

File E28476

Project 09CA26277

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REPORT

On

COMPONENT - CONNECTORS FOR USE IN DATA, SIGNAL,
CONTROL AND POWER APPLICATIONS

Tyco Electronics Corp
Harrisburg, PA

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component Connector, AMP Power Double Lock Connectors

Cat. Nos. 2005246, 2005247, 2005248, 2005249, 2005250, 368570, 368571 and 368572, followed by -1, -2, -4, -6 or -9.

Cat. Nos. 2005251, 2005252, 2005253, 2005254, 2005255 and 368588, followed by -1, -4 or -6.

Cat. Nos. 368574, 368575, 368576, 368587, 368589, 1-368575, 1-368587, 2369504, 2369505, 2369506, 2369507, 2369508, 2369509 and 1-368589, followed by -1, -2, -4 or -6.

Cat. Nos. 179862-1 and 179849-1, 2825340-1, 5-368571-1, **5-368571-2, 5-368571-4, 5-368571-6**, 5-368572-1, **5-368572-2, 5-368572-4, 5-368572-6**

Cat. Nos. 2367063-1, 2367064-1

GENERAL:

These devices are single or multi-pole connectors intended for factory assembly on where the acceptability of combinations is determined by Underwriters Laboratories Inc. The devices are identified as follows:

USR - indicates investigation to United States Standards, UL 1977.

CNR - Indicates investigation to Canadian National Standards, C22.2 No. 182.3.

RATINGS:

Series	Voltage, V ac	Current, A	Wire, AWG
2005246, 2005247, 2825340-1, 2005248, 2005249	300	3	26
		4	24
		5	22
		7	20
		8	18
		10	16
2005250, 368570, 368571, 368572, 2005251, 368574, 368575, 368587, 368589, 1-368575, 1-368587, 1-368589, 2369504, 2369505, 2369506, 2369507, 5- 368571-1, 5-368572-1	300	2	26
		3	24
		4	22
		6	20
		7	18
		9	16
2005252, 2005253, 2005254, 368588, 368576, 2369508, 2369509	300	2	26
		2	24
		3	22
		5	20
		6	18
		8	16
2367063-1	400Vac/dc	14	16
	5 Vac/dc	1	22-24
2367064-1	400Vac/dc	14	16
	5 Vac/dc	1	22-24

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Series	Voltage, V ac	Current, A	Wire, AWG
2005255	300	2	26
		2	24
		2	22
		4	20
		5	18
		7	16
179862-1, 179849-1	300 Vac/dc	2	26
		2	24
		3	22
		5	20
		6	18
		8	16

Disconnecting Use - See Sec. Gen. for required marking.

NOMENCLATURE:

The Series 2005246, 2005247, **2825340**, 2005248, 2005249, 2005250, 2005251, 2005252, 2005253, 2005254, 2005255, 368570, 368571, 368572, 368588, 368574 and 368576 are designated as follows:

$\frac{\text{XXXXXX}}{\text{I}} - \frac{\text{X}}{\text{II}}$

Where: I - Series Designation.

II - 1 denoting natural color;

2 denoting red;

4 denoting yellow;

6 denoting blue;

9 denoting black. Refer to the table below for details.

Series	II	Series	II
2005246	1, 2, 4, 6, 9	2005254	1, 4, 6
2005247	1, 2, 4, 6, 9	2005255	1, 4, 6
2005248	1, 2, 4, 6, 9	368570	1, 2, 4, 6, 9
2005249	1, 2, 4, 6, 9	368571	1, 2, 4, 6, 9
2005250	1, 2, 4, 6, 9	368572	1, 2, 4, 6, 9
2005251	1, 4, 6	368588	1, 4, 6
2005252	1, 4, 6	368574	1, 2, 4, 6
2005253	1, 4, 6	368576	1, 2, 4, 6
2825340	1		

The Series 368575, 368587, 368589, 1-368575, 1-368587 and 1-368589 are designated as follows:

$$\frac{X}{I} = \frac{XXXXXX}{II} - \frac{X}{III}$$

Where: I - 1 denoting molded of Tyco Raw Material 1573789.
Blank denoting molded of Tyco Raw Material 1573680.

