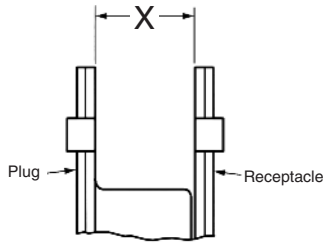
## AMPLIMITE Connectors (Continued)

### Mating and Mounting Specifications for Series 109 and Series 90 Connectors

#### Plug Receptacle Mating

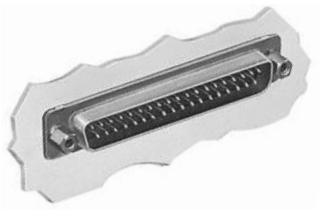



**Shell Sizes 1 and 2** —
x = .280/.250 [7.11/6.35]

**Shell Sizes 3, 4, 5 and 6** —
x = .271/.241 [6.88/6.12]

**Blindmate Connectors (all sizes)** —
x = .270 [6.86] max.

The X dimension is necessary for full mating of connector halves. This dimension must be taken into consideration when determining the method of mounting, panel thickness, etc.

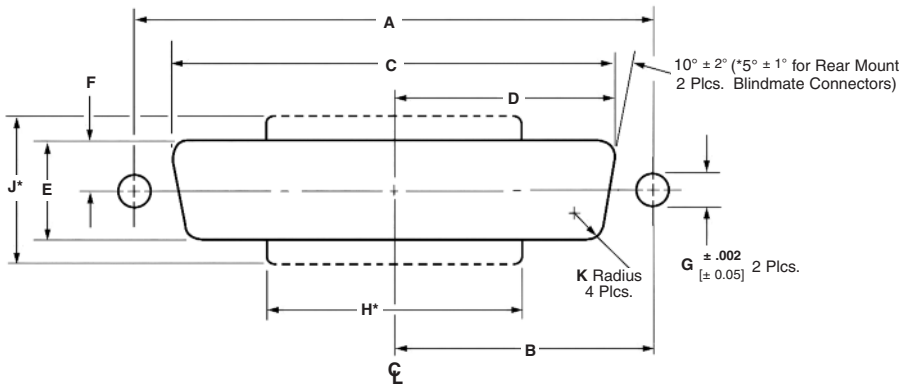


**AMPLIMITE Plug, Front-Panel Mounted**

**AMPLIMITE Receptacle, Rear-Panel Mounted**

### Attention: Front-Panel Mount

When front mounting a MIL-DTL-24308 connector utilizing the tab method of securing shell halves, it is recommended to utilize a .032 [0.81] thick washer (not supplied) to prevent deformation of connector flange.




**Panel Cutout**

| Shell Size (No. of Contact Pos.) | | Mounting Method | | Dimensions | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Series 109 Connectors | Series 90 Connectors | Front/Rear Panel | With/Without Flouting Bushing | A | B | C | D | E | F | G | H* | J* | K |
| 1 (9 Pos.) | 1 (15 Pos.) | Front | With | .984 24.99 | .492 12.5 | .906 23.01 | .453 11.51 | .545 13.84 | .273 6.93 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | .874 22.2 | .437 11.1 | .513 13.03 | .257 6.53 | .120 3.05 | — | — | |
| | | Rear | With | | | .838 21.29 | .419 10.64 | .481 12.22 | .241 6.12 | .088 2.24 | .332 8.43 | .662 16.81 | .132 3.35 |
| | | | Without | | | .806 20.47 | .403 10.24 | .449 11.4 | .225 5.72 | .120 3.05 | .300 7.62 | .630 16 | |
| 2 (15 Pos.) | 2 (26 Pos.) | Front | With | 1.312 33.32 | .656 16.66 | 1.234 31.34 | .617 15.67 | .545 13.84 | .273 6.93 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | 1.202 30.53 | .601 15.27 | .513 13.03 | .257 6.53 | .120 3.05 | — | — | |
| | | Rear | With | | | 1.166 29.62 | .583 14.81 | .481 12.22 | .241 6.12 | .088 2.24 | .665 6.64 | .662 16.81 | .132 3.35 |
| | | | Without | | | 1.134 28.8 | .567 14.4 | .449 11.4 | .225 5.72 | .120 3.05 | .623 15.82 | .630 16 | |
| 3 (25 Pos.) | 3 (44 Pos.) | Front | With | 1.852 47.04 | .926 23.52 | 1.775 45.09 | .888 22.55 | .545 13.84 | .273 6.93 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | 1.743 44.27 | .872 22.15 | .513 13.03 | .257 6.53 | .120 3.05 | — | — | |
| | | Rear | With | | | 1.706 43.33 | .853 21.67 | .481 12.22 | .241 6.12 | .088 2.24 | 1.197 30.4 | .662 16.81 | .132 3.35 |
| | | | Without | | | 1.674 42.52 | .837 21.26 | .449 11.4 | .225 5.72 | .120 3.05 | 1.165 29.59 | .630 16 | |
| 4 (37 Pos.) | 4 (62 Pos.) | Front | With | 2.500 63.5 | 1.250 31.75 | 2.423 61.17 | 1.212 30.78 | .545 13.84 | .273 6.93 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | 2.391 60.73 | 1.196 30.38 | .513 13.03 | .257 6.53 | .120 3.05 | — | — | |
| | | Rear | With | | | 2.354 59.79 | 1.777 29.9 | .481 12.22 | .241 6.12 | .088 2.24 | 1.845 46.86 | .662 16.81 | .132 3.35 |
| | | | Without | | | 2.326 59.08 | 1.163 29.54 | .449 11.4 | .225 5.72 | .120 3.05 | 1.813 46.05 | .630 16 | |
| 5 (50 Pos.) | 5 (78 Pos.) | Front | With | 2.406 61.11 | 1.203 30.56 | 2.329 59.16 | 1.165 29.59 | .655 16.64 | .328 8.33 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | 2.297 58.34 | 1.149 29.18 | .623 15.82 | .312 7.92 | .120 3.05 | — | — | |
| | | Rear | With | | | 2.250 57.15 | 1.125 28.58 | .587 14.91 | .294 7.47 | .088 2.24 | 1.740 44.2 | .772 19.61 | .132 3.35 |
| | | | Without | | | 2.218 56.34 | 1.109 28.17 | .555 14.1 | .278 7.06 | .120 3.05 | 1.708 43.38 | .740 18.8 | |
| — | 6 (104 Pos.) | Front | With | 2.500 63.5 | 1.250 31.75 | 2.453 62.31 | 1.227 31.17 | .717 18.21 | .359 9.12 | .088 2.24 | — | — | .083 2.11 |
| | | | Without | | | 2.421 61.49 | 1.211 30.76 | .685 17.4 | .343 8.71 | .120 3.05 | — | — | |
| | | Rear | With | | | 2.388 60.66 | 1.194 30.33 | .654 16.61 | .327 8.31 | .088 2.24 | 1.875 47.64 | .835 21.21 | .132 3.35 |
| | | | Without | | | 2.356 59.84 | 1.179 29.92 | .622 5.8 | .311 7.9 | .120 3.05 | 1.843 46.81 | .803 20.4 | |

* Panel cutout configuration with these dimensions provides clearance for mounting connectors with cable clamp assemblies.



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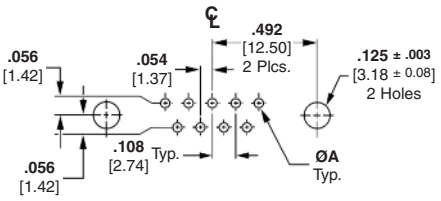
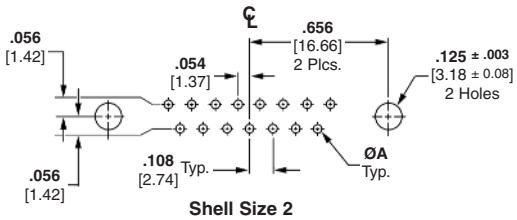
## AMPLIMITE Connectors (Continued)

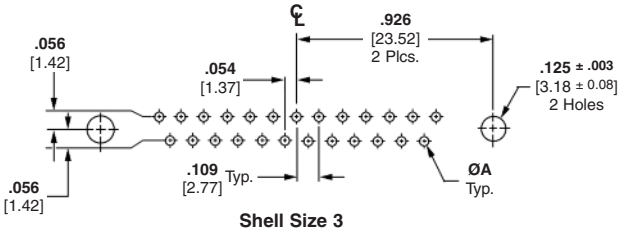
### PCB Layouts — Series 109 (Standard Density)



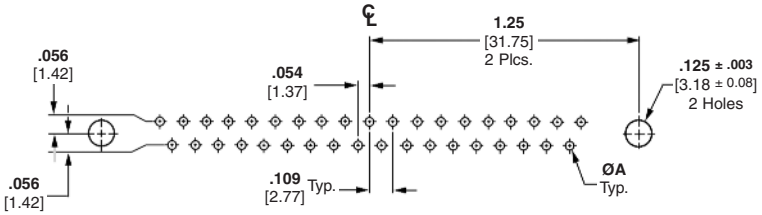

**Shell Size 1**
**(9 Position)**



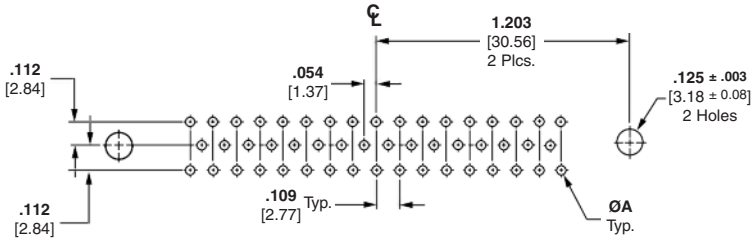

**Shell Size 2**
**(15 Position)**




**Shell Size 3**
**(25 Position)**




**Shell Size 4**
**(37 Position)**




**Shell Size 5**
**(50 Position)**

| Post Diameter | ØA |
|---|---|
| **.018** [0.46] | **.028** [0.71] — **.038** [0.96] |
| **.025** [0.64] | **.035** [0.89] — **.045** [1.14] |
| **.030** [0.76] | **.040** [1.02] — **.050** [1.27] |
| **.040** [1.02] | **.050** [1.27] — **.060** [1.52] |

**Notes:** 1. Mating face of plug is shown, receptacle is mirror image.
2. PCB mounting hole diameters are provided for connectors with .120 [3.05] diameter mounting holes. For connectors with .154 [3.91] mounting holes, use PCB mounting hole diameter .160 ± .003 [4.06 ± 0.08].
3. PC layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult TE Connectivity customer print for detailed PC board layout requirements.





