

## Z-PACK 2MM HM (HARD METRIC) BACKPLANE CONNECTORS

TE Connectivity's (TE) Z-PACK 2mm HM connector system is designed to address the current and future needs of telecommunication, computer and instrumentation applications, providing excellent electrical and mechanical characteristics at an economical price. Two contact technology is offered - ACTION PIN connectors or EON (Eye of Needle) connectors are offered to address design flexibility for a wide variety of applications.

### APPLICATIONS

- Industrial Automation & Control
- Telecommunication
- Test & Measurement
- Medical Imaging Devices
- Relay protection of power system
- High speed railway systems

### KEY BENEFITS

- Reliable mount to PCB with press-fit technology
- Offers system design flexibility
- Capable to support 3Gb/s
- Minimize mismatch with coding keys
- Custom configurations available
- Robust design

### KEY FEATURES

- Complies with IEC 61076-4-101 Standard
- 2-piece 2mm pitch connector family
- ACTION PIN connector or EON contact options
- High density system with 5, 5+2, 8, 8+2 row product
- Press-fit mounting

# Z-PACK 2MM HM CONNECTORS

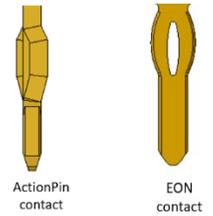
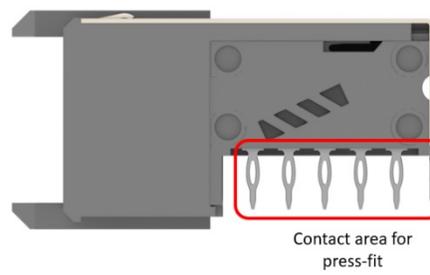
## ACTION PIN AND EON (EYE OF NEEDLE) CONTACTS

### ACTION PIN CONTACTS

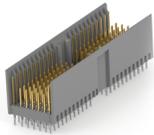
- Strong Retention Force
- Superior reliability
- Require larger insertion force
- Not suitable for thin PCB applications (<2mm thickness)

### EON CONTACTS

- Economical design
- Require less insertion force
- Suitable for thin PCB applications
- Minimum PCB thickness is 1.4mm



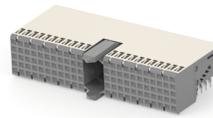
## PRODUCT CONFIGURATIONS



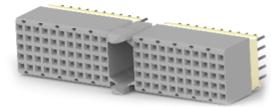
Vertical Male Connectors



Right Angle Male Connectors



Right Angle Female Connectors

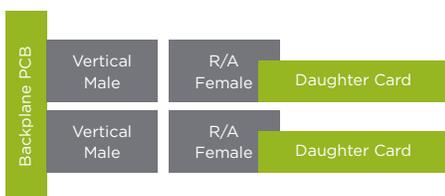


Vertical Female Connectors

## PRODUCT FEATURES OF DIFFERENT CONNECTOR TYPES

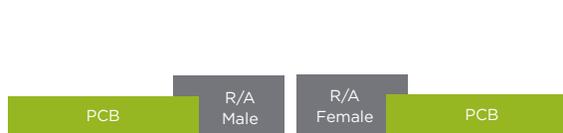
Connector Type	Image Example	Features
Type A		50mm long with 110 signal contacts Integral pre-alignment guide pins and keying facility Use center 3 columns as Multiple Purpose Center
Type B		50mm, 44mm, 38mm long with 125, 110, 95 signal contacts No features for guiding or keying One of the highest contact density amongst most types
Type C		25mm long with 55 signal contacts Integral pre-alignment guide pins Not support for keying
Type A/B		50mm, 44mm, 38mm long with 125, 110, 95 signal contacts Integral pre-alignment guide pins Utilize center 3 columns for signal contacts without sacrificing density

