



**THE DATASHEET OF  
1053091202**



# Nano-Fit Power Connectors



Nano-Fit Power Connectors deliver up to 8.0A with a 2.50mm pitch, 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

Provides a small package that eases space constraints. Allows up to 69% more space in the x-axis than competing connectors



### Multiple mechanical keying and color-coded options

Help to prevent risk of cross-mating. Enables faster assembly with visual indication of proper mating



### Ultra-low mate force terminal

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



### Terminals available in gold and tin plating

Deliver different cost options while meeting performance needs



### Retention tang and contact rib

Maintain stable contact

### Terminal Interface with 4 points of contact

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



### Optional TPA (Terminal Position Assurance) Retainer

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

### Multi-layer boards

Eliminate need of through-hole. Ensures mated connector assemblies will not accidentally disengage



### Fully isolated terminals

Protect against potential damage of terminals during handling and mating

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

Ensures mated connector assemblies will not accidentally disengage



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

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

## 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



Automotive Interior Lighting



Washers and Dryers

## 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  
 Glow Wire Capable: Yes

### ELECTRICAL

Voltage (Max): 250V  
 Current (Max): 8.0A  
 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  
 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 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	Through Hole	No	
<a href="#">105314</a>	Dual		4 to 16			

### RECEPTACLE HOUSING

Series	Circuits	Rows	Color
<a href="#">105307</a>	2 to 8	Single	Black/Natural
<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 Hanging	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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