

# Nano-Fit Power Connectors 2.50mm Pitch

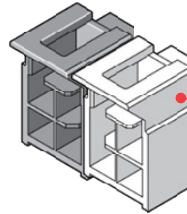
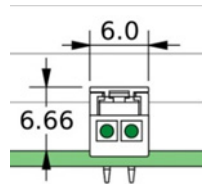
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Nano-Fit Power Connectors deliver both fully protected header terminals and a small package, while also offering keying options to ensure proper mating and terminal position assurance (TPA) retainers to prevent terminal backout

## Features and Advantages

### Smallest fully isolated headers in the market

Up to 69% smaller than competing connectors in the x axis

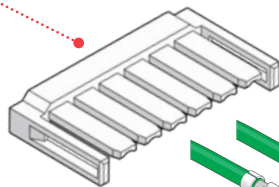


### Multiple mechanical keying and color-coded options

Allow same-circuit, multiple-connector use with virtually no chance of cross mating. Color coding enables faster assembly with visual indication of proper mating

### Optional TPA (terminal position assurance) retainer

Ensures terminals are fully seated in housing to reduce backout. Retains terminals if main retention feature fails



### Terminals available in gold and tin plating

Delivers different cost options while meeting performance needs.

### Retention tang and contact rib

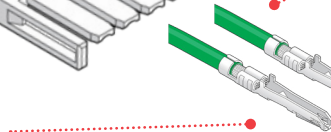
Maintains stable contact

### Terminal interface with 4 points of contact

Offers redundant, secondary current paths for long-term performance and reliability

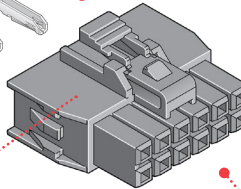
### Ultra-low mate force terminal

Reduces operator fatigue. Improves assembly compliance for high-circuit applications



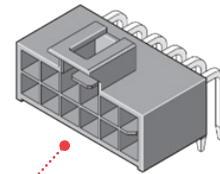
### Positive-lock housing with anti-snag design

Ensures mated connector assemblies will not accidentally disengage. Provides audible click while mating. Protects latch from damage due to wire snags

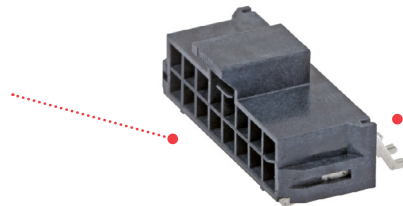


### Fully isolated terminals

Protect against potential damage of terminals during handling and mating



**Enables use of multi-layer boards by eliminating the need for through holes** Opens up real estate on space-constricted PCBs. Potentially reduces costs by enabling use of smaller PCBs with fewer drilled holes



### Short electrical path

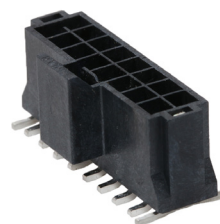
Provide superior signal integrity performance

### Available in embossed tape for pick-and-place assembly

Enables quick and accurate component placement to meet fast time-to-market requirements

### Multiple mechanical keying and color-coding options

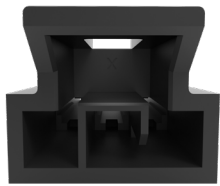
Allow same-circuit, multiple connector use with virtually no chance of cross-mating. Enable faster assembly with visual indication of proper mating



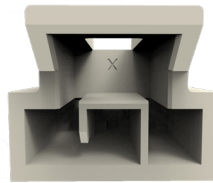
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## Features and Advantages



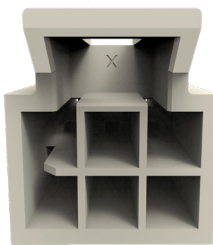
**Keying  
Option  
A**



**Keying  
Option  
B**

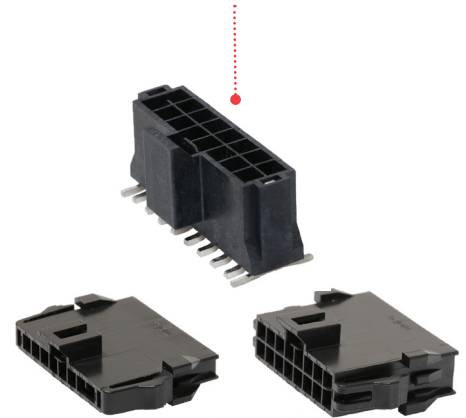
### Multiple mechanical keying and color-coding options

Allow same-circuit, multiple connector use with virtually no chance of cross-mating; color-coding enables faster assembly with visual indication of proper mating



### Fully isolated terminals

Protect against potential damage of terminals during handling and mating



*Nano-Fit Dual-Row and Single-Row SMT  
and Wire-to-Wire Connectors*

## Applications

### Consumer/Home Appliance

- Refrigerators
- Washers and dryers
- Mobile devices

### Telecommunications/Networking

- Servers
- Hubs

### Automotive

- Interior
- Lighting

### Lighting

- Home lighting fixtures
- Ballasts

### Aerospace and Defense

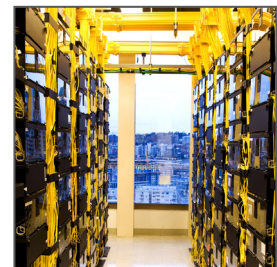
- C4ISR

### Industrial

- Assembly line equipment
- Food and beverage

### Medical

- Healthcare IT
- Patient care equipment



# Nano-Fit Power Connectors 2.50mm Pitch



## Specifications

### REFERENCE INFORMATION

Packaging:  
 Terminals — Reel  
 Headers — Tray  
 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 Connectors and Receptacles Only — No competitive cross  
 Terminal Used: Reel  
 Designed In: Millimeters  
 RoHS: Yes  
 Halogen Free: Yes  
 Glow-Wire Capable: Yes

### ELECTRICAL

Voltage (Max.): 250V  
 Current (Max.): 6.5A  
 Contact Resistance: 10 milliohms change over life  
 Dielectric Withstanding Voltage: 1500V  
 Insulation Resistance: 1000 Megohms

### MECHANICAL

Contact Insertion Force: 2.5N  
 Contact Retention to Housing: 27N  
 Insertion Force to PCB: 5N  
 Mating Force: 3N  
 Unmating Force: 3N  
 Durability (min.): 20 Tin, 50 Gold  
 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 — Tin or 381 $\mu$  (15 $\mu$ ) Gold or 762 $\mu$  (30 $\mu$ ) Gold  
 Solder Tail Area — Tin  
 Underplating — Nickel  
 PCB Thickness: 1.60 and 2.40mm  
 Operating Temperature: -40 to +105°C (Tin),  
 -40 to +115°C (Gold)

## Ordering Information

### HEADERS

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

### RECEPTACLE HOUSING

Series	Circuits	Rows
<a href="#">105307</a>	2 to 8	Single
<a href="#">105308</a>	4 to 16	Dual

### PLUG HOUSING

Series	Row	Circuits	Panel Mount	Color
<a href="#">200277</a>	Single	2 to 8	Panel Mount and Free	Black/Natural
<a href="#">201444</a>	Dual	4 to 16		

### TERMINAL POSITION ASSURANCE (TPA) RETAINER

Series	Circuits	Color
<a href="#">105325</a>	2 to 8	Black/Natural

### CRIMP TERMINALS

Series	Type	Wire Gauge (AWG)	Plating
<a href="#">201447</a>	Male	20 to 26	Tin, Gold
<a href="#">105300</a>	Female		

[www.molex.com/link/nanofit.html](http://www.molex.com/link/nanofit.html)

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