III - 1 denoting natural color;
2 denoting red;
4 denoting yellow;
6 denoting blue.

The Series 2369504, 2369505, 2369506, 2369507, 2369508, 2369509, 5-368571 and 5-368572 are designated as follows:

$$\frac{XXXXXX}{I} - \frac{X}{II}$$

Where: I - Series Designation.
II - 1 denoting natural color;
2 denoting red;
4 denoting yellow;
6 denoting blue;

Series	II	Series	II
2369504	1, 2, 4, 6	2369505	1, 2, 4, 6
2369506	1, 2, 4, 6	2369507	1, 2, 4, 6
2369508	1, 2, 4, 6	2369509	1, 2, 4, 6
5-368571	1, 2, 4, 6	5-368572	1, 2, 4, 6

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - The following are among the considerations to be made when evaluating the device in the end-use product.

1. These devices are not suitable for interrupting the flow of current by connecting or disconnecting the mating connector.
2. These devices have been subjected to the Temperature test with the USR rated currents and maximum temperature values tabulated below.

Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature, °C	Represent Series
2005247-1	3	177914-2	26	35.2	2005246 and 2005247, 2825340

	4		24	36.2	
	5		22	38.9	
	7	177915-2	20	40.2	
	8		18	38.6	
	10		16	40.4	

2005249-1	3	177916-1	26	35.5	2005248 and 2005249
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	4		24	37.1	
	5		22	38.8	
	7	177917-1	20	38.3	
	8		18	39.2	
	10		16	40.7	

368575-1	3	177914-2	24	35.4	368571, 2369504 , 5- 368571-1 , 368570, 368575, 1-368575, 2369506 , 2005251 and 368574
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	4		22	39.6	
	6	177915-2	20	42.5	
	7		18	40.9	
	9		16	40.6	

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Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature, °C	Represent Series
368589-1	3	177916-1	24	36.2	368572, 2369505, 5-368572-1, 2005250, 368587, 368589, 1-368587, 2369507 and 1-368589

	4		22	40.1	
	6		20	39.6	
	7	177917-1	18	41.1	
	9		16	40.7	

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Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature, °C	Represent Series
368588-1	2	177916-1	26	35.2	368588, 368589 368572, 2005250, 368587, 368589, 1- 368587 and 1-368589 and 2005253, 2369505, 5-368572- 1, 2369507, 2369509
	3		22	36.0	368588 and 2005253, 2369509
	5	177917-1	20	37.9	
	6		18	43.0	
	8		16	43.4	
2005254-1	3	177914-2	22	40.2	2005254, 2005252, 368576, 2369508
	5	177915-2	20	46.1	
	6		18	43.9	
	8		16	46.7	
2005255-1	2	177914-2	26	41.7	2005255, 2005254, 2005252, 368576, 2369508 , 368574, 2005251, 368575, 1- 368575, 2369506 , 368570, 368571, 2369504, 5-368571-1
	4		20	42.1	
	5	177915-2	18	38.8	2005255
	7		16	47.9	

3. These devices have been subjected to the Temperature test with the CNR rated currents and maximum temperature values tabulated below.

Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature Rise, °C	Represent Series
2005247-1	3	177914-2	26	9.9	2005246 and 2005247, 2825340