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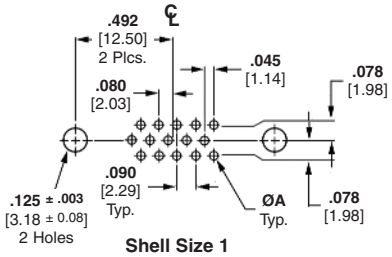
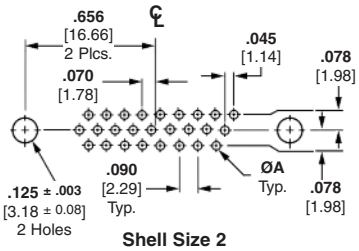
## AMPLIMITE Connectors (Continued)

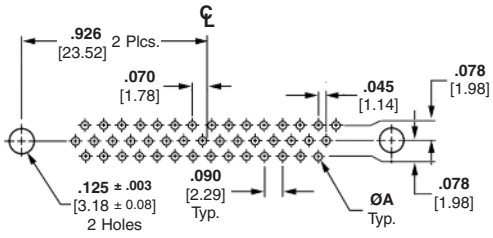
### PCB Layouts — Series 90 (High Density)



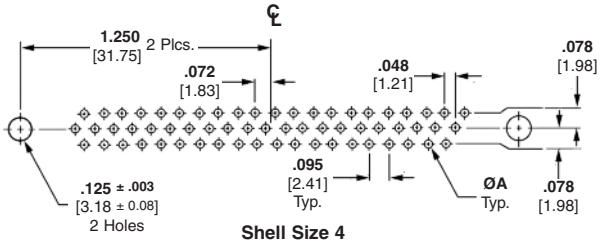

**Shell Size 1**
**(15 Position)**



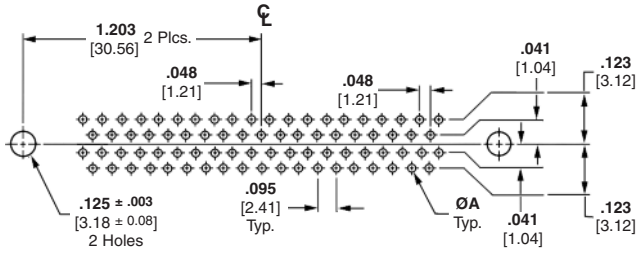

**Shell Size 2**
**(26 Position)**



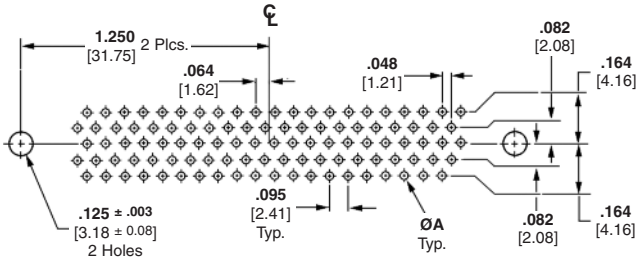

**Shell Size 3**
**(44 Position)**




**Shell Size 4**
**(62 Position)**




**Shell Size 5**
**(78 Position)**




**Shell Size 6**
**(104 Position)**

| Post Diameter | ØA |
|---|---|
| **.018** [0.46] | **.028** [0.71] — **.038** [0.96] |
| **.025** [0.64] | **.035** [0.89] — **.045** [1.14] |
| **.030** [0.76] | **.040** [1.02] — **.050** [1.27] |
| **.040** [1.02] | **.050** [1.27] — **.060** [1.52] |

**Notes:** 1. Mating face of plug is shown, receptacle is mirror image.
2. PCB mounting hole diameters are provided for connectors with .120 [3.05] diameter mounting holes. For connectors with .154 [3.91] mounting holes, use PCB mounting hole diameter .160 ± .003 [4.06 ± 0.08].
3. PC layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult TE Connectivity customer print for detailed PC board layout requirements.



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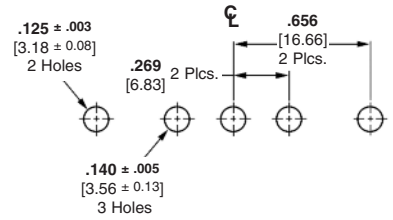
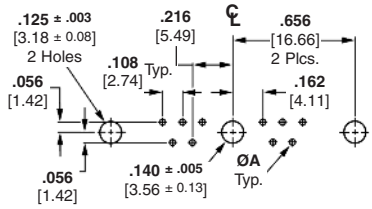
## AMPLIMITE Connectors (Continued)

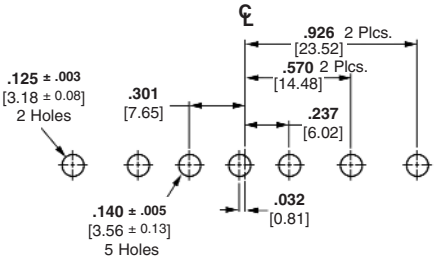
### PCB Layouts (Power/Coax/Signal)



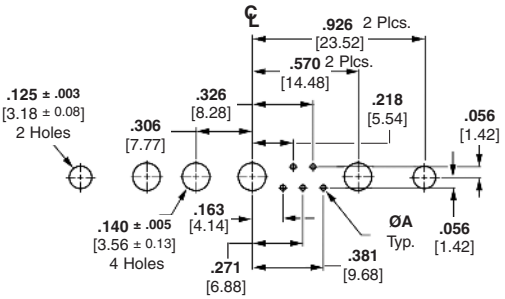

3C3



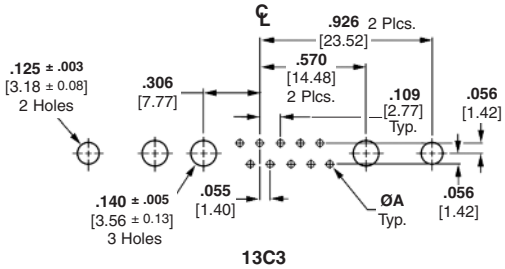

11C1



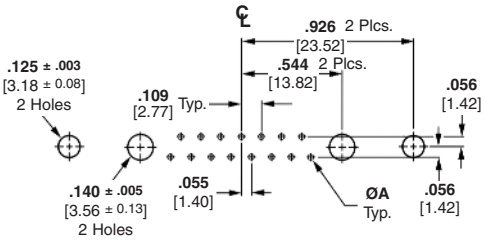

5C5



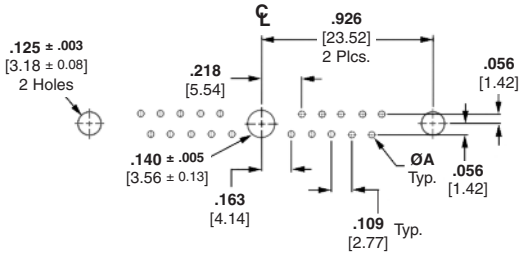

9C4




13C3




17C2




21C1

| Post Diameter | ØA |
|---|---|
| **.018** [0.46] | **.028** [0.71] — **.038** [0.96] |
| **.025** [0.64] | **.035** [0.89] — **.045** [1.14] |
| **.030** [0.76] | **.040** [1.02] — **.050** [1.27] |
| **.040** [1.02] | **.050** [1.27] — **.060** [1.52] |

**Notes:** 1. Mating face of plug is shown, receptacle is mirror image.
2. PCB mounting hole diameters are provided for connectors with .120 [3.05] diameter mounting holes. For connectors with .154 [3.91] mounting holes, use PCB mounting hole diameter .160 ± .003 [4.06 ± 0.08].
3. PC layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult TE Connectivity customer print for detailed PC board layout requirements.





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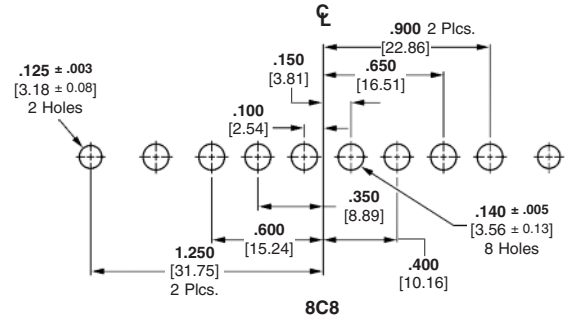
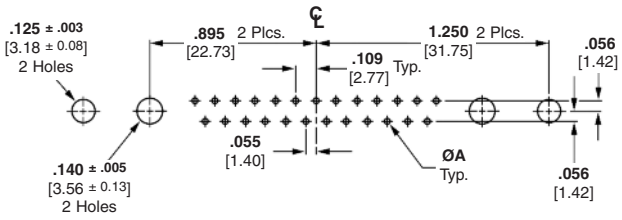
## AMPLIMITE Connectors (Continued)

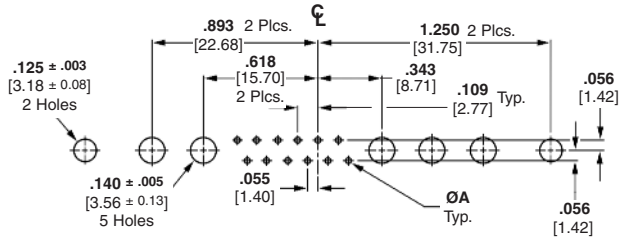
### PCB Layouts (Power/Coax/Signal) (Continued)



