



**MX150™**  
**Sealed Connector System**



# Applications

*The pre-assembled, submersible MX150™ is a high-performance connector system for challenging, rugged and harsh applications.*

The innovative MX150 Sealed Connector System is based upon the 1.50mm (.060") ISO blade-type terminal system, available with pre-Tin, selective Gold and pure Silver contact finishes. It is designed to meet the need for a rugged, environmentally sealed connector system supporting both low-level signal and power applications up to 22.0A. Designed for on-engine automotive to off-road construction equipment applications, the MX150 Sealed Connector System's reduced package size is ideal for typical SAE-style wire.

The MX150 family consists of 2 types of connection system's: matte-sealed and cable-sealed designs. The matte-sealed design eliminates the need to purchase, handle and crimp individual wire seals to lower applied cost. It incorporates a single silicone-based seal with individual wire openings allowing for a tighter overall pitch and smaller package size.

The cable-sealed design incorporates individual wire seals crimped to each individual terminal, allowing for superior sealing performance in applications with 'aggressive' wire routings.

Both cost-effective connector designs feature all-in-one plug and receptacle housings with pre-assembled, wire and interfacial connector seals. Integral terminal position assurance (TPA) and optional connector position assurance (CPA) components eliminate time-consuming and costly assembly operations. Completing the application is as simple as crimping the appropriate terminal, inserting the crimped terminal lead and seating the TPA to its final lock position. No additional components are required.

Tooling solutions include FineAdjust™ crimp-press applicators for high-volume production, as well as hand tools for low-volume production and field repairs.

For additional information on Molex's MX150 product offering, visit: [www.molex.com/ind/mx150.html](http://www.molex.com/ind/mx150.html)

## Markets and Applications

- Automotive vehicles
- Commercial vehicles
- Recreational vehicles
- Industrial vehicles and equipment
- Construction equipment
- Marine equipment

## Driver Interface

- Interior Speakers
- Door Lock Mechanisms
- Wipers, Washers and Defoggers
- Power Steering



## Vehicle Exterior

- Exterior Lighting
- Head Lamps
- Turn Signals



[www.molex.com/ind/mx150.html](http://www.molex.com/ind/mx150.html)

### Safety/Chassis

- Traction Control
- Brake Control (ABS)
- Stability Control
- Tire Safety
- Adaptive Cruise Control
- Forward Collision Warning
- Airbags/Safety Bags
- Impact Sensors
- Occupant Sensing
- Pedestrian Protection
- Horns
- Fluid Reservoirs



### Powertrain

- Fuel Injection
- Valvetrain
- Emissions Control
- Engine Cooling
- Ignition
- Transmission, Transaxles  
and 4-Wheel Drive
- Powertrain Harness Connectors
- Powertrain Control Modules
- Spark Plugs





**MX150 Matte Seal Configurations**

Capabilities..... 5  
 1.50mm Sealed Female Terminal System..... 6  
 1.50mm Unsealed Female Terminal System..... 6  
 1.50mm Standard Male Terminal System..... 7  
 1.50mm Male Terminal System with Shorting-Bar ..... 7

**MX150 Single Row Features and Specifications**

**Connection System Construction** ..... 8  
 1-by-2 Connector System ..... 9  
 1-by-3 Connector System ..... 10  
 1-by-4 Connector System ..... 11  
 1-by-4 Shorting-Bar Connector System ..... 12  
 1-by-5 Connector System ..... 13  
 1-by-6 Connector System ..... 14

**MX150 Dual Row Features and Specifications**

**Connection System Construction** ..... 15  
 2-by-2 Connector System ..... 16  
 2-by-3 Connector System ..... 17  
 2-by-4 Connector System ..... 18  
 2-by-6 Connector System ..... 19  
 2-by-8 Connector System ..... 20  
 2-by-10 Connector System ..... 21

**MX150 Dual Row Hybrid Features and Specifications**

**Features and Specifications** ..... 22  
 2-by-8 Hybrid Connector System ..... 23  
 2-by-8 Hybrid Shorting-Bar Connector System ..... 24  
 Unused Cavity Strategy..... 25

**MX150 Cable Seal Configurations**

Capabilities..... 26  
**Connection System Construction** ..... 27  
 1.50mm Cable Seal Terminal System..... 28  
 1-by-2 Cable Seal Inline System ..... 29  
 1-by-2 Global Fuel Injector Connector System ..... 30  
 1-by-3 Single Key Headlamp Connector System ..... 31  
 1-by-3 Dual Key Headlamp Connector System ..... 32  
 Serviceability..... 33, 34  
 Geometry and Dimensions ..... 35  
 Crimp Tooling ..... 36 to 38



