

# Mini-Fit Sigma Connectors >

Design engineers are often challenged with space constraints, the need for Glow Wire-compatible products and increasing costs associated with the bill of materials (BOM). Mini-Fit Sigma Connectors offer a slim profile and mate with existing Mini-Fit headers, allowing for space savings without changing the BOM. These receptacles also include terminal position assurance (TPA) for secure and stable connections to avoid terminal backout issues, and they provide Glow Wire-compatible options to meet the European standard for electrical requirements. Mini-Fit Sigma Connectors overcome many challenges PCB designers encounter and provide exceptional features for reliability.

## ADVANTAGES AND FEATURES



### TPA DOES NOT EXTEND PAST THE HOUSING, WHICH ALLOWS FOR SPACE SAVINGS

Improved TPA with slim profile design



### OFFERS REDUNDANT, SECONDARY CURRENT PATHS FOR LONG-TERM PERFORMANCE AND RELIABILITY

Multiple points of contact; low mating force option with 30% reduction from standard terminal available



### HELPS PREVENT TERMINAL BACKOUT AND PROVIDES RECEPTACLE HOUSING STABILITY

TPA feature for secure connections and proper housing alignment



### MEETS SAFETY AND ENVIRONMENTAL REQUIREMENTS MANDATED BY THE HOME APPLIANCE INDUSTRY

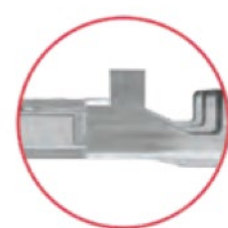
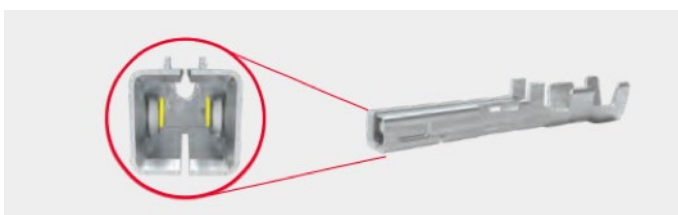
V0/ Glow Wire resin to reduce fire hazards and emissions



### REDUCES THE NEED FOR ADDITIONAL PARTS ON THE BOM AND SAVES SPACE

Mates with existing Mini-Fit receptacles and headers (see compatibility chart on last page)

Number of Circuits	2 to 6 single row 2 to 18 dual row
Pitch	4.20mm
Wire Size	24 to 16 AWG
Current Rating	Up to 11.5/13.5A options
Flammability Rating	V0
Glow Wire Capable	Yes
Operating Temperature	40 to +105°C (tin) 40 to +125°C (gold)
TPA Option	Yes



# Mini-Fit Sigma Connectors >

## SINGLE ROW, WIRE-TO-WIRE/WIRE-TO-PANEL



Circuits	Plug V0 Glow Wire	Mounting	Receptacle V0 Glow Wire	Optional TPA
2	<a href="#">200471-1002</a>	Free hanging	<a href="#">200453-1002</a>	<a href="#">172709-2002</a>
	<a href="#">200488-2002</a>	Panel mount		
3	<a href="#">200471-1003</a>	Free hanging	<a href="#">200453-1003</a>	<a href="#">172709-2003</a>
	<a href="#">200488-2003</a>	Panel mount		
4	<a href="#">200471-1004</a>	Free hanging	<a href="#">200453-1004</a>	<a href="#">172709-2004</a>
	<a href="#">200488-2004</a>	Panel mount		
5	<a href="#">200471-1005</a>	Free hanging	<a href="#">200453-1005</a>	<a href="#">172709-2005</a>
	<a href="#">200488-2005</a>	Panel mount		
6	<a href="#">200471-1006</a>	Free hanging	<a href="#">200453-1006</a>	<a href="#">172709-2006</a>
	<a href="#">200488-2006</a>	Panel mount		