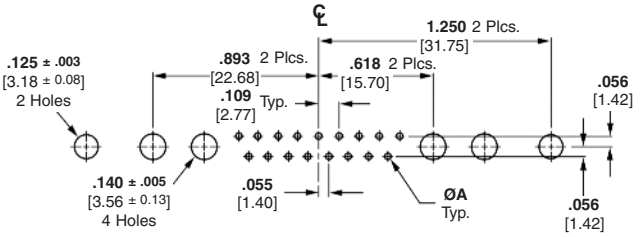

8C8



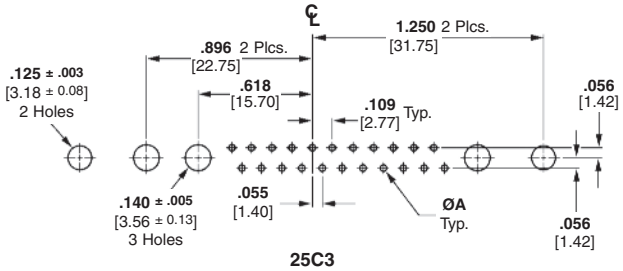

27C2



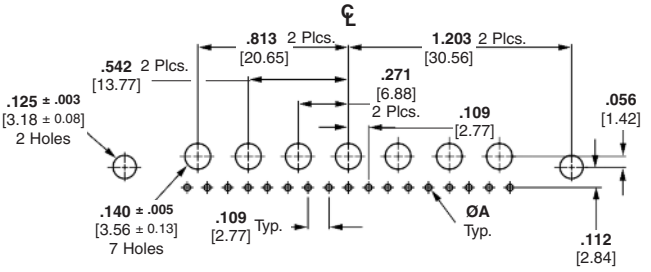

17C5



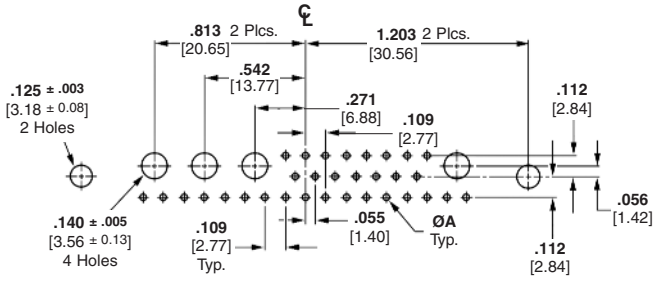

21C4




25C3




24C7




36C4

| Post Diameter | ØA |
|---|---|
| **.018** [0.46] | **.028** [0.71] – **.038** [0.96] |
| **.025** [0.64] | **.035** [0.89] – **.045** [1.14] |
| **.030** [0.76] | **.040** [1.02] – **.050** [1.27] |
| **.040** [1.02] | **.050** [1.27] – **.060** [1.52] |

**Notes:** 1. Mating face of plug is shown, receptacle is mirror image.
2. PCB mounting hole diameters are provided for connectors with .120 [3.05] diameter mounting holes. For connectors with .154 [3.91] mounting holes, use PCB mounting hole diameter .160 ± .003 [4.06 ± 0.08].
3. PC layouts illustrated above serve as a guide only; they are not to be used for actual design or construction of customer equipment. Consult TE Connectivity customer print for detailed PC board layout requirements.



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## AMPLIMITE Connectors (Continued)

### Accessories

### Female Screwlocks for Metal-Shell Connectors

#### Material and Finish

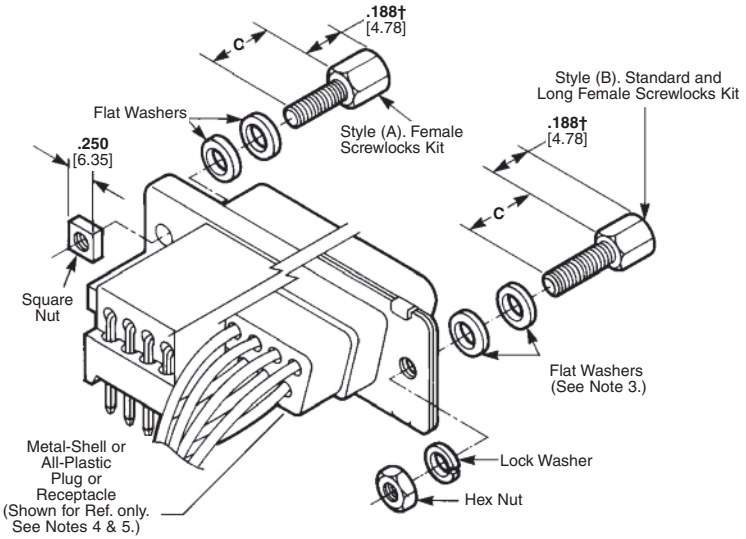
**Standard Steel Parts** — Cold rolled steel per ASTM A108, zinc plated per ASTM B633, Type II, Class SCI

**Stainless Steel** — Passivated stainless steel

#### Technical Documents

**Instruction Sheet** — 408-7837

**Nut Driver, Part Number 811262-1**
(Used for assembling female screwlocks to connector flange)




| Connector Used with | Style | Dim. C | Thread Size | Finish | Steel Kit Number | | Stainless Steel | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Individual | Bulk Packed | Standard Kit | Long Special |
| 6 | (B) | **.312** 7.93 | 4-40 | Yellow Chromate | 5205817-1 | 5205817-2 | — | — |
| | | | | | 5748271-1† | — | — | — |
| | | | | Clear Chromate | 5205817-3 | 5205817-4 | — | — |
| | | | M3 (Metric) | Yellow Chromate | 5207872-1 | — | — | — |
| | | | | Clear Chromate | 5207872-3 | — | — | — |
| .090 Thick Panels † | (B) | **.312** 7.93 | 4-40 | Yellow Chromate | 5748271-3 | — | — | — |
| 6 | (B) | **.312** 7.93 | 4-40 | Yellow Chromate | — | — | 212447-1 | — |
| 6 | (B) | **.500** 12.7 | 4-40 | Yellow Chromate | — | — | — | 212452-1 |

**Individual Screwlocks**
(Washers and Nuts not included)

| Connector Used with | Style | Dimension C | Thread Size | Finish | Screwlocks | |
|---|---|---|---|---|---|---|
| | | | | | Individual | Bulk Packed |
| 6 | (B) | **.312** 7.93 | 4-40 | Yellow Chromate | 5205818-2 | — |
| | | | | Clear Chromate | 5205818-3 | — |
| | | | | Clear Chromate | 5748558-3 | 748558-4 |
| | | | M2.6** (Metric) | Clear Chromate | 5749765-3 | — |
| | | | 4-40 | Yellow Chromate | 5748270-2† | — |
| | | | M3*** (Metric) | Clear Chromate | 5747404-3 | — |
| | (Special) | **.185** 4.70 | 4-40 | Clear Chromate | 5747877-3 | — |

Each part is individually bulk packed for multiple kit orders.
With captivated star washer. No additional hardware included.
†Part Number 5748270-2 and 5748271-1 Dimension .158 [4.01]
**M2.6 is the female thread size. The male thread size is 4-40.
***M3 is the female thread size. The male thread size is 4-40.

**Notes:** 1. All parts are packaged unassembled.
2. Each female screwlock kit is comprised of two assemblies as illustrated above.
3. One or two flat washers may be required for panel thicknesses less than .060 [1.52]. Female screwlocks are not recommended for panel thicknesses greater than .060 [1.52].
4. Female screwlocks with 2-56 thread size are to be used with cable clamps with mounting flanges. Female screwlocks with 4-40 and M3 (Metric) thread sizes can be used with all other cable clamps.

**Notes:** 5. Female screwlocks mate with male screw retainers (page 8-96).
6. Series 90 and 109 Connectors without eyelets or floating bushings.





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## AMPLIMITE Connectors (Continued)

### Accessories (Continued)

### Male Screw Retainers for Metal-Shell Connectors

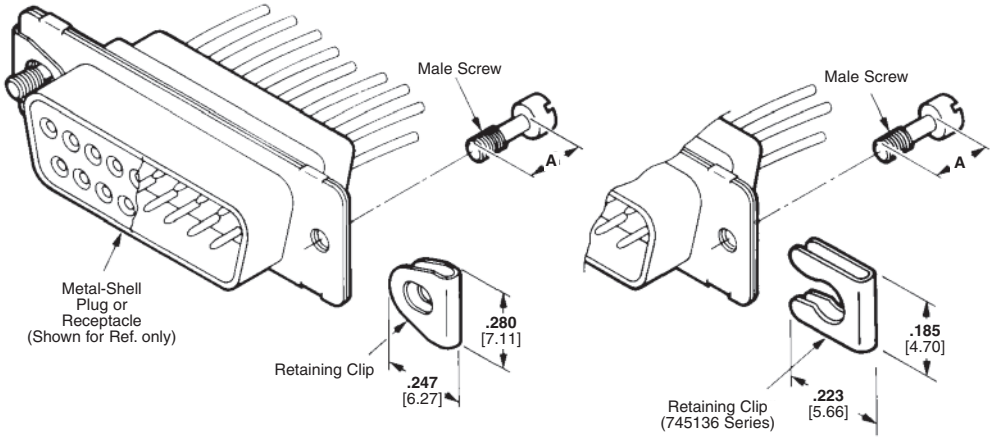
#### Material and Finish

**Male Screw** — Steel, zinc plated clear or yellow chromate

**Retaining Clip** — .012 [0.31] stainless steel

#### Technical Documents

**Instruction Sheet** — 408-7837




| Male Screw Finish | Thread Size | Dimension A | Male Screw Retainer Kit No. | |
|---|---|---|---|---|
| | | | Individual | Bulk Packed* |
| Yellow Chromate | 4-40 | **.220** 5.59 | 5205980-1 | 5205980-3 |
| | | **.200** 5.08 | 5745136-1 | 5745136-2 |
| | M3 (Metric) | **.225** 5.72 | 5207871-1 | — |
| Clear Chromate | 4-40 | **.220** 5.59 | 5205980-4 | 5205980-5 |
| | | **.200** 5.08 | 5745136-3 | 5745136-4 |

*Each part is individually bulk packed for multiple kit orders.

**Notes:** 1. All parts are packaged unassembled.
2. Each kit is comprised of two male screws and two retaining clips. Male screw retainers are also furnished as part of cable clamp kits (pages 8-95 and 8-96).

**Notes:** 3. Male screw retainers mate with female screwlocks (page 8-95) and with metal-shell board mount connectors featuring 4-40 threaded inserts or female screwlocks.

**Notes:** 4. Retaining clip must be assembled onto connector flanges with threaded hole toward wire side of connector.

### Stainless Steel Kit

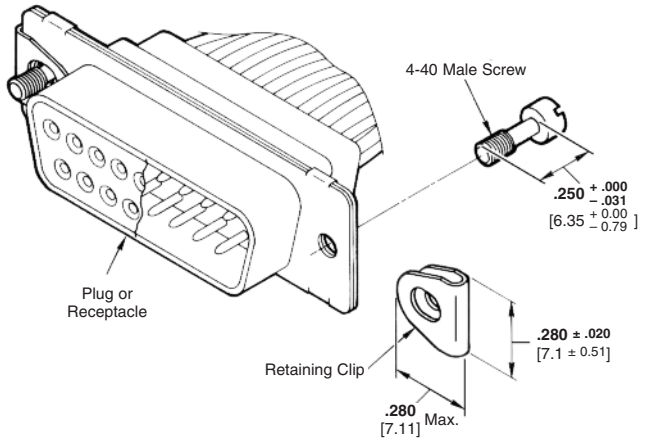
#### Materials

**All Parts** — Stainless steel, passivated per QQ-P-35B.

AMP Part Number 211883-5 or
MIL Part Number M24308/25-6P

**Notes:**
1. Each kit includes two screws and two retainers.
2. Retainer is assembled onto connector flange with threaded hole toward the wire side of the connector.

