

# DIN 41612 Headers and Receptacles

## HARSH ENVIRONMENT CONNECTOR WITH BOARD-TO-BOARD AND I/O CAPABILITY

DIN 41612 connector systems are the most popular backplane interconnect systems in IEC 603-2 specifications due to the widespread standard adoption, easy availability, cost-effectiveness, and durability.

The product design for Board-to-Board and I/O solutions involve both standard mount and reverse mount mating combination.

These connectors are available in up to three rows and maximum 96 positions with solder, press-fit, and reflow compatible pin-in-paste terminations.

- Standard mount and reverse mount options available
- Revolutionary beam-on-beam contact interface
- Available in press-fit, solder-to-board, and pin-in-paste terminations



### TARGET MARKETS



### FEATURES

- Available in 2.54mm and 5.08mm pitch
- Follows modular system
- Selective loading pattern for contacts
- FMLB and LMEB contacts
- A wide range of accessories available
- Rear Plug-Up (RPU) capability

### BENEFITS

- Compatible to industry standard and hence inter-mateable & interchangeable
- Standardized and cost-effective solutions
- Improves creepage distance, facilitates custom loading
- Flexibility in grounding options
- Enhances connector suitability and flexibility
- Promotes extended mating applications via shrouds on the rear side of the PCB

# TECHNICAL INFORMATION

## MATERIAL

- Insulator: Polyester thermoplastic
- Housings can withstand exposure to lead free wave soldering temperature of 260°C to 265°C when used along with high temperature adhesive or protective metallic device for right angle connectors.
- Contact: Copper alloy (male & female contact)
- Plating: Lead-free version
- Male & female contacts (DIN 41612 compliant)
  - Active contact areas selectively plated
  - Gold over Nickel or GXT® over Nickel on mating surface
  - Tin over Nickel on solder termination

## MECHANICAL PERFORMANCE

- Mating Insertion Force per Contact:  $\leq 0.94\text{N}$
- Mating Extraction Force per Contact:  $\geq 0.15\text{N}$
- Contact Retention in Insulator:  $\geq 20\text{N}$
- Vibration:  $\leq 1\mu\text{s}$ 
  - $\leq 40\text{m}\Omega$
- Shock:  $\leq 1\mu\text{s}$ 
  - $\leq 40\text{m}\Omega$

## ELECTRICAL PERFORMANCE

- Current Rating at 20°C: 1.5A
- Maximum Current: 2A
- Contact Resistance:  $\leq 20\text{m}\Omega$
- Insulation Resistance:  $\geq 10^6\text{M}\Omega$
- Test Voltage (rms): 1000V
- Creepage and Clearance Distance:  $\geq 1.2\text{mm}$
- Wiping/Plug-in Direction:  $\geq 1.8\text{mm}$

## ENVIRONMENTAL

- Temperature Range:  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$
- Damp Heat
  - Steady state 56 days: Class 1
  - Steady state 21 days: Class 2
  - Not applicable: Class 3

## SPECIFICATIONS

- DIN 41612
- IEC 603-2

## PACKAGING

- Tray
- Tube
- Carton

## APPROVALS AND CERTIFICATIONS

- UL
- NFF 16-101/102
- EN45545-2

## TARGET MARKETS/APPLICATIONS



Switching/Routing  
Enterprise  
Transmission  
Access – wired/wireless



Home Entertainment  
White Goods  
Phones



Servers  
Personal Computing  
Peripheral Device



Medical  
Lighting  
Process Control  
Transportation  
Instrumentation  
Vehicle Electronics  
Energy Transmission/Distribution  
Control

## PART NUMBERS

Style	Connector	Configuration	Rows Loaded	Termination	Part Numbers
C	Right Angle Header	2 row / 64 pos.	a & c	Solder-to-board	860946471137*5ELF
				Press-fit	860946471947*5E1LF
		3 row / 96 pos.	a, b, c	Solder-to-board	860939671137*5ELF
				Press-fit	860939671947*5E1LF
	Straight Receptacle	2 row / 64 pos.	a & c	Solder-to-board	860946481147*5V1LF
				Press-fit	860946481947*5E3LF
3 row / 96 pos.		a, b, c	Solder-to-board	860939681147*5V1LF	
			Press-fit	860939681947*5E3LF	
C/2	Right Angle Header	2 row / 32 pos.	a, b, c	Solder-to-board	860943273137*5ELF
		3 row / 48 pos.	a & c		860934873137*5ELF
	Straight Receptacle	2 row / 32 pos.	a, b, c	Solder-to-board	860934883147*5V1LF
		3 row / 48 pos.		Press-fit	860934883947*5E3LF
B	Right Angle Header	1 row / 32 pos.	a only	Solder-to-board	860913251137*5ELF
		2 row / 64 pos.	a & b		860926451137*5ELF
	Straight Receptacle	1 row / 32 pos.	a only		860913261147*5V1LF
		2 row / 64 pos.	a & b		860926461147*5V1LF
B/2	Right Angle Header	2 row / 32 pos.	a & b	Solder-to-board	860923253137*5ELF
	Straight Receptacle				860923263147*5E1LF
R	Straight Header	2 row / 64 pos.	a & c	Solder-to-board	860946478147*5ELF
				Press-fit	860946478947*5E1LF
		3 row / 96 pos.	a, b, c	Solder-to-board	860939678147*5ELF
				Press-fit	860939678947*5E1LF
	Right Angle Receptacle	2 row / 64 pos.	a & c	Solder-to-board	860946488137*5V1LF
				Press-fit	860946488947*5E3LF
3 row / 96 pos.		a, b, c	Solder-to-board	860939688137*5V1LF	
			Press-fit	860939688947*5E3LF	
R/2	Straight Header	2 row / 32 pos.	a & c	Solder-to-board	860943276147*5ELF
		3 row / 48 pos.	a, b, c	Solder-to-board	860934876147*5ELF
				Press-fit	860934876947*5E1LF
	Right Angle Receptacle	2 row / 32 pos.	a & c	Solder-to-board	860943286137*5E1LF
		3 row / 48 pos.	a, b, c		860934886137*5E1LF
Q	Straight Header	2 row / 64 pos.	a & b	Solder-to-board	860926458147*5ELF

\*Note: Asterisk (\*) in part number denotes Performance class: PN Code 6,5,4 for Class 1, 2 & 3 respectively. Custom loading and other options available on request.

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