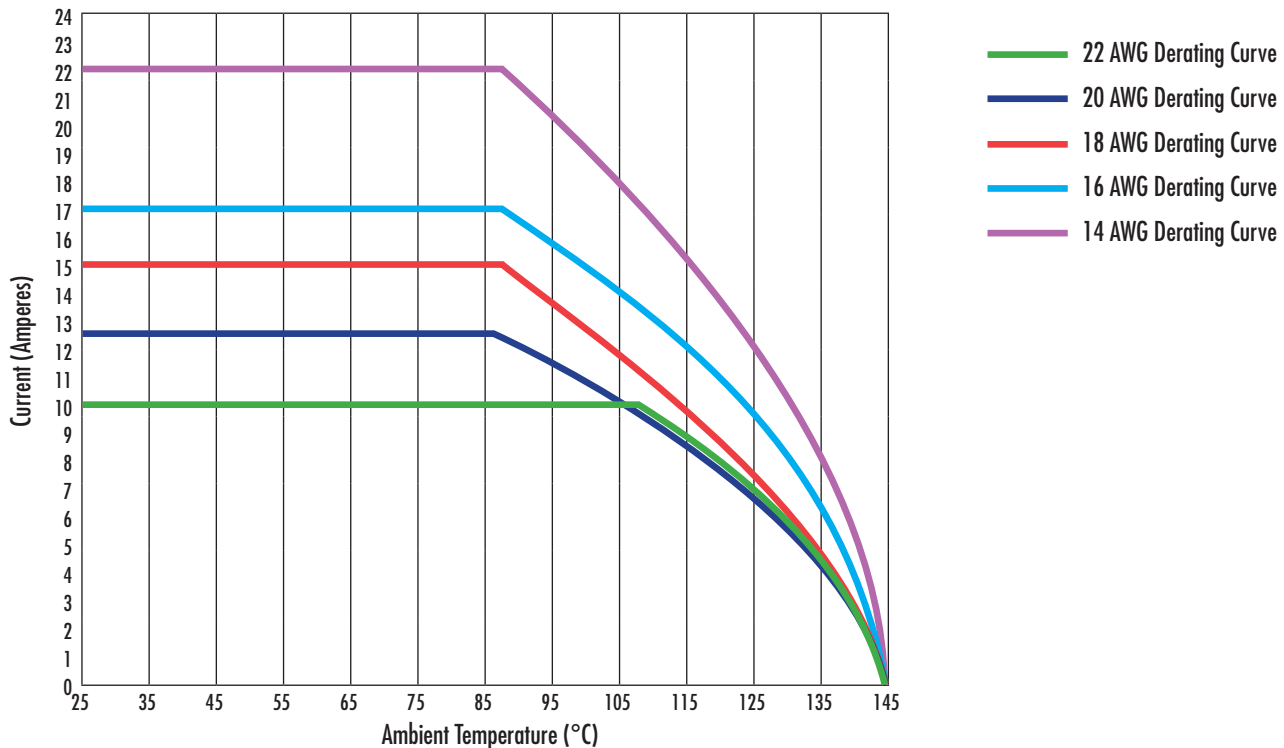
DESCRIPTION	METRIC	IMPERIAL (U.S.)
<b>Operating Temperature Range</b> (USCAR Class III)	-40° to 125°C	-104° to 257°F
<b>Current Carrying Capacity</b> (See Derating Curves below)	22.0A	
<b>Wire Range</b>	2.00 to 0.50mm <sup>2</sup>	14 AWG to 22 AWG
<b>Insulation Diameter</b>	2.70 to 1.50mm	.106 to .059"
<b>Terminal Pitch</b> (Matte Seal Product)	3.50mm (adjacent terminal) 6.00mm (row-to-row)	.138" (adjacent terminal) .236" (row to row)
<b>Connector System Retention ( Main Latch)</b> USCAR Requirement: Exceeds spec. (more than 2x)	255N (avg.)	24.7 lbs min. 57.3 lbs (avg.)
<b>Terminal Retention (to Connector)</b> USCAR Requirement: Exceeds spec. (more than 2x)	90N min. 210N (avg.)	20.2 lbs min. 47.2 lbs (avg.)
<b>Sealing Performance</b> (USCAR-2 Rev. 3) Heat Soak Submersion (USCAR-2 Rev. 3) Pressure/Vacuum Immersion	125°C and submerge depth: 40cm water 48 kPa	257°F and submerge depth: 15.75' water 7 psi
<b>IP Ratings</b>	IP6K7, IP6K9K	
<b>Vibration Performance</b> (USCAR-2 Rev. 3) Random "On-Engine" Profile	118.7 m/s <sup>2</sup> rms 60 to 1,200 Hz	12.1 grams 60 to 1,200 Hz
(USCAR-2 Rev. 3) Mechanical Shock	343 m/s <sup>2</sup> , half sine wave 10 msec pulse	35 g. half sine wave 10 msec pulse
(GMW3191) Vibration Random "On Engine" Profile	170 m/s <sup>2</sup> rms 10 to 1,500 Hz	17.3 grams 10 to 1,500 Hz
(GMW3191) Vibration Sine "On Engine" Profile	280 m/s <sup>2</sup> Pk 100 to 440 Hz	28.5 g Pk 100 to 440 Hz
(GMW3191) Mechanical Shock	245 m/s <sup>2</sup> , half sine wave 10 msec pulse	25 g. half sine wave 10 msec pulse

Note: Matte Sealed Product Specifications PS 33471-0001 and PS 33472-000 available on molex.com

Electrical Requirements validated to USCAR-20 (FCLT), USCAR-21, USCAR-2

**CURRENT CARRYING CAPACITY CURVE**

**Max Current vs. Ambient Temperature**



## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ Terminals (060) Sealed Applications

**33012/33001**  
**Female**



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
 Mates With: 33011, 33000, 31296  
 Use With: MX150 plastic series 33471, 33472, 33476  
 Designed In: Millimeters

#### Electrical

Voltage: 250V  
 Current: 22.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: 3.0N average  
 Wire Pull-Out Force:  
 14 AWG—180N min.  
 22AWG—70N  
 Mating Force: 3.0N average  
 Unmating Force: 3.0N average  
 Normal Force: 6.0N average

#### Physical

Contact: Copper Alloy  
 Plating: Tin, Silver or Gold  
 Wire Gauge: 2.00 to 0.35mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.20mm (.106 to .047")  
 Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
33012-2001	33012-3001	Tin	14 to 16 AWG
33012-2002	33012-3002		18 to 20 AWG
33012-2003	33012-3003		22 AWG
33001-2003	33001-3003	Gold	14 to 16 AWG
33001-2004	33001-3004		18 to 20 AWG
33001-2005	33001-3005		22 AWG
33001-4001	33001-5001	Silver	14 to 16 AWG
33001-4002	33001-5002		18 to 20 AWG
33001-4003	33001-5003		22 AWG

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ Terminals (060) Unsealed Applications

**33012**  
**Female**



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
 Mates With: 33000 and 33011  
 Use With: MX150 plastic series 31372  
 Designed In: Millimeters

#### Electrical

Voltage: 250V  
 Current: 22.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: 3.0N average  
 Wire Pull-Out Force:  
 14 AWG—180N min.  
 22AWG—70N min.  
 Mating Force: 3.0N average  
 Unmating Force: 3.0N average  
 Normal Force: 6.0N average

#### Physical

Contact: Copper Alloy  
 Plating: Tin  
 Wire Gauge: 2.00 to 0.35mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.20mm (.106 to .047")  
 Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
33012-2021	33012-3021	Tin	14 to 16 AWG
33012-2022	33012-3022		18 to 20 AWG
33012-2023	33012-3023		22 AWG

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ Terminals (060)

**33011/33000**  
**Male**



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
 Mates With: 33012 and 33001  
 Use With: MX150 plastic series 33481,  
 33482 and 33486  
 Designed In: Millimeters

#### Electrical

Voltage: 250V  
 Current: 22.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: 3.0N average  
 Wire Pull-Out Force:  
 14 AWG—180N min.  
 22AWG—70N min.  
 Mating Force: 3.0N average  
 Unmating Force: 3.0N average  
 Normal Force: 6.0N average  
 Nominal Width: 1.50mm  
 Nominal Thickness: 0.80mm

#### Physical

Contact: Copper Alloy  
 Plating: Tin, Silver or Gold  
 Wire Gauge: 2.00 to 0.35mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.20mm (.106 to .047")  
 Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
33000-0001	33000-1001	Tin	14 AWG
33000-0002	33000-1002		16 to 20 AWG
33000-0003	33000-1003		22 AWG
33011-1002	33011-0002	Gold	14 AWG
33011-1004	33011-0004		16 to 20 AWG
33011-1006	33011-0006		22 AWG
33011-2001	33011-3001	Silver	14 AWG
33011-2002	33011-3002		16 to 20 AWG
33011-2003	33011-3003		22 AWG

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ Terminals (060) Sealed Shorting-Bar Applications

**31296**  
**Male**



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
 Mates With: 33012, 33001  
 Use With: MX150 plastic series 31280  
 Designed In: Millimeters

#### Electrical

Voltage: 250V  
 Current: 15.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.