### Male Screw Retainer Kits



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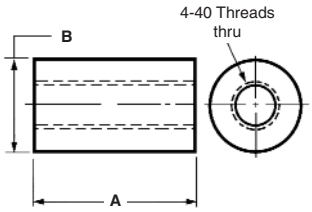
## AMPLIMITE Connectors (Continued)

### Accessories (Continued)

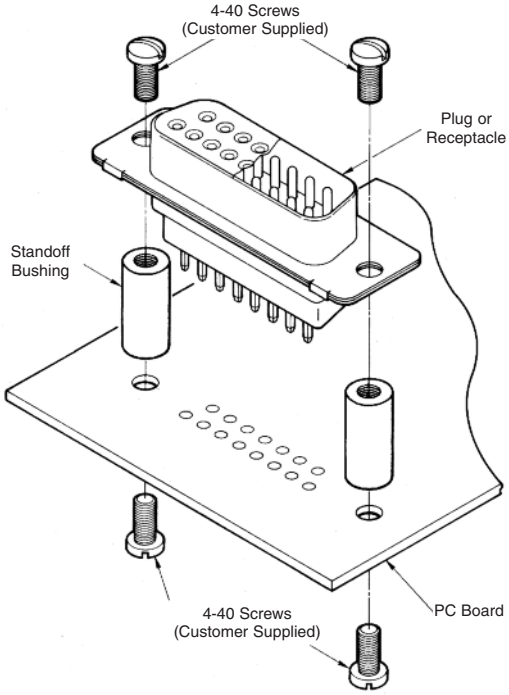
### Standard Bushings (for Connectors with Straight Posted Contacts, PC Board Mounted)

#### Material
Aluminum

#### Kit Numbers
*Parts are individually bulk packed for multiple kit orders.




**Note:** Standoff Bushings are used with a plug or receptacle of PC board mounted connectors.




| Part No. | Dim. A | Dim. B | Packaged |
|---|---|---|---|
| 5205933-3 | **.435** 11.05 | **.250** 6.35 | 2 Per Bag |
| 5205933-4 | **.435** 11.05 | **.250** 6.35 | *Bulked Pack |
| 443279-2 | **.246** 6.25 | **.190** 4.83 | 2 Per Bag |
| 443279-3 | **.246** 6.25 | **.190** 4.83 | *Bulk Pack |

### Dust Covers

Dust covers for subminiature D connectors are not manufactured by TE Connectivity. They may be purchased from:**

**Caplugs**
2150 Elmwood Avenue
Buffalo, NY 14207
Phone: (716) 876-9855
Fax: (716) 874-1680

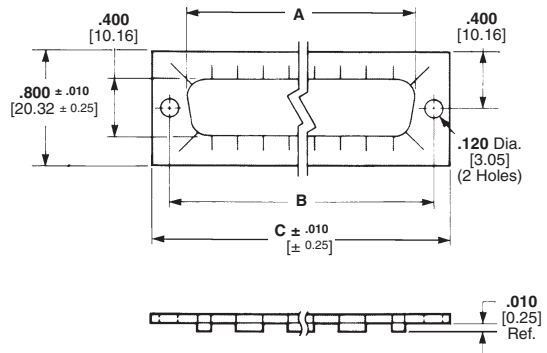
See Catalog 1307612 for additional hardware such as cable clamps, strain reliefs, etc.

**Notes:**
1. There are no cable clamp/strain relief hardware available for size 6 connectors.
2. Cable clamp/strain relief hardware cannot be used with the Power/Coax/Combination Product shown on pages 8-62 to 8-64 of this catalog.

** Caplugs is not an affiliate of TE.

### EMI/RFI Gaskets

#### Material and Finish
Brass, .006 [0.15] thick; bright tin-lead plated




**9, 15, 25 and 37 Positions**

| Shell Size (No. of Contact Pos.) | Dimensions A | Dimensions B | Dimensions C | Gasket Part No. |
|---|---|---|---|---|
| 1 (9) | **.746** 18.95 | **.984** 24.99 | **1.220** 30.99 | 747024-3 |
| 2 (15) | **1.074** 27.28 | **1.312** 33.32 | **1.555** 39.50 | 747025-3 |
| 3 (25) | **1.614** 41.00 | **1.852** 47.04 | **2.100** 53.34 | 745776-3 |
| 4 (37) | **2.266** 57.56 | **2.500** 63.50 | **2.730** 69.34 | 745777-3 |





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## AMPLIMITE Connectors (Continued)

### Accessories (Continued)

### Shielded Cable Clamps 45° Exit

### Product Facts

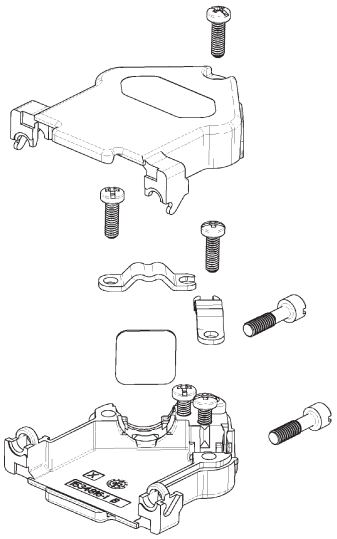
- **Dual cable entry**
- **Rugged and durable diecast construction**
- **Available in 9 to 37 way (shell sizes 1 to 4)**
- **Choice of screw cable clamp or crimped ferrule**
- **Blanking plate included for single cable entry applications**
- **Supplied with jackscrews for locking with mating connector**

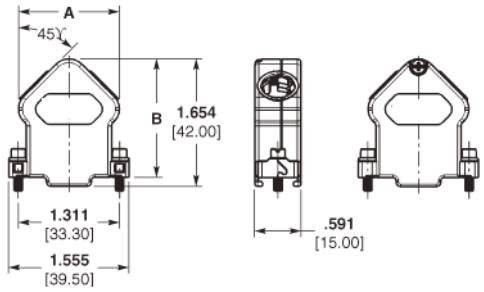
### Material and Finish

**Cable Clamp Housing** — Zinc alloy, plated bright nickel

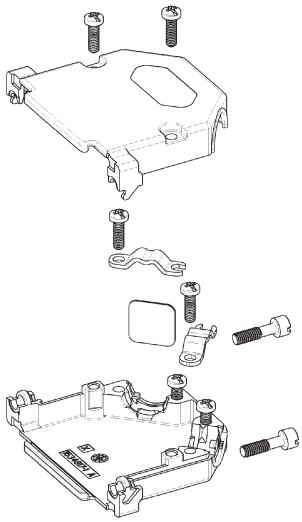
**Screws and Cable Clamps** — Steel, zinc plate with supplementary chromate

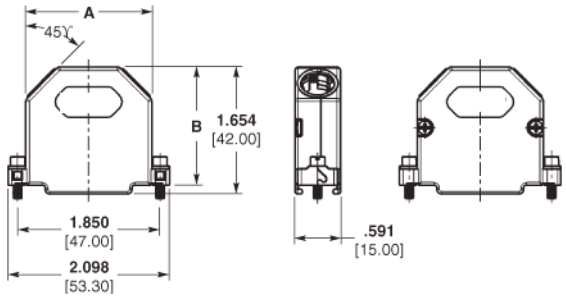
**Dummy Plate** — Steel






| Shell Size | Dimensions A | Dimensions B | Max. Cable Dia. | 4-40 Mounting Screw | Cable Clamp Kit No. | Cable Clamp Kit No. for Coax Contacts |
|---|---|---|---|---|---|---|
| 1 | **1.063** 27.00 | **1.378** 35.00 | **.354** 9.00 | Phillips Head | 1534805-1 | — |
| | | | | Hex Head | 1534805-2 | — |
| | | | **.365** 9.27 | Phillips Head | — | 1534806-1 |
| | | | | Hex Head | — | 1534806-2 |
| 2 | **1.299** 33.00 | **1.535** 39.00 | **.433** 11.00 | Phillips Head | 1534807-1 | — |
| | | | | Hex Head | 1534807-2 | — |
| | | | **.430** 10.92 | Phillips Head | — | 1534808-1 |
| | | | | Hex Head | — | 1534808-2 |






| Shell Size | Dimensions A | Dimensions B | Max. Cable Dia. | 4-40 Mounting Screw | Cable Clamp Kit No. | Cable Clamp Kit No. for Coax Contacts |
|---|---|---|---|---|---|---|
| 3 | **1.642** 41.70 | **1.535** 39.00 | **.433** 11.00 | Phillips Head | 1534809-1 | — |
| | | | | Hex Head | 1534809-2 | — |
| | | | **.430** 10.92 | Phillips Head | — | 1534810-1 |
| | | | | Hex Head | — | 1534810-2 |
| 4 | **2.291** 58.20 | **1.535** 39.00 | **.433** 11.00 | Phillips Head | 1534811-1 | — |
| | | | | Hex Head | 1534811-2 | — |
| | | | **.430** 10.92 | Phillips Head | — | 1534812-1 |
| | | | | Hex Head | — | 1534812-2 |

## AMPLIMITE Connectors vs. MIL-DTL-24308 Cross Reference

This list is provided for reference only. In the event that a discrepancy exists between this catalog and the respective military QPL, then the QPL shall take precedence.