# Mini-Fit Sigma Connectors >

## DUAL ROW, WIRE-TO-WIRE/WIRE-TO-PANEL



Circuits*	Plug V0 Glow Wire	Mounting	Receptacle V0 Glow Wire	Optional TPA
2	<a href="#">172762-1002</a>	Free hanging	<a href="#">172708-1002</a>	<a href="#">172709-2001</a>
	<a href="#">172767-3002</a>	Panel mount		
4	<a href="#">172762-1004</a>	Free hanging	<a href="#">172708-1004</a>	<a href="#">172709-2002</a>
	<a href="#">172767-3004</a>	Panel mount		
6	<a href="#">172762-1006</a>	Free hanging	<a href="#">172708-1006</a>	<a href="#">172709-2003</a>
	<a href="#">172767-3006</a>	Panel mount		
8	<a href="#">172762-1008</a>	Free hanging	<a href="#">172708-1008</a>	<a href="#">172709-2004</a>
	<a href="#">172767-3008</a>	Panel mount		
10	<a href="#">172762-1010</a>	Free hanging	<a href="#">172708-1010</a>	<a href="#">172709-2005</a>
	<a href="#">172767-3010</a>	Panel mount		
12	<a href="#">172762-1012</a>	Free hanging	<a href="#">172708-1012</a>	<a href="#">172709-2006</a>
	<a href="#">172767-3012</a>	Panel mount		
14	<a href="#">172762-1014</a>	Free hanging	<a href="#">172708-1014</a>	<a href="#">172709-2007</a>
	<a href="#">172767-3014</a>	Panel mount		

\*Additional circuit sizes available up to 18 positions. See [molex.com](http://molex.com) for more details.

# Mini-Fit Sigma Connectors >

## SINGLE ROW, WIRE-TO-BOARD



Circuits	Orientation	Mating Header* V0 Glow Wire	Mating Header V0	Mating Header V2 Glow Wire	Receptacle V0 Glow Wire	Optional TPA
2	Vertical	N/A	N/A	<a href="#">172647-0102</a>	<a href="#">200453-1002</a>	<a href="#">172709-2002</a>
	Right angle	N/A	N/A	<a href="#">172648-0102</a>		
3	Vertical	<a href="#">172647-0203</a>	<a href="#">39-30-2030</a>	<a href="#">172647-0103</a>	<a href="#">200453-1003</a>	<a href="#">172709-2003</a>
	Right angle	<a href="#">172648-6303</a>	<a href="#">39-30-3036</a>	<a href="#">172648-0103</a>		
4	Vertical	<a href="#">172647-0204</a>	<a href="#">39-30-2040</a>	<a href="#">172647-0104</a>	<a href="#">200453-1004</a>	<a href="#">172709-2004</a>
	Right angle	<a href="#">172648-6304</a>	<a href="#">39-30-3046</a>	<a href="#">172648-0104</a>		
5	Vertical	<a href="#">172647-0205</a>	<a href="#">39-30-2050</a>	<a href="#">172647-0105</a>	<a href="#">200453-1005</a>	<a href="#">172709-2005</a>
	Right angle	<a href="#">172648-6305</a>	<a href="#">39-30-3056</a>	<a href="#">172648-0105</a>		
6	Vertical	<a href="#">172647-0206</a>	-	<a href="#">172647-0106</a>	<a href="#">200453-1006</a>	<a href="#">172709-2006</a>
	Right angle	<a href="#">172648-0306</a>	<a href="#">46999-0708</a>	<a href="#">172648-0106</a>		

\*Gold-plated header options are available. See [molex.com](http://molex.com) for additional options.