## TYPICAL BOARD-TO-BOARD CONNECTIONS



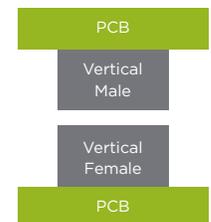
Backplane

Vertical Male with Right Angle Female



Coplanar

Right Angle Male with Right Angle Female



Mezzanine

Vertical Male with Vertical Female

# Z-PACK 2MM HM CONNECTORS

## PART NUMBER DETAIL

Category		Z-PACK 2mm HM Vertical Male					Z-PACK 2mm HM Right Angle Female				
Connector Type	Column number	Row number	Signal pin	Shield pin	Part Number		Row number	Signal pin	With Shield	Part Number	
					Action Pin	EON				Action Pin	EON
A	22	5	110	0	<a href="#">5100143-1</a>	2391870-1	5	110	N	<a href="#">5100147-1</a>	<a href="#">2392557-1</a>
		5+2	110	44	<a href="#">5100668-1</a>	2391875-1	5	110	Y	<a href="#">5352068-1</a>	<a href="#">2367945-1</a>
B	25	5	125	0	<a href="#">5100141-1</a>	2391876-1	5	125	N	<a href="#">5100145-1</a>	<a href="#">2392575-1</a>
		5+2	125	50	<a href="#">5100669-1</a>	2391877-1	5	125	Y	<a href="#">5352069-1</a>	<a href="#">2392577-1</a>
	22	5	110	0	<a href="#">5352639-1</a>	2391878-1	5	110	N	<a href="#">5188836-1</a>	<a href="#">2392595-1</a>
		5+2	110	44	<a href="#">5352638-1</a>	2391879-1	5	110	Y	<a href="#">5352152-1</a>	<a href="#">2392846-1</a>
	19	5+2	95	38	<a href="#">5352869-1</a>	2392844-1	5	95	Y	<a href="#">5352171-1</a>	<a href="#">2392853-1</a>
	8	5+2	40	16	<a href="#">2336514-1</a>	-	5	40	Y	<a href="#">2336682-1</a>	<a href="#">2367982-1</a>
C	11	5	55	0	<a href="#">5100159-1</a>	2391904-1	5	55	N	<a href="#">5100161-1</a>	<a href="#">2389274-1</a>
		5+2	55	22	<a href="#">5106081-1</a>	2392167-1	5	55	Y	<a href="#">5352115-1</a>	<a href="#">2392856-1</a>
A/B	25	5	125	0	<a href="#">5646731-1</a>	2392181-1	5	125	N	<a href="#">5646574-1</a>	<a href="#">2392859-1</a>
		5+2	125	44	<a href="#">5646529-1</a>	2392188-1	5	125	Y	<a href="#">5646547-1</a>	<a href="#">2392865-1</a>
	22	5	110	0	<a href="#">5646737-1</a>	-	5	110	N	<a href="#">5646573-1</a>	-
		5+2	110	32	<a href="#">5646533-1</a>	-	5	110	Y	<a href="#">5646489-1</a>	-
	19	5	95	0	<a href="#">5646948-1</a>	2392189-1	5	95	N	<a href="#">5646572-1</a>	<a href="#">2392920-1</a>
	19	5+2	95	32	<a href="#">5646530-1</a>	2392196-1	5	95	Y	<a href="#">5646488-1</a>	<a href="#">2392921-1</a>
D	22	8	176	0	<a href="#">5646346-1</a>	-	8	176	N	<a href="#">5646442-1</a>	-
		8+2	176	44	<a href="#">5646356-1</a>	-	8	176	Y	<a href="#">5646486-1</a>	-
	16	8	128	0	<a href="#">5646362-1</a>	-	8	128	N	<a href="#">5646447-1</a>	-
E	25	8	200	0	<a href="#">5646347-1</a>	-	8	200	N	<a href="#">5646445-1</a>	-
		8+2	200	50	<a href="#">5646357-1</a>	-	8	200	Y	<a href="#">5646487-1</a>	-
F	11	8	88	0	<a href="#">5646457-1</a>	-	8	88	N	<a href="#">5646446-1</a>	-
		8+2	88	22	<a href="#">5646513-1</a>	-	8	88	Y	<a href="#">5646492-1</a>	-
D/E	25	8	200	0	<a href="#">5646729-1</a>	-	8	200	N	<a href="#">5646728-1</a>	-
		8+2	200	44	<a href="#">5646951-1</a>	-	8	200	Y	<a href="#">5646759-1</a>	-

Z-PACK 2mm HM Right Angle Male				
Connector Type	Column number	Row number	Signal pin	Part Number
				Action Pin
A	22	5	110	<a href="#">5106015-1</a>
B	25	5	125	<a href="#">5106014-1</a>
B	22	5	110	<a href="#">5352131-1</a>
B	19	5	95	<a href="#">5352406-1</a>
C	11	5	55	<a href="#">5106012-1</a>

Z-PACK 2mm HM Vertical Female				
Connector Type	Column number	Row number	Signal pin	Part Number
				Action Pin
A	22	5	110	<a href="#">5106773-1</a>
B	19	5	95	<a href="#">5352269-1</a>
B	22	5	110	<a href="#">5352268-1</a>
B	25	5	125	<a href="#">5106774-1</a>
C	11	5	55	<a href="#">5106775-1</a>
D	22	8	176	<a href="#">646538-1</a>
E	25	8	200	<a href="#">5646539-1</a>
F	11	8	88	<a href="#">646540-1</a>
D/E	25	8	200	<a href="#">646773-1</a>

# Z-PACK 2MM HM CONNECTORS

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## FREQUENTLY ASKED QUESTIONS

**Q: What is the difference between ACTION PIN and EON connectors?**

A: ACTION PIN connectors can provide higher reliability with better retention force, but it requires a minimum 2mm PCB thickness. If PCB thickness is between 1.4 to 2mm, EON connectors should be the right solution.

**Q: What are the maximum pin counts of TE's Z-PACK 2mm HM connectors?**

A: Maximum pins are 125 for 5 row connectors and 200 for 8row connectors

**Q: What is the maximum data rate of this product series?**

A: Our Z-PACK 2mm HM solutions can support up to 3Gbps. We also offer accessories for shielding features.

**Q: Can 2mm HM connectors be used to transfer low power throughout a device?**

A: Yes, TE's Z-PACK 2mm HM solutions can also be used in low power applications. Maximum current is 1.5A/contact if fully loaded. If application only requires selected loading, the current/contact can be as high as 3A, please reach to TE sales representatives for details.

**Q: Do TE's 2mm HM connectors have mezzanine or coplanar options?**

A: Yes, besides standard backplane configuration, we also offer vertical receptacles and right angle headers for mezzanine and coplanar applications.

Part numbers in this brochure are RoHS Compliant\*, unless marked otherwise. \*as defined [www.te.com/leadfree](http://www.te.com/leadfree)

## FOR MORE INFORMATION

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