	4		24	10.7	
	5		22	13.7	
	7	177915-2	20	14.7	
	8		18	12.1	
	10		16	13.5	

Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature Rise, °C	Represent Series
2005249-1	3	177916-1	26	10.5	2005248 and 2005249
	4		24	11.3	
	5		22	13.9	
	7		20	13.3	
	8	177917-1	18	14.0	
	10		16	15.1	
368575-1	3	177914-2	24	10.0	368571, 2369504 , 5-368571-1 , 368570, 368575, 1-368575, 2369506 , 2005251 and 368574
	4		22	13.1	
	6		20	16.7	
	7	177915-2	18	14.9	
	9		16	15.8	
368589-1	3	177916-1	24	9.5	368572, 2369505 , 5-368572-1 , 2005250, 368587, 368589, 1-368587, 2369507 and 1-368589
	4		22	14.3	
	6		20	14.6	
	7	177917-1	18	15.4	
	9		16	15.0	
368588-1	2	177916-1	26	9.3	368588, 368589 368572, 2369505 , 5-368572-1 , 2005250, 368587, 368589, 1-368587, 2369507 and 1-368589 and 2005253, 2369509
	3		22	10.9	
	5		20	12.9	
	6	177917-1	18	15.2	
	8		16	18.4	368588 and 2005253, 2369509

Cat. No.	Current Rating, A	Contact	Wire Size, AWG	Maximum Temperature Rise, °C	Represent Series
2005254-1	3	177914-2	22	13.7	2005254, 2005252, 368576, 2369508, 179862-1, 179849-1
	5	177915-2	20	20.3	
	6		18	18.1	
	8		16	19.0	
2005255-1	2	177914-2	26	17.1	2005255, 20025254, 200252, 368576, 2369508, 368574, 2005251, 368575, 1-368575, 2369506, 368570, 368571, 2369504, 5-368571-1, 179862-1, 179849-1
	4	177915-2	20	17.1	
	5		18	13.9	
	7		16	22.9	
2367063-1	14	2232901-2	16	22.9	-
	1	2232902-1	24	1.0	
2367064-1	14	177917-3	16	24.6	-
	1	177916-1	24	1.0	

4. These devices employ insulating materials with properties as tabulated below at the minimum thickness employed in the connector housing, the suitability of the insulating materials based on the documented values shall be determined in the end-use application. Please note the values specified in the table when multiple materials are indicated represent the minimum values for the group of materials.

Series	Insulating Material (#)	Measured min. thickness, mm	Flame Class	HWI	HAI	RTI Elec	RTI Str	Max. Operating Temp, °C
*2005246	A for body	0.50	V-0	N/A	N/A	130	65	105
*2005247		0.40	V-0	N/A	N/A	130	65	105
*2825340		0.40	V-0	N/A	N/A	130	65	105
2005248		0.35	N/A	N/A	N/A	130	65	105
2005249		0.30	N/A	N/A	N/A	130	65	105
2005250		0.30	N/A	N/A	N/A	130	65	105
368570		0.30	N/A	N/A	N/A	130	65	105
*368571		0.40	V-0	N/A	N/A	130	65	105
*2369504		0.40	V-0	N/A	N/A	130	65	105
*5-368571-1		0.40	V-0	N/A	N/A	130	65	105
368572		0.35	N/A	N/A	N/A	130	65	105
2369505		0.35	N/A	N/A	N/A	130	65	105
5-368572-1		0.35	N/A	N/A	N/A	130	65	105
*2005251		0.40	V-0	N/A	N/A	130	65	105
*2005252		0.30	N/A**	N/A	N/A	130	65	105
*2005253		0.35	N/A**	N/A	N/A	130	65	105
*2369509		0.35	N/A**	N/A	N/A	130	65	105
*2005254		0.40	V-0	N/A	N/A	130	65	105
*2005255		0.40	V-0	N/A	N/A	130	65	105
*368588		0.30	N/A**	N/A	N/A	130	65	105
*368574		0.30	N/A***	N/A	N/A	130	65	105
*368576		0.40	V-0	N/A	N/A	130	65	105
*2369508		A for body	0.40	V-0	N/A	N/A	130	65
368575	B for body	0.40	N/A***	N/A	N/A	65	65	65
368587		0.35	N/A***	N/A	N/A	65	65	65
368589		0.30	N/A***	N/A	N/A	65	65	65
*1-368575	A for body	0.40	V-0	N/A	N/A	130	65	105
*2369506		0.40	V-0	N/A	N/A	130	65	105
*1-368587		0.35	N/A***	N/A	N/A	130	65	105
*2369507		0.35	N/A***	N/A	N/A	130	65	105
*1-368589	0.30	N/A***	N/A	N/A	130	65	105	
179862-1	C	0.69	V-0	N/A	N/A	130	115	105
179849-1	D	0.46	V-0	N/A	N/A	-	-	105
2367063-1	E	0.4	V-0	N/A	N/A	130	130	105
2367064-1	E	0.4	V-0	N/A	N/A	130	130	105

Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL746C 12mm Flammability test was conducted on body employing colors NC, RD, YL, BL and BK.

** Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL746C 12mm Flammability test was conducted on body employing colors NC, YL and BL.

*** Thickness is less than the minimum Recognized material thickness, as such no assigned Flame class. UL746C 12mm Flammability test was conducted on body employing colors NC, RD, YL and BL.

(#) - Code for Material Identification.

A. Tyco Raw Material 1573789

1. Dielectric Strength: (kV/mm): N/A
2. CTI: N/A

B. Tyco Raw Material 1573680

1. Dielectric Strength: (kV/mm): N/A
2. CTI: 1

C. Tyco Raw Material 1573672

1. Dielectric Strength: (kV/mm): --
2. CTI: 0

D. Tyco Raw Material 704924

1. Dielectric Strength: (kV/mm): --
2. CTI: 2

E. Tyco Raw Material 703144

- 1. Dielectric Strength: (kV/mm): 35**
- 2. CTI: 4**

5. The enclosure of the device has live parts that may be exposed to user contact when the connector is energized. The device is suitable for use only within an acceptable enclosure.
6. These devices are not suitable for use other than the wire ranges as tabulated below:

Series/Cat. No.	Contact	Wire, AWG
2005246, 2005247, 2825340, 2005251, 2005252, 2005254, 2005255, 368570, 368571, 2369504, 5-368571-1, 368574, 368575, 1- 368575, 2369506, 368576, 2369508, 179862-1 and 179849-x	177914-1 or	26
	177914-2,	24
	1743728-1, 2369501-1	22
	2238096-1	20
		20
	177915-1 or	18
	177915-2, 1743729-1, 2369500-1	16
2005248, 2005249, 2005250, 2005253, 2369509, 368572, 2369505, 5-368572- 1, 368587, 368588, 368589, 1-368587, 2369507, 1-368589	177916-1, 2369502-1	26
		24
		22
		20
	177917-1, 2369503-1	18
		16
2367063-1	2232901-2	16
	2232902-1	22-24
2367064-1	177917-3	16
	177916-1	22-24

7. Crimp contacts as tabulated below are intended for crimp termination on stranded copper conductor using the tooling shown in Ill. 26. (For information purposes only).

Series	Contact/Terminal	Wire Size, AWG	Crimp Machine / Die Cat. No	Ill. Crimp Tool	
2005246, 2005247, 2825340, 2005251, 2005252, 2005254, 2005255, 368570, 368571, 2369504, 5-368571-1, 368574, 368575, 1-368575, 2369506, 368576, 2369508, 179862- 1, and 179849-x	177914-1 or 177914-2, 1743728-1, 2369501-1	26	JY-P3 / JA-S1	26	
		24			
		22			
	2238096-1	20			
	177915-1 or 177915-2, 1743729-1, 2369500-1	20			
		18			
		16			
		16			
	2005248, 2005249, 2005250, 2005253, 2369509, 368572, 2369505, 5- 368572-1, 368587, 368588, 368589, 1-368587, 2369507, 1-368589	177916-1, 2369502-1			26
					24
22					
177917-1, 2369503-1		20			
		18			
		16			
2367063-1	2232901-2	16	JY-P3 / JA-S1	26	
	2232902-1	22-24	JY-P3 / JA-S1	26	
2367064-1	177917-3	16	JY-P3 / JA-S1	26	
	177916-1	22-24	JY-P3 / JA-S1	26	