#### Mechanical

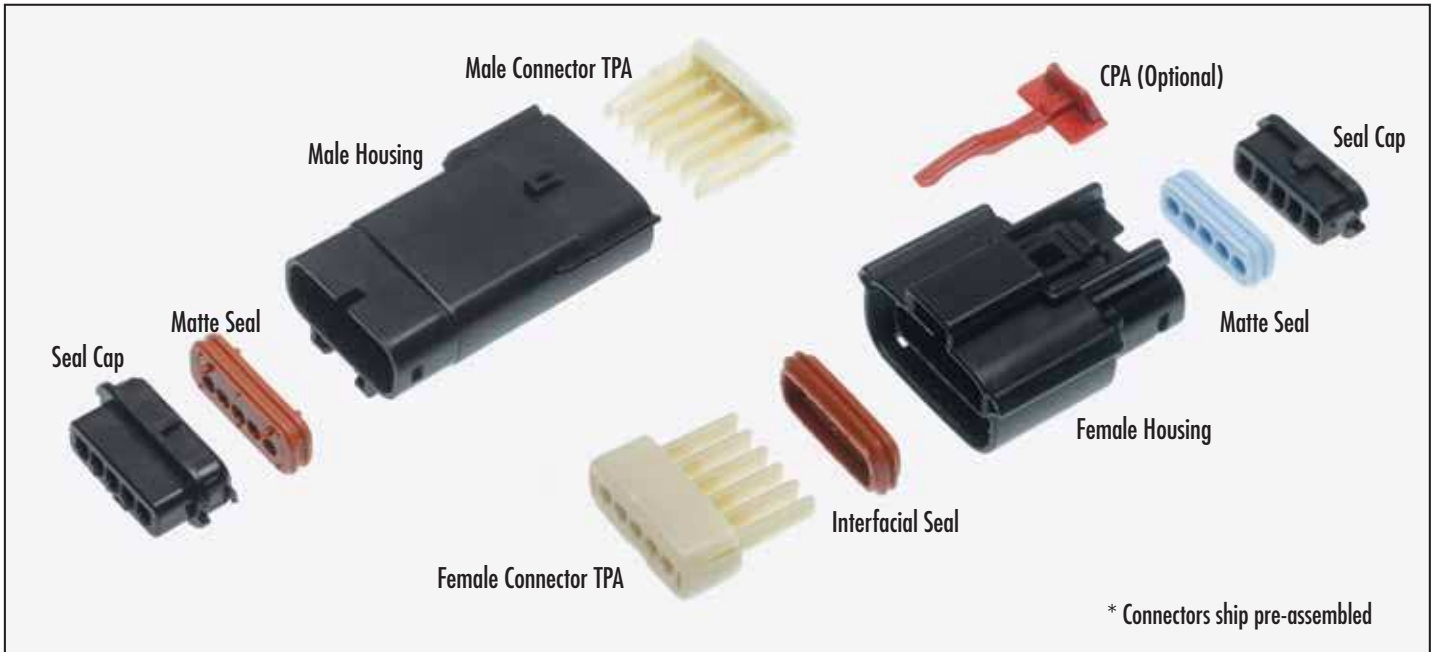
Contact Insertion Force: 3.0N average  
 Wire Pull-Out Force:  
 14 AWG—180N min.  
 22AWG—70N min.  
 Mating Force: 3.0N average  
 Unmating Force: 3.0N average  
 Normal Force: 6.0N average  
 Nominal Width: 1.50mm  
 Nominal Thickness: 0.80mm

#### Physical

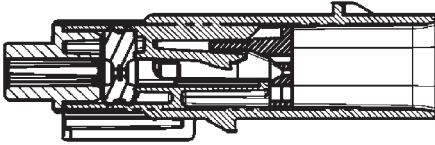
Contact: Copper Alloy  
 Plating: Tin or Gold  
 Wire Gauge: 2.00 to 0.35mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.20mm (.106 to .047")  
 Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
31296-1008	31296-0008	Gold	18 to 20 AWG

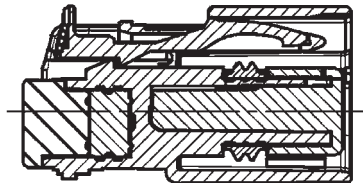
## Exploded View of Connector System



## System Cross Section



Male Connector



Female Receptacle

## Retention Clip-Slot Feature



Male Connector

## Overall Mated Lengths



Standard Matte Seal Connector System



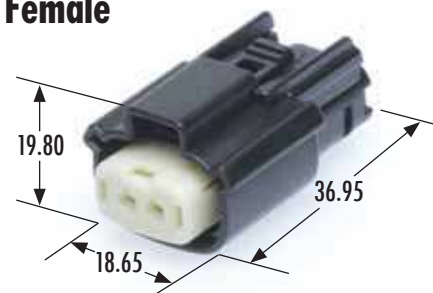
Matte Seal Connector System with Shorting-Bars

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-2 Receptacle

**33471**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33481  
Use With: 33012 and 33001 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0201	A	Black	No
33471-0202	B	Light Gray	
33471-0203	C	Dark Gray	
33471-0206	A	Black	Yes
33471-0207	B	Light Gray	
33471-0208	C	Dark Gray	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-2 Connector

**33481**  
**Male**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33471  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33481-0201	A	Black
33481-0202	B	Light Gray
33481-0203	C	Dark Gray

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

### Reference Information

Packaging: Bulk  
 Mates With: 33481  
 Use With: 33012 and 33001 MX150 terminals  
 Designed In: Millimeters

### Electrical

Voltage: 250V  
 Current: 22.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.