| | MILITARY PART NUMBER FOR ORDERING | MILITARY PART NUMBER ON CONNECTOR | AMP PART NUMBER FOR ORDERING | AMP PART NUMBER ON CONNECTOR | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|---|---|---|
| /1 | M24308/1-1F | M24308/1-1F | 593007-1 | 593007-1 | |
| | M24308/1-2F | M24308/1-2F | 593007-2 | 593007-2 | |
| | M24308/1-3F | M24308/1-3F | 593007-3 | 593007-3 | |
| | M24308/1-4F | M24308/1-4F | 593007-4 | 593007-4 | |
| | M24308/1-5F | M24308/1-5F | 593007-5 | 593007-5 | |
| | M24308/1-12F | M24308/1-12F | 593008-1 | 593008-1 | |
| | M24308/1-13F | M24308/1-13F | 593008-2 | 593008-2 | |
| | M24308/1-14F | M24308/1-14F | 593008-3 | 593008-3 | |
| | M24308/1-15F | M24308/1-15F | 593008-4 | 593008-4 | |
| | M24308/1-16F | M24308/1-16F | 593008-5 | 593008-5 | |
| | M24308/1-23F | M24308/1-23F | 593009-1 | 593009-1 | |
| | M24308/1-24F | M24308/1-24F | 593009-2 | 593009-2 | |
| | M24308/1-25F | M24308/1-25F | 593009-3 | 593009-3 | |
| | M24308/1-26F | M24308/1-26F | 593009-4 | 593009-4 | |
| | M24308/1-27F | M24308/1-27F | 593009-5 | 593009-5 | |
| /2 | M24308/2-1F | M24308/2-1F | 205555-2 | 205555-2 | |
| | M24308/2-2F | M24308/2-2F | 205557-2 | 205557-2 | |
| | M24308/2-3F | M24308/2-3F | 205559-2 | 205559-2 | |
| | M24308/2-4F | M24308/2-4F | 205561-2 | 205561-2 | |
| | M24308/2-5F | M24308/2-5F | 205563-2 | 205563-2 | |
| | M24308/2-6F | M24308/2-1F | 205555-3 | 205555-2 | WITH TOOL |
| | M24308/2-7F | M24308/2-2F | 205557-3 | 205557-2 | WITH TOOL |
| | M24308/2-8F | M24308/2-3F | 205559-3 | 205559-2 | WITH TOOL |
| | M24308/2-9F | M24308/2-4F | 205561-3 | 205561-2 | WITH TOOL |
| | M24308/2-10F | M24308/2-5F | 205563-3 | 205563-2 | WITH TOOL |
| | M24308/2-11F | M24308/2-11F | 204512-2 | 204512-2 | |
| | M24308/2-12F | M24308/2-12F | 204514-2 | 204514-2 | |
| | M24308/2-13F | M24308/2-13F | 204516-2 | 204516-2 | |
| | M24308/2-14F | M24308/2-14F | 204518-2 | 204518-2 | |
| | M24308/2-15F | M24308/2-15F | 204520-2 | 204520-2 | |
| | M24308/2-16F | M24308/2-16F | 204522-2 | 204522-2 | |
| | M24308/2-17F | M24308/2-11F | 204512-3 | 204512-2 | WITH TOOL |
| | M24308/2-18F | M24308/2-12F | 204514-3 | 204514-2 | WITH TOOL |
| | M24308/2-19F | M24308/2-13F | 204516-3 | 204516-2 | WITH TOOL |
| | M24308/2-20F | M24308/2-14F | 204518-3 | 204518-2 | WITH TOOL |
| | M24308/2-21F | M24308/2-15F | 204520-3 | 204520-2 | WITH TOOL |
| | M24308/2-22F | M24308/2-16F | 204522-3 | 204522-2 | WITH TOOL |
| | M24308/2-23F | M24308/2-23F | 205483-2 | 205483-2 | |
| | M24308/2-24F | M24308/2-24F | 205433-2 | 205433-2 | |
| | M24308/2-25F | M24308/2-25F | 205484-2 | 205484-2 | |
| | M24308/2-26F | M24308/2-26F | 205485-2 | 205485-2 | |
| | M24308/2-27F | M24308/2-27F | 205432-2 | 205432-2 | |
| | M24308/2-28F | M24308/2-28F | 204536-2 | 204536-2 | |
| | M24308/2-29F | M24308/2-29F | 204538-2 | 204538-2 | |
| | M24308/2-30F | M24308/2-30F | 204540-2 | 204540-2 | |
| | M24308/2-31F | M24308/2-31F | 204542-2 | 204542-2 | |
| | M24308/2-32F | M24308/2-32F | 204544-2 | 204544-2 | |
| | M24308/2-33F | M24308/2-33F | 204546-2 | 204546-2 | |
| | M24308/2-281F | M24308/2-1F | 205161-1 | 205555-2 | LESS CONTACTS |
| | M24308/2-282F | M24308/2-2F | 205163-1 | 205557-2 | LESS CONTACTS |
| | M24308/2-283F | M24308/2-3F | 205165-1 | 205559-2 | LESS CONTACTS |
| | M24308/2-284F | M24308/2-4F | 205167-1 | 205561-2 | LESS CONTACTS |
| | M24308/2-285F | M24308/2-5F | 205169-1 | 205563-2 | LESS CONTACTS |
| | M24308/2-286F | M24308/2-11F | 204500-1 | 204512-2 | LESS CONTACTS |
| | M24308/2-287F | M24308/2-12F | 204502-1 | 204514-2 | LESS CONTACTS |
| | M24308/2-288F | M24308/2-13F | 204504-1 | 204516-2 | LESS CONTACTS |
| | M24308/2-289F | M24308/2-14F | 204506-1 | 204518-2 | LESS CONTACTS |
| | M24308/2-290F | M24308/2-15F | 204508-1 | 204520-2 | LESS CONTACTS |
| | M24308/2-291F | M24308/2-16F | 204510-1 | 204522-2 | LESS CONTACTS |

**Note:** The suffix "F" on M24308 part numbers designates cadmium shell plating.





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## AMPLIMITE Connectors vs. MIL-DTL-24308 Cross Reference (Continued)

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|---|---|---|---|---|---|
| /2 | M24308/2-292F | M24308/2-23F | 205416-1 | 205483-2 | LESS CONTACTS |
| | M24308/2-293F | M24308/2-24F | 205417-1 | 205433-2 | LESS CONTACTS |
| | M24308/2-294F | M24308/2-25F | 205418-1 | 205484-2 | LESS CONTACTS |
| | M24308/2-295F | M24308/2-26F | 205419-1 | 205485-2 | LESS CONTACTS |
| | M24308/2-296F | M24308/2-27F | 205420-1 | 205432-2 | LESS CONTACTS |
| | M24308/2-297F | M24308/2-28F | 204524-1 | 204536-2 | LESS CONTACTS |
| | M24308/2-298F | M24308/2-29F | 204526-1 | 204538-2 | LESS CONTACTS |
| | M24308/2-299F | M24308/2-30F | 204528-1 | 204540-2 | LESS CONTACTS |
| | M24308/2-300F | M24308/2-31F | 204530-1 | 204542-2 | LESS CONTACTS |
| | M24308/2-301F | M24308/2-32F | 204532-1 | 204544-2 | LESS CONTACTS |
| | M24308/2-302F | M24308/2-33F | 204534-1 | 204546-2 | LESS CONTACTS |
| | M24308/2-342F | M24308/2-342F | 211525-2 | 211525-2 | |
| | M24308/2-343F | M24308/2-343F | 211526-2 | 211526-2 | |
| | M24308/2-344F | M24308/2-344F | 211527-2 | 211527-2 | |
| | M24308/2-345F | M24308/2-345F | 211528-2 | 211528-2 | |
| | M24308/2-346F | M24308/2-346F | 211529-2 | 211529-2 | |
| | M24308/2-347F | M24308/2-347F | 211536-2 | 211536-2 | |
| | M24308/2-348F | M24308/2-348F | 211537-2 | 211537-2 | |
| | M24308/2-349F | M24308/2-349F | 211538-2 | 211538-2 | |
| | M24308/2-350F | M24308/2-350F | 211539-2 | 211539-2 | |
| | M24308/2-351F | M24308/2-351F | 211540-2 | 211540-2 | |
| | M24308/2-352F | M24308/2-352F | 211541-2 | 211541-2 | |
| | M24308/2-482F | M24308/2-342F | 211525-1 | 211525-2 | LESS CONTACTS |
| | M24308/2-483F | M24308/2-343F | 211526-1 | 211526-2 | LESS CONTACTS |
| | M24308/2-484F | M24308/2-344F | 211527-1 | 211527-2 | LESS CONTACTS |
| | M24308/2-485F | M24308/2-345F | 211528-1 | 211528-2 | LESS CONTACTS |
| | M24308/2-486F | M24308/2-346F | 211529-1 | 211529-2 | LESS CONTACTS |
| | M24308/2-487F | M24308/2-347F | 211536-1 | 211536-2 | LESS CONTACTS |
| | M24308/2-488F | M24308/2-348F | 211537-1 | 211537-2 | LESS CONTACTS |
| | M24308/2-489F | M24308/2-349F | 211538-1 | 211538-2 | LESS CONTACTS |
| | M24308/2-490F | M24308/2-350F | 211539-1 | 211539-2 | LESS CONTACTS |
| | M24308/2-491F | M24308/2-351F | 211540-1 | 211540-2 | LESS CONTACTS |
| | M24308/2-492F | M24308/2-352F | 211541-1 | 211541-2 | LESS CONTACTS |
| /3 | M24308/3-1F | M24308/3-1F | 593002-1 | 593002-1 | |
| | M24308/3-2F | M24308/3-2F | 593002-2 | 593002-2 | |
| | M24308/3-3F | M24308/3-3F | 593002-3 | 593002-3 | |
| | M24308/3-4F | M24308/3-4F | 593002-4 | 593002-4 | |
| | M24308/3-5F | M24308/3-5F | 593002-5 | 593002-5 | |
| | M24308/3-12F | M24308/3-12F | 593004-1 | 593004-1 | |
| | M24308/3-13F | M24308/3-13F | 593004-2 | 593004-2 | |
| | M24308/3-14F | M24308/3-14F | 593004-3 | 593004-3 | |
| | M24308/3-15F | M24308/3-15F | 593004-4 | 593004-4 | |
| | M24308/3-16F | M24308/3-16F | 593004-5 | 593004-5 | |
| /4 | M24308/4-1F | M24308/4-1F | 205556-2 | 205556-2 | |
| | M24308/4-2F | M24308/4-2F | 205558-2 | 205558-2 | |
| | M24308/4-3F | M24308/4-3F | 205560-2 | 205560-2 | |
| | M24308/4-4F | M24308/4-4F | 205562-2 | 205562-2 | |
| | M24308/4-5F | M24308/4-5F | 205564-2 | 205564-2 | |
| | M24308/4-6F | M24308/4-1F | 205556-3 | 205556-2 | WITH TOOL |
| | M24308/4-7F | M24308/4-2F | 205558-3 | 205558-2 | WITH TOOL |
| | M24308/4-8F | M24308/4-3F | 205560-3 | 205560-2 | WITH TOOL |
| | M24308/4-9F | M24308/4-4F | 205562-3 | 205562-2 | WITH TOOL |
| | M24308/4-10F | M24308/4-5F | 205564-3 | 205564-2 | WITH TOOL |
| | M24308/4-11F | M24308/4-11F | 204513-2 | 204513-2 | |
| | M24308/4-12F | M24308/4-12F | 204515-2 | 204515-2 | |
| | M24308/4-13F | M24308/4-13F | 204517-2 | 204517-2 | |
| | M24308/4-14F | M24308/4-14F | 204519-2 | 204519-2 | |
| | M24308/4-15F | M24308/4-15F | 204521-2 | 204521-2 | |
| | M24308/4-16F | M24308/4-16F | 204523-2 | 204523-2 | |

