

# Ultra-Fit Connectors >

With the increasing demand for more power in smaller spaces, thermal management and increased functionality are significant concerns for design engineers. Ultra-Fit Connectors deliver high-density, high-current solutions for advanced electronic designs. These connectors are compact, optimizing PCB space, while providing enhanced power for demanding applications. Various configurations and keying options enhance design flexibility and reduce mis-mating risks. For unparalleled performance and efficiency, Ultra-Fit Connectors are feature-rich, delivering cost savings, safety and robust interconnect reliability.

## ADVANTAGES AND FEATURES

### Allows same-circuit, multiple-connector use with virtually no chance of cross-mating

Multiple mechanically keyed color-coded options provide visual indication of the proper mating connector, enabling faster assembly.

### Helps prevent terminal backout and cable strain

The internal locking mechanism on tangless receptacles ensures that terminals are fully locked into place.

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

The ultra-low mating force terminal reduces mating force by 25% compared to Mini-Fit Sigma Connectors.

Current	Up to 14.0A
Industry Standards	Halogen-free, V0 and Glow Wire capable
Pitch	3.50mm
Operating Temperatures*	-40 to +125°C-tin -40 to +120°C-gold

*\*The rated temperature of the wire should be considered for the operating temperature application, for example, the rated temperature of UL 1015 wire is 105°C and it can not be used at an operating temperature of 125°C.*

### Ensures the mated connector will not accidentally disengage

The CPA option allows for additional locking security.

### Offers high current capacity with thermal protection

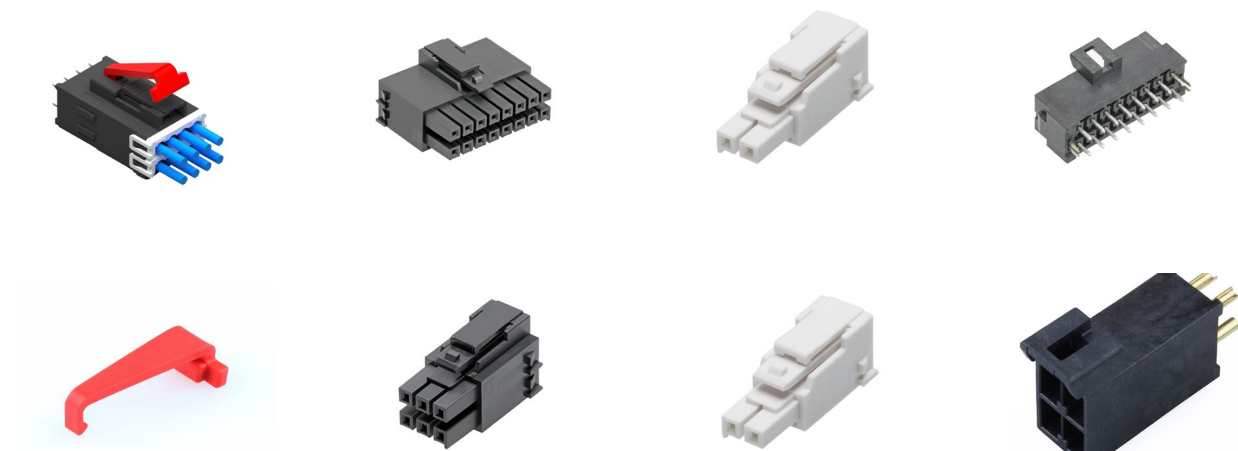
The longer centerline (3.50mm) allows for a larger wire insulation diameter capability for higher ampacity.

### Offers improved board retention

Solder nails are enhanced on the surface mount versions.

### Provides significant space savings on the PCB

These connectors have a 3.50mm pitch, allowing for a small package with high current.



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## MARKETS AND APPLICATIONS

### Home appliance

Dishwashers  
Microwave ovens  
Ovens  
Washing machines  
Refrigerators  
Dryers

### Automotive

USB charging ports  
Infotainment

### Telecommunications

Switches  
Servers



Refrigerators



Infotainment



Servers

## SPECIFICATIONS

### Reference Information

Packaging: Bag, tray, reel  
UL File No.: E29179  
CSA File No.: LR19980  
Mates With:  
Series: 172258 Series: 172298  
Series: 172256 Series: 172286  
Use With:  
Series: 172253 Series: 172258, 172256  
Series: 172264 Series: 172258, 172256  
Terminal Used:  
Series: 172253  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Glow Wire Capable: Yes

### Electrical

Voltage (max.): 600V AC (RMS) or DC  
Current (max.): Up to 14.0A  
Contact Resistance: 7 milliohms  
Dielectric Withstanding Voltage: 1800V AC  
Insulation Resistance (min.): 1,000 Megohms

### Mechanical

Pitch: 3.50mm  
Contact Insertion Force (max.): 14.7 N (3.3 lbf)  
Contact Retention to Housing: 24.5N  
Insertion Force to PCB: 35N (max.)  
Mating Force: 4.5N (max.)  
Un-mating Force: 7 milliohms  
Durability (min.): Mate connectors up to 25 cycles  
at a maximum rate of 10 cycles per minute

### Physical

Housing: 94 V0/Glow Wire combo  
Contact: High copper alloy  
Plating: Tin over nickel overall  
PCB Thickness: Standard 1.57mm  
Operating Temperatures\*: -40 to +125°C-tin  
-40 to +120°C-gold

*\*The rated temperature of the wire should be considered for the operating temperature application, for example, the rated temperature of UL 1015 wire is 105°C and it can not be used at an operating temperature of 125°C.*

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