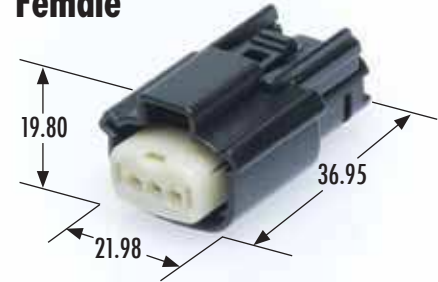


Female Receptacle Polarities



## 1.50mm MX150™ (060) 1-by-3 Receptacle

**33471**  
Female



### Mechanical

Contact Insertion Force: Less than 15N  
 Contact Retention to Housing: 110N min.  
 Wire Pull-Out Force: 90N min.  
 Mating Force: 75N max.  
 Unmating Force: 75N max.  
 Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
 Contact: Copper Alloy  
 Contact Plating: Tin, Silver or Gold  
 Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
 Operating Temperature: -40 to +125°C  
 Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0301	A	Black	No
33471-0302	B	Gray	
33471-0303	C	Brown	
33471-0304	D	Green	
33471-0306	A	Black	Yes
33471-0307	B	Gray	
33471-0308	C	Brown	
33471-0309	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

### Reference Information

Packaging: Bulk  
 Mates With: 33471  
 Use With: 33000 and 33011 MX150 terminals  
 Designed In: Millimeters

### Electrical

Voltage: 250V  
 Current: 22.0A  
 Contact Resistance: 10 milliohms max.  
 Dielectric Withstanding Voltage: 500V DC  
 Insulation Resistance: 20 Megohms min.



## 1.50mm MX150™ (060) 1-by-3 Connector

**33481**  
Male



### Mechanical

Contact Insertion Force: Less than 15N  
 Contact Retention to Housing: 110N min.  
 Wire Pull-Out Force: 90N min.  
 Mating Force: 75N max.  
 Unmating Force: 75N max.  
 Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
 Contact: Copper Alloy  
 Contact Plating: Tin, Silver or Gold  
 Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
 Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
 Operating Temperature: -40 to +125°C  
 Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33481-0301	A	Black
33481-0302	B	Gray
33481-0303	C	Brown
33481-0304	D	Green

See sales drawing on molex.com for specific knockout requests



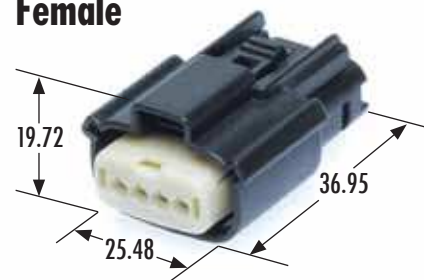
Male Connector Polarities

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-4 Receptacle

**33471**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33481  
Use With: 33012 and 33001 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0401	A	Black	No
33471-0402	B	Gray	
33471-0403	C	Brown	
33471-0404	D	Green	
33471-0406	A	Black	Yes
33471-0407	B	Gray	
33471-0408	C	Brown	
33471-0409	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-4 Connector

**33481**  
**Male**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33471  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33481-0401	A	Black
33481-0402	B	Gray
33481-0403	C	Brown
33481-0404	D	Green

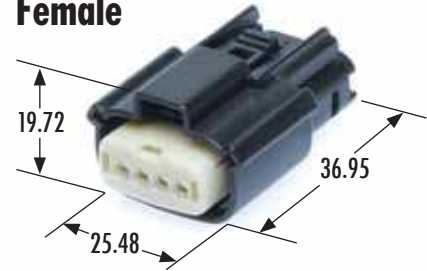
See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-4 Receptacle (with Shorting-Bar)

**33471**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 31280  
Use With: 33001 Gold MX150 Terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0436	A	Black	No
33471-0437	B	Gray	
33471-0438	C	Brown	
33471-0439	D	Green	
33471-0446	A	Black	Yes
33471-0447	B	Gray	
33471-0448	C	Brown	
33471-0449	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-4 Connector (with Shorting-Bar)

**31280**  
**Male**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33471  
Use With: 31296 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
31280-0436	A	Black
31280-0437	B	Gray
31280-0438	C	Brown
31280-0439	D	Green

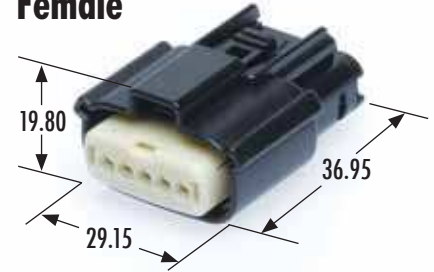
See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060)1-by-5 Receptacle

**33471**  
**Female**



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

### Reference Information

Packaging: Bulk  
Mates With: 33481  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0501	A	Black	No
33471-0502	B	Gray	
33471-0503	C	Brown	
33471-0504	D	Green	
33471-0506	A	Black	Yes
33471-0507	B	Gray	
33471-0508	C	Brown	
33471-0509	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 1-by-5 Connector

**33481**  
**Male**



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

### Reference Information

Packaging: Bulk  
Mates With: 33471  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No	Polarity	Color
33481-0501	A	Black
33481-0502	B	Gray
33481-0503	C	Brown
33481-0504	D	Green

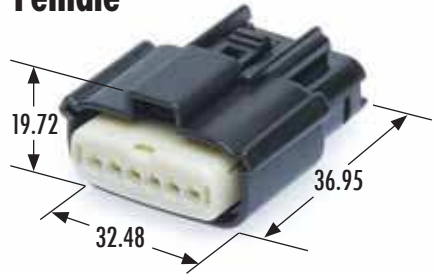
See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-6 Receptacle

**33471**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33481  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33471-0601	A	Black	No
33471-0602	B	Gray	
33471-0603	C	Brown	
33471-0604	D	Green	
33471-0606	A	Black	Yes
33471-0607	B	Gray	
33471-0608	C	Brown	
33471-0609	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-6 Connector

**33481**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clipslot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33471  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