**Note:** The suffix “F” on M24308 part numbers designates cadmium shell plating.



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For additional support numbers please visit www.te.com

## AMPLIMITE Connectors vs. MIL-DTL-24308 Cross Reference (Continued)

| | MILITARY PART NUMBER FOR ORDERING | MILITARY PART NUMBER ON CONNECTOR | AMP PART NUMBER FOR ORDERING | AMP PART NUMBER ON CONNECTOR | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|---|---|---|
| /4 | M24308/4-17F | M24308/4-11F | 204513-3 | 204513-2 | WITH TOOL |
| | M24308/4-18F | M24308/4-12F | 204515-3 | 204515-2 | WITH TOOL |
| | M24308/4-19F | M24308/4-13F | 204517-3 | 204517-2 | WITH TOOL |
| | M24308/4-20F | M24308/4-14F | 204519-3 | 204519-2 | WITH TOOL |
| | M24308/4-21F | M24308/4-15F | 204521-3 | 204521-2 | WITH TOOL |
| | M24308/4-22F | M24308/4-16F | 204523-3 | 204523-2 | WITH TOOL |
| | M24308/4-259F | M24308/4-1F | 205162-1 | 205556-2 | LESS CONTACTS |
| | M24308/4-260F | M24308/4-2F | 205164-1 | 205558-2 | LESS CONTACTS |
| | M24308/4-261F | M24308/4-3F | 205166-1 | 205560-2 | LESS CONTACTS |
| | M24308/4-262F | M24308/4-4F | 205168-1 | 205562-2 | LESS CONTACTS |
| | M24308/4-263F | M24308/4-5F | 205170-1 | 205564-2 | LESS CONTACTS |
| | M24308/4-264F | M24308/4-11F | 204501-1 | 204513-2 | LESS CONTACTS |
| | M24308/4-265F | M24308/4-12F | 204503-1 | 204515-2 | LESS CONTACTS |
| | M24308/4-266F | M24308/4-13F | 204505-1 | 204517-2 | LESS CONTACTS |
| | M24308/4-267F | M24308/4-14F | 204507-1 | 204519-2 | LESS CONTACTS |
| | M24308/4-268F | M24308/4-15F | 204509-1 | 204521-2 | LESS CONTACTS |
| | M24308/4-269F | M24308/4-16F | 204511-1 | 204523-2 | LESS CONTACTS |
| | M24308/4-302F | M24308/4-302F | 205486-2 | 205486-2 | |
| | M24308/4-303F | M24308/4-303F | 205409-2 | 205409-2 | |
| | M24308/4-304F | M24308/4-304F | 205487-2 | 205487-2 | |
| | M24308/4-305F | M24308/4-305F | 205488-2 | 205488-2 | |
| | M24308/4-306F | M24308/4-306F | 205431-2 | 205431-2 | |
| | M24308/4-307F | M24308/4-307F | 204537-2 | 204537-2 | |
| | M24308/4-308F | M24308/4-308F | 204539-2 | 204539-2 | |
| | M24308/4-309F | M24308/4-309F | 204541-2 | 204541-2 | |
| | M24308/4-310F | M24308/4-310F | 204543-2 | 204543-2 | |
| | M24308/4-311F | M24308/4-311F | 204545-2 | 204545-2 | |
| | M24308/4-312F | M24308/4-312F | 204547-2 | 204547-2 | |
| | M24308/4-324F | M24308/4-302F | 205412-1 | 205486-2 | LESS CONTACTS |
| | M24308/4-325F | M24308/4-303F | 205408-1 | 205409-2 | LESS CONTACTS |
| | M24308/4-326F | M24308/4-304F | 205413-1 | 205487-2 | LESS CONTACTS |
| | M24308/4-327F | M24308/4-305F | 205414-1 | 205488-2 | LESS CONTACTS |
| | M24308/4-328F | M24308/4-306F | 205415-1 | 205431-2 | LESS CONTACTS |
| | M24308/4-329F | M24308/4-307F | 204525-1 | 204537-2 | LESS CONTACTS |
| | M24308/4-330F | M24308/4-308F | 204527-1 | 204539-2 | LESS CONTACTS |
| | M24308/4-331F | M24308/4-309F | 204529-1 | 204541-2 | LESS CONTACTS |
| | M24308/4-332F | M24308/4-310F | 204531-1 | 204543-2 | LESS CONTACTS |
| | M24308/4-333F | M24308/4-311F | 204533-1 | 204545-2 | LESS CONTACTS |
| | M24308/4-334F | M24308/4-312F | 204535-1 | 204547-2 | LESS CONTACTS |
| /5 | M24308/5-1F | M24308/5-1F | 593036-1 | 593036-1 | |
| | M24308/5-2F | M24308/5-2F | 593036-2 | 593036-2 | |
| | M24308/5-3F | M24308/5-3F | 593036-3 | 593036-3 | |
| | M24308/5-4F | M24308/5-4F | 593036-4 | 593036-4 | |
| | M24308/5-5F | M24308/5-5F | 593036-5 | 593036-5 | |
| | M24308/5-12F | M24308/5-12F | 593037-1 | 593037-1 | |
| | M24308/5-13F | M24308/5-13F | 593037-2 | 593037-2 | |
| | M24308/5-14F | M24308/5-14F | 593037-3 | 593037-3 | |
| | M24308/5-15F | M24308/5-15F | 593037-4 | 593037-4 | |
| | M24308/5-16F | M24308/5-16F | 593037-5 | 593037-5 | |
| | M24308/5-23F | M24308/5-23F | 593038-1 | 593038-1 | |
| | M24308/5-24F | M24308/5-24F | 593038-2 | 593038-2 | |
| | M24308/5-25F | M24308/5-25F | 593038-3 | 593038-3 | |
| | M24308/5-26F | M24308/5-26F | 593038-4 | 593038-4 | |
| | M24308/5-27F | M24308/5-27F | 593038-5 | 593038-5 | |
| /23 | M24308/23-1F | M24308/23-1F | 443975-1 | 443975-1 | |
| | M24308/23-2F | M24308/23-2F | 443975-2 | 443975-2 | |
| | M24308/23-3F | M24308/23-3F | 443975-3 | 443975-3 | |
| | M24308/23-4F | M24308/23-4F | 443975-4 | 443975-4 | |
| | M24308/23-5F | M24308/23-5F | 443975-5 | 443975-5 | |

**Note:** The suffix "F" on M24308 part numbers designates cadmium shell plating.





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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

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## AMPLIMITE Connectors vs. MIL-DTL-24308 Cross Reference (Continued)

| | MILITARY PART NUMBER FOR ORDERING | MILITARY PART NUMBER ON CONNECTOR | AMP PART NUMBER FOR ORDERING | AMP PART NUMBER ON CONNECTOR | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|---|---|---|
| /23 | M24308/23-7F | M24308/23-7F | 443976-1 | 443976-1 | |
| | M24308/23-8F | M24308/23-8F | 443976-2 | 443976-2 | |
| | M24308/23-9F | M24308/23-9F | 443976-3 | 443976-3 | |
| | M24308/23-10F | M24308/23-10F | 443976-4 | 443976-4 | |
| | M24308/23-11F | M24308/23-11F | 443976-5 | 443976-5 | |
| | M24308/23-13F | M24308/23-13F | 443977-1 | 443977-1 | |
| | M24308/23-14F | M24308/23-14F | 443977-2 | 443977-2 | |
| | M24308/23-15F | M24308/23-15F | 443977-3 | 443977-3 | |
| | M24308/23-16F | M24308/23-16F | 443977-4 | 443977-4 | |
| | M24308/23-17F | M24308/23-17F | 443977-5 | 443977-5 | |
| | M24308/23-19F | M24308/23-19F | 443978-1 | 443978-1 | |
| | M24308/23-20F | M24308/23-20F | 443978-2 | 443978-2 | |
| | M24308/23-21F | M24308/23-21F | 443978-3 | 443978-3 | |
| | M24308/23-22F | M24308/23-22F | 443978-4 | 443978-4 | |
| | M24308/23-23F | M24308/23-23F | 443978-5 | 443978-5 | |
| | M24308/23-25F | M24308/23-25F | 1218434-1 | 1218434-1 | |
| | M24308/23-26F | M24308/23-26F | 1218434-2 | 1218434-2 | |
| | M24308/23-27F | M24308/23-27F | 1218434-3 | 1218434-3 | |
| | M24308/23-28F | M24308/23-28F | 1218434-4 | 1218434-4 | |
| | M24308/23-29F | M24308/23-29F | 1218434-5 | 1218434-5 | |
| | M24308/23-31F | M24308/23-31F | 1218408-1 | 1218408-1 | |
| | M24308/23-32F | M24308/23-32F | 1218408-2 | 1218408-2 | |
| | M24308/23-33F | M24308/23-33F | 1218408-3 | 1218408-3 | |
| | M24308/23-34F | M24308/23-34F | 1218408-4 | 1218408-4 | |
| | M24308/23-35F | M24308/23-35F | 1218408-5 | 1218408-5 | |
| | M24308/23-37F | M24308/23-37F | 1218435-1 | 1218435-1 | |
| | M24308/23-38F | M24308/23-38F | 1218435-2 | 1218435-2 | |
| | M24308/23-39F | M24308/23-39F | 1218435-3 | 1218435-3 | |
| | M24308/23-40F | M24308/23-40F | 1218435-4 | 1218435-4 | |
| | M24308/23-41F | M24308/23-41F | 1218435-5 | 1218435-5 | |
| | M24308/23-43F | M24308/23-43F | 1218436-1 | 1218436-1 | |
| | M24308/23-44F | M24308/23-44F | 1218436-2 | 1218436-2 | |
| | M24308/23-45F | M24308/23-45F | 1218436-3 | 1218436-3 | |
| | M24308/23-46F | M24308/23-46F | 1218436-4 | 1218436-4 | |
| | M24308/23-47F | M24308/23-47F | 1218436-5 | 1218436-5 | |
| | M24308/23-49F | M24308/23-49F | 1218437-1 | 1218437-1 | |
| | M24308/23-50F | M24308/23-50F | 1218437-2 | 1218437-2 | |
| | M24308/23-51F | M24308/23-51F | 1218437-3 | 1218437-3 | |
| | M24308/23-52F | M24308/23-52F | 1218437-4 | 1218437-4 | |
| | M24308/23-53F | M24308/23-53F | 1218437-5 | 1218437-5 | |
| | M24308/23-55F | M24308/23-55F | 1218438-1 | 1218438-1 | |
| | M24308/23-56F | M24308/23-56F | 1218438-2 | 1218438-2 | |
| | M24308/23-57F | M24308/23-57F | 1218438-3 | 1218438-3 | |
| | M24308/23-58F | M24308/23-58F | 1218438-4 | 1218438-4 | |
| | M24308/23-59F | M24308/23-59F | 1218438-5 | 1218438-5 | |
| /24 | M24308/24-1F | M24308/24-1F | 1218124-1 | 1218124-1 | |
| | M24308/24-2F | M24308/24-2F | 1218124-2 | 1218124-2 | |
| | M24308/24-3F | M24308/24-3F | 1218124-3 | 1218124-3 | |
| | M24308/24-4F | M24308/24-4F | 1218124-4 | 1218124-4 | |
| | M24308/24-5F | M24308/24-5F | 1218124-5 | 1218124-5 | |
| | M24308/24-7F | M24308/24-7F | 1218125-1 | 1218125-1 | |
| | M24308/24-8F | M24308/24-8F | 1218125-2 | 1218125-2 | |
| | M24308/24-9F | M24308/24-9F | 1218125-3 | 1218125-3 | |
| | M24308/24-10F | M24308/24-10F | 1218125-4 | 1218125-4 | |
| | M24308/24-11F | M24308/24-11F | 1218125-5 | 1218125-5 | |
| | M24308/24-13F | M24308/24-13F | 1218126-1 | 1218126-1 | |
| | M24308/24-14F | M24308/24-14F | 1218126-2 | 1218126-2 | |
| | M24308/24-15F | M24308/24-15F | 1218126-3 | 1218126-3 | |
| | M24308/24-16F | M24308/24-16F | 1218126-4 | 1218126-4 | |
| | M24308/24-17F | M24308/24-17F | 1218126-5 | 1218126-5 | |