# Mini-Fit Sigma Connectors >

## DUAL ROW, WIRE-TO-BOARD



Circuits*	Orientation	Mating Header V0	Mating Header V0 Glow Wire	Receptacle V0 Glow Wire	Optional TPA
2	Vertical	<a href="#">87427-0242</a> <a href="#">46015-0203</a>	<a href="#">46207-3002</a>	<a href="#">172708-1002</a>	<a href="#">172709-2001</a>
	Right angle	<a href="#">39-30-0020</a> <a href="#">87427-0202</a>	-		
4	Vertical	<a href="#">87427-0442</a> <a href="#">46015-0403</a>	<a href="#">46207-0004</a>	<a href="#">172708-1004</a>	<a href="#">172709-2002</a>
	Right angle	<a href="#">39-30-0040</a> <a href="#">87427-0402</a>	<a href="#">46991-1004</a>		
6	Vertical	<a href="#">87427-0642</a> <a href="#">46015-0603</a>	<a href="#">46207-0006</a>	<a href="#">172708-1006</a>	<a href="#">172709-2003</a>
	Right angle	<a href="#">39-30-0060</a> <a href="#">87427-0602</a>	<a href="#">46991-1006</a>		
8	Vertical	<a href="#">87427-0842</a> <a href="#">46015-0803</a>	<a href="#">46207-0008</a>	<a href="#">172708-1008</a>	<a href="#">172709-2004</a>
	Right angle	<a href="#">39-30-0080</a> <a href="#">87427-0802</a>	<a href="#">46691-1008</a>		
10	Vertical	<a href="#">87427-1042</a> <a href="#">46015-1003</a>	<a href="#">46207-0010</a>	<a href="#">172708-1010</a>	<a href="#">172709-2005</a>
	Right angle	<a href="#">39-30-0100</a> <a href="#">87427-1002</a>	<a href="#">46691-1010</a>		
12	Vertical	<a href="#">87427-1242</a> <a href="#">46015-1203</a>	<a href="#">46207-0012</a>	<a href="#">172708-1012</a>	<a href="#">172709-2006</a>
	Right angle	<a href="#">39-30-0120</a> <a href="#">87427-1212</a>	<a href="#">46991-1012</a>		
14	Vertical	<a href="#">87427-1442</a> <a href="#">46015-1403</a>	<a href="#">46207-4014</a>	<a href="#">172708-1014</a>	<a href="#">172709-2007</a>
	Right angle	<a href="#">39-30-0140</a> <a href="#">87427-1412</a>	-		

\*Gold-plated header options and additional circuit sizes up to 18 positions are available. See [molex.com](http://molex.com) for more options.

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## TERMINALS

Gender	Series	Sales Drawing	Current Rating (max.)	Application Tooling* (applicators, hand tools and extraction tools)	AWG
Female	<a href="#">172718</a>	<a href="#">Link</a>	11.5A	See molex.com*	24 to 16
Male	<a href="#">172765</a>	<a href="#">Link</a>	11.5A	See molex.com*	
Female	<a href="#">202988</a>	<a href="#">Link</a>	13.5A	See molex.com*	
Male	<a href="#">203070</a>	<a href="#">Link</a>	13.5A	See molex.com*	
Female	<a href="#">221442</a> Low mating force	<a href="#">Link</a>	11.5A	See molex.com*	

\*Hand tools and extraction tool details are available on molex.com per terminal number.

## MATING COMPATIBILITY

Receptacle - Series	Plug - Series	Comments
Mini-Fit Jr - 5557	Mini-Fit Sigma - 172762	Does not mate
Mini-Fit TPA 2 - 172708	Mini-Fit Sigma - 172762	Mates
Mini-Fit Sigma - 172708	Mini-Fit Jr - 5559	Mates except PN# 1727082004,1727082006 as they have different polarization from 17270810.
Mini-Fit Sigma - 172708	Mini-Fit TPA 2 - 172762	Mates
Mini-Fit Sigma - 172708	Mini-Fit Sigma - 172762	Mates

## SPECIFICATIONS

### Reference Information

Packaging: Bag, Reel, Tray, Tape and Reel  
 UL File No.: E29179  
 CSA File No.: LR19980  
 Mates With: Mini-Fit PCB Headers, Mini-Fit Sigma Plugs/Receptacles  
 Use With: Optional TPA 172709  
 Terminals Used: 172178, 202988, 172765, 203070  
 Designed In: Millimeters  
 RoHS: Yes  
 Halogen Free: No  
 Glow Wire Capable: Yes

### Physical

Pitch: 4.20mm  
 Wire Gauge: 24 to 16 AWG  
 PCB Thickness: 0.89 to 3.00mm thick  
 Operating Temperature: -40 to +105°C (tin)  
 -40 to +125°C (gold)

[www.molex.com](http://www.molex.com)