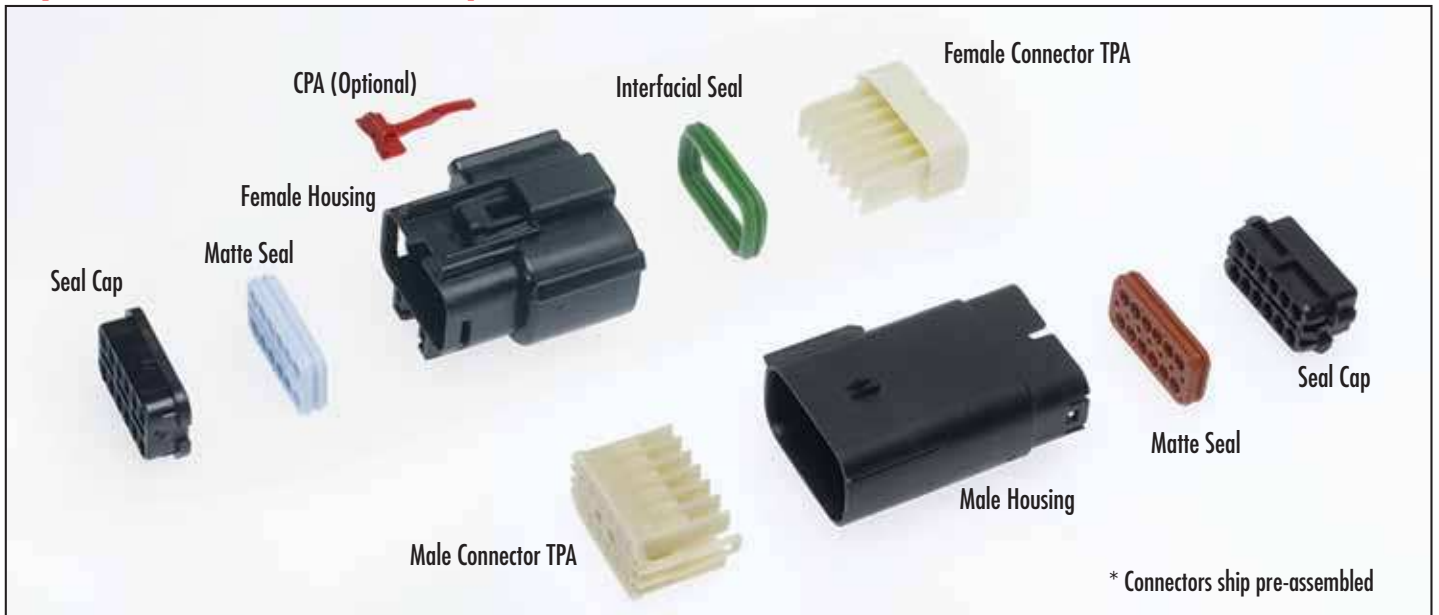
#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

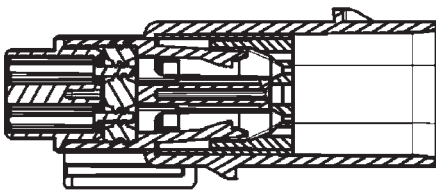
Order No.	Polarity	Color
33481-0601	A	Black
33481-0602	B	Gray
33481-0603	C	Brown
33481-0604	D	Green

See sales drawing on molex.com for specific knockout requests

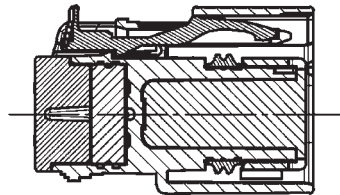
## Exploded View of Connector System



## System Cross Sections

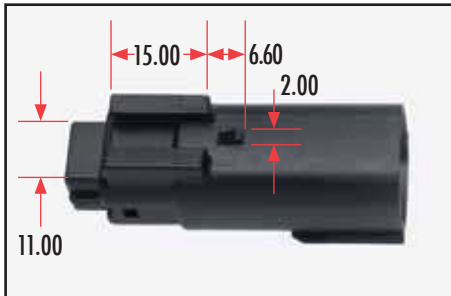


Male Connector

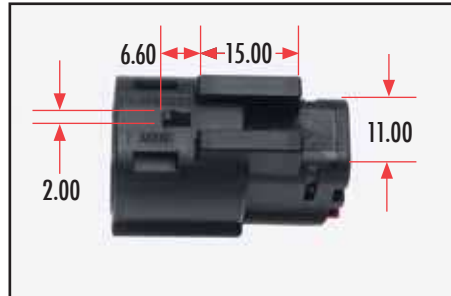


Female Receptacle

## Retention Clip-Slot Feature



Male Connector



Female Receptacle

Note: Clipslot standard on male connectors. Also available on 2-by-3, 2-by-4, and 2-by-6 female receptacles.

## Overall Mated Lengths



Standard Matte Seal Connector System

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-2 Receptacle

**33472**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33472-0401	A	Black	No
33472-0402	B	Gray	
33472-0403	C	Brown	
33472-0404	D	Green	
33472-0406	A	Black	Yes
33472-0407	B	Gray	
33472-0408	C	Brown	
33472-0409	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-2 Connector

**33482**  
**Male**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33482-0401	A	Black
33482-0402	B	Gray
33482-0403	C	Brown
33482-0404	D	Green

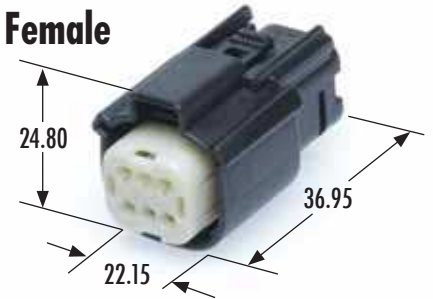
See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-3 Receptacle

**33472**  
Female



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.



Female Receptacle Polarities

Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA	Clipslot
33472-0601	A	Black	No	No
33472-0602	B	Gray		
33472-0603	C	Brown		
33472-0604	D	Green		
33472-0606	A	Black	Yes	
33472-0607	B	Gray		
33472-0608	C	Brown		
33472-0609	D	Green		
33472-0701	A	Black	No	Yes
33472-0702	B	Light Gray		
33472-0703	C	Brown		
33472-0704	D	Green		
33472-0705	A	Black	Yes	
33472-0706	B	Light Gray		
33472-0707	C	Brown		
33472-0708	D	Green		

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-3 Connector

**33482**  
Male



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33482-0601	A	Black
33482-0602	B	Gray
33482-0603	C	Brown
33482-0604	D	Green

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



## 1.50mm MX150™ (060) 2-by-4 Receptacle

**33472**  
Female



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.



Female Receptacle Polarities

Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA	Clipslot
33472-0801	A	Black	No	No
33472-0802	B	Gray		
33472-0803	C	Brown		
33472-0804	D	Green		
33472-0806	A	Black	Yes	
33472-0807	B	Gray		
33472-0808	C	Brown		
33472-0809	D	Green		
33472-0901	A	Black	No	Yes
33472-0902	B	Light Gray		
33472-0903	C	Brown		
33472-0904	D	Green		
33472-0906	A	Black	Yes	
33472-0907	B	Light Gray		
33472-0908	C	Brown		
33472-0909	D	Green		

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



## 1.50mm MX150™ (060) 2-by-4 Connector

**33482**  
Male



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33482-0801	A	Black
33482-0802	B	Gray
33482-0803	C	Brown
33482-0804	D	Green

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-6 Receptacle

**33472**  
**Female**



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.