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Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

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UK: +44 800 267 666

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## AMPLIMITE Connectors vs. MIL-DTL-24308 Cross Reference (Continued)

| | MILITARY PART NUMBER FOR ORDERING | MILITARY PART NUMBER ON CONNECTOR | AMP PART NUMBER FOR ORDERING | AMP PART NUMBER ON CONNECTOR | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|---|---|---|
| **/24** | M24308/24-19F | M24308/24-19F | 1218127-1 | 1218127-1 | |
| | M24308/24-20F | M24308/24-20F | 1218127-2 | 1218127-2 | |
| | M24308/24-21F | M24308/24-21F | 1218127-3 | 1218127-3 | |
| | M24308/24-22F | M24308/24-22F | 1218127-4 | 1218127-4 | |
| | M24308/24-23F | M24308/24-23F | 1218127-5 | 1218127-5 | |
| | M24308/24-25F | M24308/24-25F | 1218440-1 | 1218440-1 | |
| | M24308/24-26F | M24308/24-26F | 1218440-2 | 1218440-2 | |
| | M24308/24-27F | M24308/24-27F | 1218440-3 | 1218440-3 | |
| | M24308/24-28F | M24308/24-28F | 1218440-4 | 1218440-4 | |
| | M24308/24-29F | M24308/24-29F | 1218440-5 | 1218440-5 | |
| | M24308/24-31F | M24308/24-31F | 1218441-1 | 1218441-1 | |
| | M24308/24-32F | M24308/24-32F | 1218441-2 | 1218441-2 | |
| | M24308/24-33F | M24308/24-33F | 1218441-3 | 1218441-3 | |
| | M24308/24-34F | M24308/24-34F | 1218441-4 | 1218441-4 | |
| | M24308/24-35F | M24308/24-35F | 1218441-5 | 1218441-5 | |
| | M24308/24-37F | M24308/24-37F | 1218442-1 | 1218442-1 | |
| | M24308/24-38F | M24308/24-38F | 1218442-2 | 1218442-2 | |
| | M24308/24-39F | M24308/24-39F | 1218442-3 | 1218442-3 | |
| | M24308/24-40F | M24308/24-40F | 1218442-4 | 1218442-4 | |
| | M24308/24-41F | M24308/24-41F | 1218442-5 | 1218442-5 | |
| | M24308/24-43F | M24308/24-43F | 1218443-1 | 1218443-1 | |
| | M24308/24-44F | M24308/24-44F | 1218443-2 | 1218443-2 | |
| | M24308/24-45F | M24308/24-45F | 1218443-3 | 1218443-3 | |
| | M24308/24-46F | M24308/24-46F | 1218443-4 | 1218443-4 | |
| | M24308/24-47F | M24308/24-47F | 1218443-5 | 1218443-5 | |
| | M24308/24-49F | M24308/24-49F | 1218444-1 | 1218444-1 | |
| | M24308/24-50F | M24308/24-50F | 1218444-2 | 1218444-2 | |
| | M24308/24-51F | M24308/24-51F | 1218444-3 | 1218444-3 | |
| | M24308/24-52F | M24308/24-52F | 1218444-4 | 1218444-4 | |
| | M24308/24-53F | M24308/24-53F | 1218444-5 | 1218444-5 | |
| | M24308/24-55F | M24308/24-55F | 1218445-1 | 1218445-1 | |
| | M24308/24-56F | M24308/24-56F | 1218445-2 | 1218445-2 | |
| | M24308/24-57F | M24308/24-57F | 1218445-3 | 1218445-3 | |
| | M24308/24-58F | M24308/24-58F | 1218445-4 | 1218445-4 | |
| | M24308/24-59F | M24308/24-59F | 1218445-5 | 1218445-5 | |
| **/25** | M24308/25-6P | — | 211883-5 | — | Male screw retainer kit |
| **/26** | M24308/26-1P | — | 212447-1 | — | Female screwlock kit |
| | M24308/26-1 | — | 205817-8 | — | Female screwlock kit |

**Note:** The suffix “F” on M24308 part numbers designates cadmium shell plating.
The suffix “P” designates passivated stainless steel.

## AMPLIMITE Connectors vs. M39029, M22520 and M81969 Cross Reference

| MILITARY PART NUMBER FOR ORDERING | AMP PART NUMBER FOR ORDERING | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|
| M39029/57-354 | 204351-1 | Size 22 Socket |
| M39029/58-360 | 204370-2 | Size 22 Pin |
| M39029/63-368 | 205090-1 | Size 20 Socket |
| M39029/64-369 | 205089-1 | Size 20 Pin |
| M22520/2-01 | 601966-1 | Crimp Tool |
| M22520/2-06 | 601966-4 | Size 22 Socket Positioner |
| M22520/2-08 | 601966-5 | Size 20 Positioner |
| M22520/2-09 | 601966-6 | Size 22 Pin Positioner |
| M81969/1-02 | 91067-2 | Size 20 Ins/Ext Tool |
| M81969/1-04 | 91067-1 | Size 22 Ins/Ext Tool |





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## AMPLIMITE Connectors vs. NASA Power/Coax/Signal Combination Cross Reference

