

Nano-Fit Power Connectors >

Molex Nano-Fit Connectors provide a compact, high-performance solution for miniature power applications. Designed for space efficiency, these connectors ensure superior electrical integrity and reliability through isolated contacts that help prevent contact stubbing. With high-current-carrying capabilities, Nano-Fit Connectors offer various configurations and color-coding/ keying options. These connectors are ideal for precise, space-constrained electronic designs and delivers the highest current compared to similar sized connectors.

ADVANTAGES AND FEATURES

Allows same-circuit, multiple-connector use with virtually no chance of cross mating; provides visual indication of the properly mated connector, for faster assembly

There are multiple mechanical keying and color-coded options for operational safety and efficient assembly.

Reduces operator fatigue and improves assembly compliance for high-circuit applications

Nano-Fit Connectors have an ultra-low mate force terminal.

Ensures mated connector assemblies will not accidentally disengage

The TPA feature reduces assembly errors and ensures terminals are fully seated and will not back out. These connectors also offer a CPA option for additional locking security.

Pitch	2.50mm
Current	8.0A
Voltage	250V
Industry Standards	Glow Wire capable
Operating Temperatures *	-40 to +125°C

Enables operators to mate connectors in hard-to-reach areas without a visual

Nano-Fit Connectors have a BMI option.

Protects against potential damage of terminals during handling and mating

These connectors have fully isolated terminals.

Meets USCAR2 specifications for shock and vibration

Nano-Fit Connectors are suitable for use in automotive applications (not suitable for safety or on-engine applications).



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MARKETS AND APPLICATIONS

Appliances

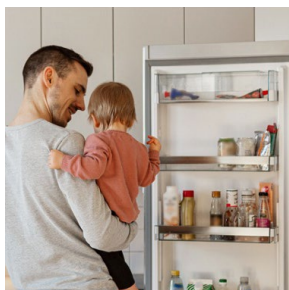
Freezers
Refrigerators
Washing machines
Dryers
Microwaves
Ovens

Automotive

Interior lighting and navigation
EV chargers
Batteries
Mopeds
Infotainment systems
Mirrors

Datacom

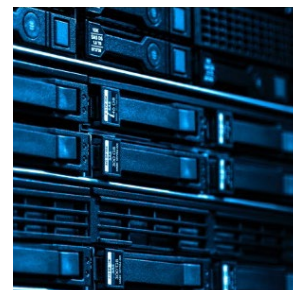
Servers
Switches
Graphics processing units (GPUs)
Auxiliary power devices
Compute boards
GPU trays



Refrigerators



EV Chargers



Servers

SPECIFICATIONS

Reference Information

Packaging

Terminals—Reel
Headers—Tray, embossed tape and reel
Receptacles—Bag

UL File No: E29179

CSA File No: LR19980

Mates with: Nano-Fit Connectors and
receptacles only—no competitive cross

Use with: Nano-Fit terminals and TPA
retainers only—no competitive cross

Terminal Used: Reel

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes, select PNs

Glow Wire Capable: Yes

Electrical

Voltage (Max): 250V

Current (Max): 8.0A

Contact Resistance: 10 milliohms
change over life

Dielectric Withstanding Voltage: 1,500V

Insulation Resistance: 1,000 Megohms

Mechanical

Contact Insertion Force: 2.5N

Contact Retention to Housing: 27N

Insertion Force to PCB: 5N

Mating Force: 3N

Unmating Force: 3N

Cycles: 20 cycles (tin), 50 cycles (gold)

Physical

Housing:

Receptacle: Nylon UL 94V-0

Header: LCP UL 94V-0

Contact: High-Conductivity copper

Plating:

Contact Area — 0.38 tin or 381μ (15μ")
gold or 762μ 0.76 (30μ") gold

Solder Tail Area — tin

Underplating — nickel

PCB Thickness: 1.60 and 2.40mm

Operating Temperatures*: -40 to +125°C

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ORDERING INFORMATION

Headers

Series	Row	Orientation	Circuits	Termination Style	Solder Clip	Color
105429	Dual	Vertical	4 to 16	SMT	No	Black and Natural
105431	Single	Vertical	2 to 8			
105430	Single	Right Angle	2 to 8			
105405	Dual	Right Angle	4 to 16			
105309	Single	Vertical	2 to 8	Through Hole	Yes	
105310	Dual		4 to 16			
105311	Single		2 to 8			
105312	Dual		4 to 16			
105313	Single	Right Angle	2 to 8		No	
105314	Dual		4 to 16			
219637	Dual	Right Angle	4 to 16			

Receptacle Housing

Series	Row	Circuits
105307	Dual	2 to 8
105308	Single	4 to 16
219268	Single	4 to 16

Plug Housing

Series	Row	Circuits	Panel Mount	Color
201444	Single	2 to 8	Panel Mount and Free Hang	Black and Natural
201444	Dual	4 to 16		
224556	Dual	4 to 16		

Terminal Position Assurance (TPA) Retainer

Series	Color	Circuits
105325	Black and Natural	2 to 8

Crimp Terminals

Series	Type	Wire Gauge (AWG)
105300	Female Terminal	20 to 22, 24 to 26
201447	Male Terminal	20 to 22, 24 to 26

*Operating temperature (including T-rise from applied current) is rated -40 to 125°C. Field temperatures and field life: tested per EIA-364-1000.01 to meet field temperature of 65°C for 10 years life. The rated temperature of wire needs to be considered for the operating temperature application for example, the rated temperature of UL 1015 wire is 105°C and cannot be used at an operating temperature of 125°C.

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