Female Receptacle Polarities

Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA	Clipslot
33472-1201	A	Black	No	No
33472-1202	B	Gray		
33472-1203	C	Brown		
33472-1204	D	Green	Yes	
33472-1206	A	Black		
33472-1207	B	Gray		
33472-1208	C	Brown	No	Yes
33472-1209	D	Green		
33472-1301	A	Black		
33472-1302	B	Light Gray	Yes	
33472-1303	C	Brown		
33472-1304	D	Green		
33472-1306	A	Black	No	
33472-1307	B	Light Gray		
33472-1308	C	Brown		
33472-1309	D	Green		

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-6 Connector

**33482**  
**Male**



### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33482-1201	A	Black
33482-1202	B	Gray
33482-1203	C	Brown
33482-1204	D	Green

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-8 Receptacle

**33472**  
**Female**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33472-1601	A	Black	No
33472-1602	B	Gray	
33472-1603	C	Brown	
33472-1604	D	Green	
33472-1606	A	Black	Yes
33472-1607	B	Gray	
33472-1608	C	Brown	
33472-1609	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-8 Connector

**33482**  
**Male**



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color
33482-1601	A	Black
33482-1602	B	Gray
33482-1603	C	Brown
33482-1604	D	Green

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-10 Receptacle

**33472**  
Female



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Available with or without CPA

#### Reference Information

Packaging: Bulk  
Mates With: 33482  
Use With: 33001 and 33012 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

Order No.	Polarity	Color	CPA
33472-2001	A	Black	No
33472-2002	B	Gray	
33472-2003	C	Brown	
33472-2004	D	Green	
33472-2006	A	Black	Yes
33472-2007	B	Gray	
33472-2008	C	Brown	
33472-2009	D	Green	

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 2-by-10 Connector

**33482**  
Male



#### Features and Benefits

- Meets USCAR performance requirements
- Smallest 1.50mm (.059") sealed connector in the market
- Terminal retention is 2x industry standard
- Matte seal design
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bulk  
Mates With: 33472  
Use With: 33000 and 33011 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.



Male Connector Polarities

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

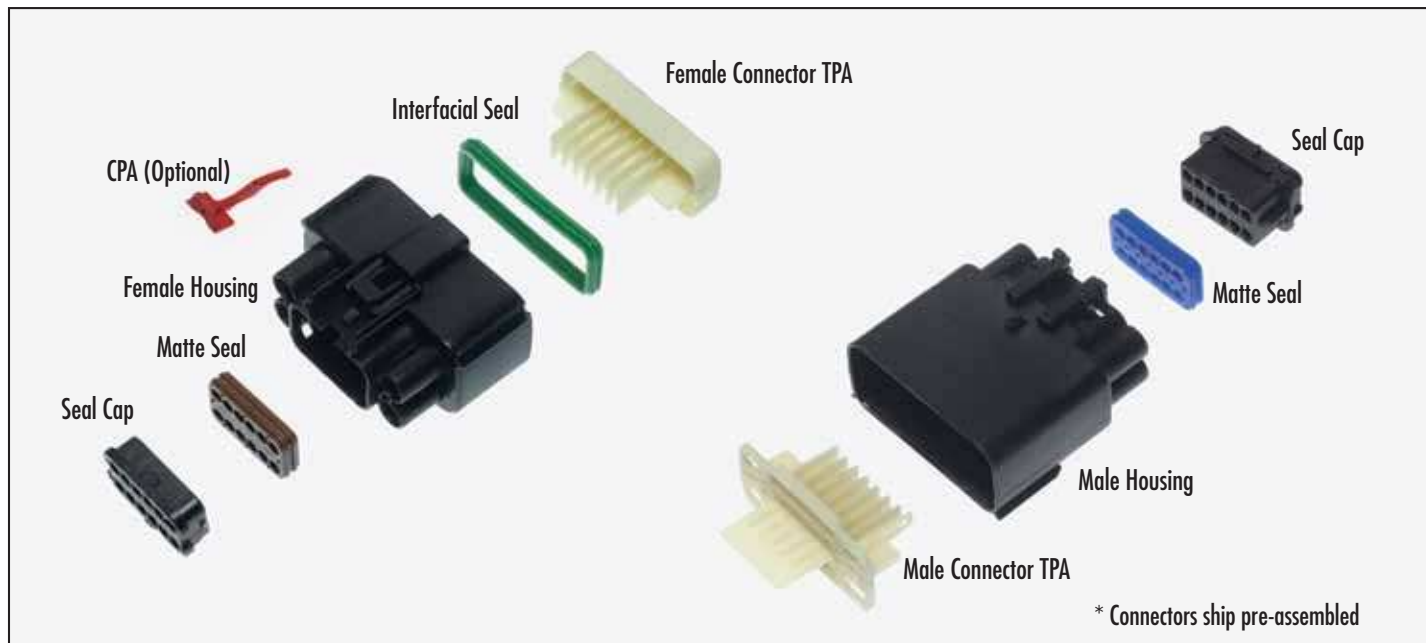
#### Physical

Housing: 30% glass filled nylon, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 3.50mm (.138")

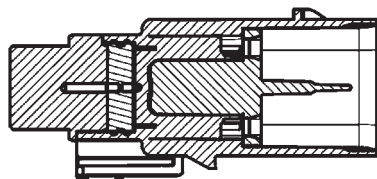
Order No.	Polarity	Color
33482-2001	A	Black
33482-2002	B	Gray
33482-2003	C	Brown
33482-2004	D	Green