| AMP PART NUMBER | ASSEMBLY NASA P/N 311-P-4/ | DESCRIPTION |
|---|---|---|
| 448153-2 | 05-7P-B-12 | PLUG,3C3,NON-MAG,.120 MTG HOLE |
| 448153-3 | 05-7P-B-15 | PLUG,3C3,NON-MAG,.154 MTG HOLE |
| 448154-2 | 05-8P-B-12 | PLUG,7C2,NON-MAG,.120 MTG HOLE |
| 448154-3 | 05-8P-B-15 | PLUG,7C2,NON-MAG,.154 MTG HOLE |
| 211111-2 | 05-9P-B-12 | PLUG,11C1,NON-MAG,.120 MTG HOLE |
| 211111-3 | 05-9P-B-15 | PLUG,11C1,NON-MAG,.154 MTG HOLE |
| 212491-6 | 05-10P-B-12 | PLUG,5C5,NON-MAG,.120 MTG HOLE |
| 212491-7 | 05-10P-B-15 | PLUG,5C5,NON-MAG,.154 MTG HOLE |
| 212498-2 | 05-11P-B-12 | PLUG,9C4,NON-MAG,.120 MTG HOLE |
| 212498-3 | 05-11P-B-15 | PLUG,9C4,NON-MAG,.154 MTG HOLE |
| 208810-3 | 05-12P-B-12 | PLUG,13C3,NON-MAG,.120 MTG HOLE |
| 208810-4 | 05-12P-B-15 | PLUG,13C3,NON-MAG,.154 MTG HOLE |
| 212506-2 | 05-13P-B-12 | PLUG,17C2,NON-MAG,.120 MTG HOLE |
| 212506-4 | 05-13P-B-15 | PLUG,17C2,NON-MAG,.154 MTG HOLE |
| 212522-3 | 05-14P-B-12 | PLUG,21C1,NON-MAG,.120 MTG HOLE |
| 212522-4 | 05-14P-B-15 | PLUG,21C1,NON-MAG,.154 MTG HOLE |
| 446405-2 | 05-15P-B-12 | PLUG,8C8,NON-MAG,.120 MTG HOLE |
| 446405-3 | 05-15P-B-15 | PLUG,8C8,NON-MAG,.154 MTG HOLE |
| 212514-3 | 05-17P-B-12 | PLUG,17C5,NON-MAG,.120 MTG HOLE |
| 212514-4 | 05-17P-B-15 | PLUG,17C5,NON-MAG,.154 MTG HOLE |
| 212530-2 | 05-18P-B-12 | PLUG,21C4,NON-MAG,.120 MTG HOLE |
| 212530-3 | 05-18P-B-15 | PLUG,21C4,NON-MAG,.154 MTG HOLE |
| 208742-2 | 05-20P-B-12 | PLUG,25C3,NON-MAG,.120 MTG HOLE |
| 208742-3 | 05-20P-B-15 | PLUG,25C3,NON-MAG,.154 MTG HOLE |
| 212538-2 | 05-21P-B-12 | PLUG,27C2,NON-MAG,.120 MTG HOLE |
| 212538-3 | 05-21P-B-15 | PLUG,27C2,NON-MAG,.154 MTG HOLE |
| 208743-2 | 05-22P-B-12 | PLUG,24C7,NON-MAG,.120 MTG HOLE |
| 208743-6 | 05-22P-B-15 | PLUG,24C7,NON-MAG,.154 MTG HOLE |
| 208744-3 | 05-23P-B-12 | PLUG,36C4,NON-MAG,.120 MTG HOLE |
| 208744-4 | 05-23P-B-15 | PLUG,36C4,NON-MAG,.154 MTG HOLE |
| 445705-2 | 05-7S-B-12 | RECPT,3C3,NON-MAG,.120 MTG HOLE |
| 445705-3 | 05-7S-B-15 | RECPT,3C3,NON-MAG,.154 MTG HOLE |
| 211112-2 | 05-9S-B-12 | RECPT,11C1,NON-MAG,.120 MTG HOLE |
| 211112-3 | 05-9S-B-15 | RECPT,11C1,NON-MAG,.154 MTG HOLE |
| 212059-2 | 05-10S-B-12 | RECPT,5C5,NON-MAG,.120 MTG HOLE |
| 212059-6 | 05-10S-B-15 | RECPT,5C5,NON-MAG,.154 MTG HOLE |
| 212502-2 | 05-11S-B-12 | RECPT,9C4,NON-MAG,.120 MTG HOLE |
| 212502-3 | 05-11S-B-15 | RECPT,9C4,NON-MAG,.154 MTG HOLE |
| 208811-3 | 05-12S-B-12 | RECPT,13C3,NON-MAG,.120 MTG HOLE |
| 208811-4 | 05-12S-B-15 | RECPT,13C3,NON-MAG,.154 MTG HOLE |
| 212510-2 | 05-13S-B-12 | RECPT,17C2,NON-MAG,.120 MTG HOLE |
| 212510-3 | 05-13S-B-15 | RECPT,17C2,NON-MAG,.154 MTG HOLE |
| 212526-3 | 05-14S-B-12 | RECPT,21C1,NON-MAG,.120 MTG HOLE |
| 212526-4 | 05-14S-B-15 | RECPT,21C1,NON-MAG,.154 MTG HOLE |
| 445730-3 | 05-15S-B-12 | RECPT,8C8,NON-MAG,.120 MTG HOLE |
| 445730-4 | 05-15S-B-15 | RECPT,8C8,NON-MAG,.154 MTG HOLE |
| 212518-3 | 05-17S-B-12 | RECPT,17C5,NON-MAG,.120 MTG HOLE |
| 212518-4 | 05-17S-B-15 | RECPT,17C5,NON-MAG,.154 MTG HOLE |
| 212534-2 | 05-18S-B-12 | RECPT,21C4,NON-MAG,.120 MTG HOLE |
| 212534-3 | 05-18S-B-15 | RECPT,21C4,NON-MAG,.154 MTG HOLE |
| 208551-2 | 05-20S-B-12 | RECPT,25C3,NON-MAG,.120 MTG HOLE |
| 208551-3 | 05-20S-B-15 | RECPT,25C3,NON-MAG,.154 MTG HOLE |
| 212542-2 | 05-21S-B-12 | RECPT,27C2,NON-MAG,.120 MTG HOLE |
| 212542-3 | 05-21S-B-15 | RECPT,27C2,NON-MAG,.154 MTG HOLE |
| 208552-2 | 05-22S-B-12 | RECPT,24C7,NON-MAG,.120 MTG HOLE |
| 208552-5 | 05-22S-B-15 | RECPT,24C7,NON-MAG,.154 MTG HOLE |
| 208550-2 | 05-23S-B-12 | RECPT,36C4,NON-MAG,.120 MTG HOLE |
| 208550-3 | 05-23S-B-15 | RECPT,36C4,NON-MAG,.154 MTG HOLE |



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UK: +44 800 267 666

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## AMPLIMITE Connectors vs. NASA Series 109 and 90 Cross Reference

| NASA PART NUMBER FOR ORDERING | NASA PART NUMBER ON CONNECTOR | AMP PART NUMBER FOR ORDERING | AMP PART NUMBER ON CONNECTOR | REMARKS (All connectors provided with contacts unless otherwise specified) |
|---|---|---|---|---|
| 311P407-1P-B-15 | 311P407-1P-B-15 | 206498-1 | 206498-1 | LESS CONTACTS |
| 311P407-1P-B-12 | 311P407-1P-B-12 | 206498-4 | 206498-4 | LESS CONTACTS |
| 311P407-2P-B-15 | 311P407-2P-B-15 | 206500-1 | 206500-1 | LESS CONTACTS |
| 311P407-2P-B-12 | 311P407-2P-B-12 | 206500-4 | 206500-4 | LESS CONTACTS |
| 311P407-3P-B-15 | 311P407-3P-B-15 | 206063-2 | 206063-2 | LESS CONTACTS |
| 311P407-3P-B-12 | 311P407-3P-B-12 | 206063-4 | 206063-4 | LESS CONTACTS |
| 311P407-4P-B-15 | 311P407-4P-B-15 | 206502-1 | 206502-1 | LESS CONTACTS |
| 311P407-4P-B-12 | 311P407-4P-B-12 | 206502-4 | 206502-4 | LESS CONTACTS |
| 311P407-5P-B-15 | 311P407-5P-B-15 | 206504-1 | 206504-1 | LESS CONTACTS |
| 311P407-5P-B-12 | 311P407-5P-B-12 | 206504-4 | 206504-4 | LESS CONTACTS |
| 311P407-6P-B-15 | 311P407-6P-B-15 | 206066-2 | 206066-2 | LESS CONTACTS |
| 311P407-6P-B-12 | 311P407-6P-B-12 | 206066-4 | 206066-4 | LESS CONTACTS |
| 311P407-1S-B-15 | 311P407-1S-B-15 | 206499-1 | 206499-1 | LESS CONTACTS |
| 311P407-1S-B-12 | 311P407-1S-B-12 | 206499-4 | 206499-4 | LESS CONTACTS |
| 311P407-2S-B-15 | 311P407-2S-B-15 | 206501-1 | 206501-1 | LESS CONTACTS |
| 311P407-2S-B-12 | 311P407-2S-B-12 | 206501-4 | 206501-4 | LESS CONTACTS |
| 311P407-3S-B-15 | 311P407-3S-B-15 | 206064-2 | 206064-2 | LESS CONTACTS |
| 311P407-3S-B-12 | 311P407-3S-B-12 | 206064-4 | 206064-4 | LESS CONTACTS |
| 311P407-4S-B-15 | 311P407-4S-B-15 | 206503-1 | 206503-1 | LESS CONTACTS |
| 311P407-4S-B-12 | 311P407-4S-B-12 | 206503-4 | 206503-4 | LESS CONTACTS |
| 311P407-5S-B-15 | 311P407-5S-B-15 | 206505-1 | 206505-1 | LESS CONTACTS |
| 311P407-5S-B-12 | 311P407-5S-B-12 | 206505-4 | 206505-4 | LESS CONTACTS |
| 311P407-6S-B-15 | 311P407-6S-B-15 | 206065-2 | 206065-2 | LESS CONTACTS |
| 311P407-6S-B-12 | 311P407-6S-B-12 | 206065-4 | 206065-4 | LESS CONTACTS |
| 311P409-1P-B-15 | 311P409-1P-B-15 | 207252-1 | 207252-1 | LESS CONTACTS |
| 311P409-1P-B-12 | 311P409-1P-B-12 | 207252-2 | 207252-2 | LESS CONTACTS |
| 311P409-2P-B-15 | 311P409-2P-B-15 | 206798-1 | 206798-1 | LESS CONTACTS |
| 311P409-2P-B-12 | 311P409-2P-B-12 | 206798-2 | 206798-2 | LESS CONTACTS |
| 311P409-3P-B-15 | 311P409-3P-B-15 | 206800-1 | 206800-1 | LESS CONTACTS |
| 311P409-3P-B-12 | 311P409-3P-B-12 | 206800-2 | 206800-2 | LESS CONTACTS |
| 311P409-4P-B-15 | 311P409-4P-B-15 | 206802-1 | 206802-1 | LESS CONTACTS |
| 311P409-4P-B-12 | 311P409-4P-B-12 | 206802-2 | 206802-2 | LESS CONTACTS |
| 311P409-5P-B-15 | 311P409-5P-B-15 | 206804-1 | 206804-1 | LESS CONTACTS |
| 311P409-5P-B-12 | 311P409-5P-B-12 | 206804-2 | 206804-2 | LESS CONTACTS |
| 311P409-1S-B-15 | 311P409-1S-B-15 | 207253-1 | 207253-1 | LESS CONTACTS |
| 311P409-1S-B-12 | 311P409-1S-B-12 | 207253-2 | 207253-2 | LESS CONTACTS |
| 311P409-2S-B-15 | 311P409-2S-B-15 | 206799-1 | 206799-1 | LESS CONTACTS |
| 311P409-2S-B-12 | 311P409-2S-B-12 | 206799-2 | 206799-2 | LESS CONTACTS |
| 311P409-3S-B-15 | 311P409-3S-B-15 | 206801-1 | 206801-1 | LESS CONTACTS |
| 311P409-3S-B-12 | 311P409-3S-B-12 | 206801-2 | 206801-2 | LESS CONTACTS |
| 311P409-4S-B-15 | 311P409-4S-B-15 | 206803-1 | 206803-1 | LESS CONTACTS |
| 311P409-4S-B-12 | 311P409-4S-B-12 | 206803-2 | 206803-2 | LESS CONTACTS |
| 311P409-5S-B-15 | 311P409-5S-B-15 | 206805-1 | 206805-1 | LESS CONTACTS |
| 311P409-5S-B-12 | 311P409-5S-B-12 | 206805-2 | 206805-2 | LESS CONTACTS |
| G-08-P1 | | 204370-8 | | SIZE 22 PIN |
| G-08-S1 | | 206071-1 | | SIZE 22 SOCKET |
| G-10-P1 | | 205089-4 | | SIZE 20 PIN |
| G-10-S1 | | 206793-1 | | SIZE 20 SOCKET |





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