See sales drawing on molex.com for specific knockout requests

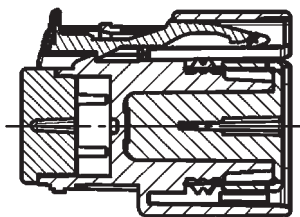
## Exploded View of Connector System



## System Cross Sections

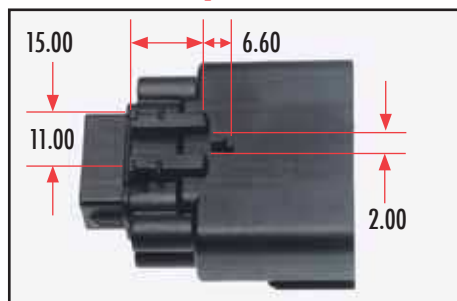


Male Connector

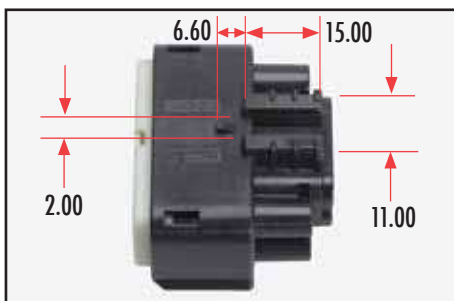


Female Receptacle

## Retention Clip-Slot Feature

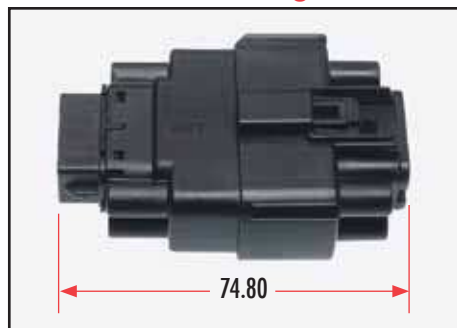


Male Connector

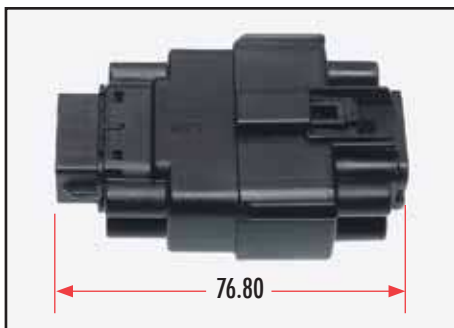


Female Receptacle

## Overall Mated Lengths



Hybrid Connector System



Hybrid Connector System with Shorting-Bar

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-8 Hybrid Receptacle

**33476**  
Female



### Features and Benefits

- Combines 1.50 and 2.80mm (.059 and .110") terminals in same connector
- Terminal retention is 2x industry standard
- Polarization options available
- Available with or without CPA
- With or without clip slot

### Reference Information

Packaging: Bag  
Mates with: 33486  
Use With:  
MX150 1.50mm and Yazaki 2.80mm terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A for 1.50mm terminals and 25.0A for 2.80mm terminals  
Contact Resistance:  
10 milliohms max. for 1.50mm terminal  
5 milliohms max. for 2.80mm terminal  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL94 – HB

### 2.80mm terminals

Contact: Copper Alloy  
Contact Plating: Tin  
Wire Gauge: 12 to 22 AWG  
Operating Temperature: -40 to +125°C

### 1.50mm terminals

Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C

Order No.	Polarity	Color	CPA	Clipslot
33476-1601	A	Black	No	No
33476-1602	B	Light Gray		
33476-1603	C	Brown		
33476-1604	D	Green		
33476-1606	A	Black	Yes	No
33476-1607	B	Light Gray		
33476-1608	C	Brown		
33476-1609	D	Green		
33476-1841	A	Black	No	Yes
33476-1849			Yes	

See sales drawing on molex.com for specific knockout requests



Female Receptacle Polarities

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 2-by-8 Hybrid Connector

**33486**  
Male



### Features and Benefits

- Combines 1.50 and 2.80mm (.059 and .110") terminals in same connector
- Terminal retention is 2x industry standard
- Polarization options available
- Clip slot standard on male side

### Reference Information

Packaging: Bag  
Mates with: 33476  
Use With:  
MX150 1.50mm and Yazaki 2.80mm terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A for 1.50mm terminals and 25.0A for 2.80mm terminals  
Contact Resistance:  
10 milliohms max. for 1.50mm terminal  
5 milliohms max. for 2.80mm terminal  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 110N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: 75N max.  
Unmating Force: 75N max.  
Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL94 – HB

### 2.80mm terminals

Contact: Copper Alloy  
Contact Plating: Tin  
Wire Gauge: 12 to 22 AWG  
Operating Temperature: -40 to +125°C

### 1.50mm terminals

Contact: Copper Alloy  
Contact Plating: Tin, Silver, Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C

Order No.	Pol.	Color
33486-1601	A	Black
33486-1602	B	Light Gray
33486-1603	C	Brown
33486-1604	D	Green

See sales drawing on molex.com for specific knockout requests



Male Connector Polarities

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Combines 1.50 and 2.80mm (.059 and .110") terminals in same connector
- Terminal retention is 2x industry standard
- Polarization options available
- Available with or without CPA
- With or without clip slot

### Reference Information

Packaging: Bag

Mates with: 33486

Use With:

MX150 1.50mm and Yazaki 2.80mm terminals

Designed In: Millimeters

### Electrical

Voltage: 250V

Current: 22.0A for 1.50mm terminals and

25.0A for 2.80mm terminals

Contact Resistance:

10 milliohms max. for 1.50mm terminal

5 milliohms max. for 2.80mm terminal

Dielectric Withstanding Voltage: 500V DC

Insulation Resistance: 20 Megohms min.



Female Receptacle Polarities

### Mechanical

Contact Insertion Force: Less than 15N

Contact Retention to Housing: 110N min.

Wire Pull-Out Force: 90N min.

Mating Force: 75N max.

Unmating Force: 75N max.

Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL94 – HB

### 2.80mm terminals

Contact: Copper Alloy

Contact Plating: Tin

Wire Gauge: 12 to 22 AWG

Operating Temperature: -40 to +125°C

### 1.50mm terminals

Contact: Copper Alloy

Contact Plating: Tin, Silver or Gold

Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)

Insulation Diameter: 2.70 to 1.50mm (.106 to .059")

Operating Temperature: -40 to +125°C



1.50mm

MX150™

(060) 2-by-8 Hybrid

Receptacle

(with Shorting-Bar)

33476

Female



Order No.	Polarity	Color	CPA	Clipslot
33476-1701	E	Black	No	No
33476-1702	F	Light Gray		
33476-1703	G	Brown		
33476-1704	H	Yellow	No	Yes
33476-1713	E	Black		

See sales drawing on molex.com for specific knockout requests

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Combines 1.50 and 2.80mm (.059 and .110") terminals in same connector
- Terminal retention is 2x industry standard
- Polarization options available
- Clip slot standard on male side

### Reference Information

Packaging: Bag

Mates with: 33476

Use With:

MX150 1.50mm and Yazaki 2.80mm terminals

Designed In: Millimeters

### Electrical

Voltage: 250V

Current: 22.0A for 1.50mm terminals and

25.0A for 2.80mm terminals

Contact Resistance:

10 milliohms max. for 1.50mm terminal

5 milliohms max. for 2.80mm terminal

Dielectric Withstanding Voltage: 500V DC

Insulation Resistance: 20 Megohms min.



Male Connector Polarities

### Mechanical

Contact Insertion Force: Less than 15N

Contact Retention to Housing: 110N min.

Wire Pull-Out Force: 90N min.

Mating Force: 75N max.

Unmating Force: 75N max.

Normal Force: Terminal dependent

### Physical

Housing: 30% glass filled nylon, UL94 – HB

### 2.80mm terminals

Contact: Copper Alloy

Contact Plating: Tin

Wire Gauge: 12 to 22 AWG

Operating Temperature: -40 to +125°C

### 1.50mm terminals

Contact: Copper Alloy

Contact Plating: Tin, Silver, Gold

Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)

Insulation Diameter: 2.70 to 1.50mm (.106 to .059")

Operating Temperature: -40 to +125°C



1.50mm

MX150™

(060) 2-by-8 Connector

(with Shorting-Bar)

33486

Male



Order No.	Pol.	Color
33486-1701	E	Black
33486-1702	F	Light Gray
33486-1703	G	Brown
33486-1704	H	Yellow

See sales drawing on molex.com for specific knockout requests

### Circuit Plugs

- Low volume option and general market
- Can be used with male and female connectors
- Order No. 34345-0001



### Breakaway Plugs

- Programmed punch-out station for larger volumes
- Serialized part numbers
- Pegs can be removed for various configurations



As Molded



12 circuit Breakaway Plug  
(4 cavities plugged shown)



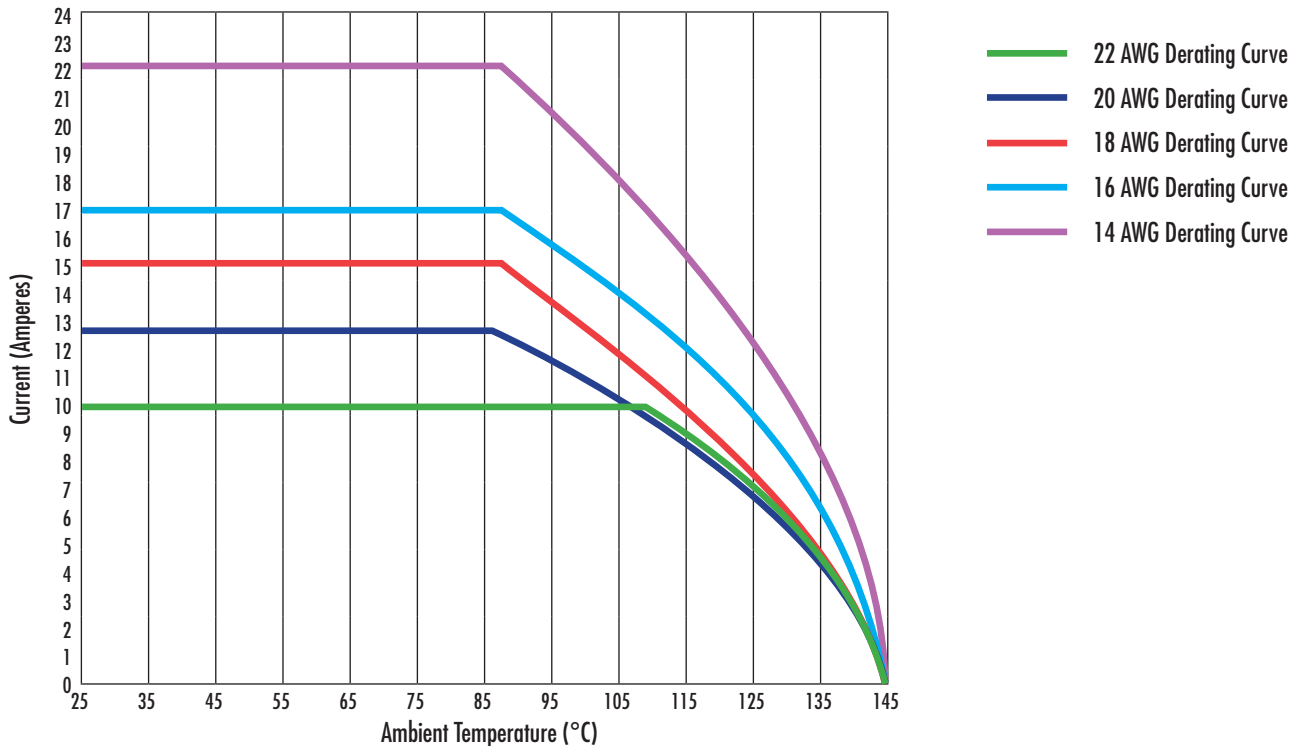
DESCRIPTION	METRIC	IMPERIAL (U.S.)
<b>Operating Temperature Range</b> (USCAR Class III)	-40 to 125°C	-104° to 257°F
<b>Current Carrying Capacity</b> (See Derating Curves below)	22.0A	
<b>Wire Range</b>	2.00 to 0.50mm <sup>2</sup>	14 to 22 AWG
<b>Insulation Diameter</b>	2.70 to 1.40mm	.106 to .055"
<b>Connector System Retention ( Main Latch)</b> USCAR Requirement: Exceeds spec. (more than 2x)	255N (avg.)	24.7 lbs min. 57.3 lbs (avg.)
<b>Terminal Retention (to Connector)</b> USCAR Requirement: Exceeds spec. (more than 2x)	90N min. 210N (avg.)	20.2 lbs min. 47.2 lbs (avg.)
<b>Sealing Performance</b> (USCAR-2 Rev. 3) Heat Soak Submersion (USCAR-2 Rev. 3) Pressure/Vacuum Immersion	125°C and submerge depth: 40cm water 48 kPa	257°F and submerge depth: 15.75' water 7 psi
<b>IP Ratings</b>	IP6K7, IP6K9K	
<b>Vibration Performance</b> (USCAR-2 Rev. 3) Random "On-Engine" Profile	118.7 m/s <sup>2</sup> rms 60 to 1,200 Hz	12.1 grams 60 to 1,200 Hz
(USCAR-2 Rev. 3) Mechanical Shock	343 m/s <sup>2</sup> , half sine wave 10 msec pulse	35 g, half sine wave 10 msec pulse
(GMW3191) Vibration Random "On Engine" Profile	170 m/s <sup>2</sup> rms 10 to 1,500 Hz	17.3 grams 10 to 1,500 Hz
(GMW3191) Vibration Sine "On Engine" Profile	280 m/s <sup>2</sup> Plk 100 to 440 Hz	28.5 g Plk 100 to 440 Hz
(GMW3191) Mechanical Shock	245 m/s <sup>2</sup> , half sine wave 10 msec pulse	25 g, half sine wave 10 msec pulse

Note: Cable Seal Product Specification PS 34062-000 and PS 34250-000 available on molex.com

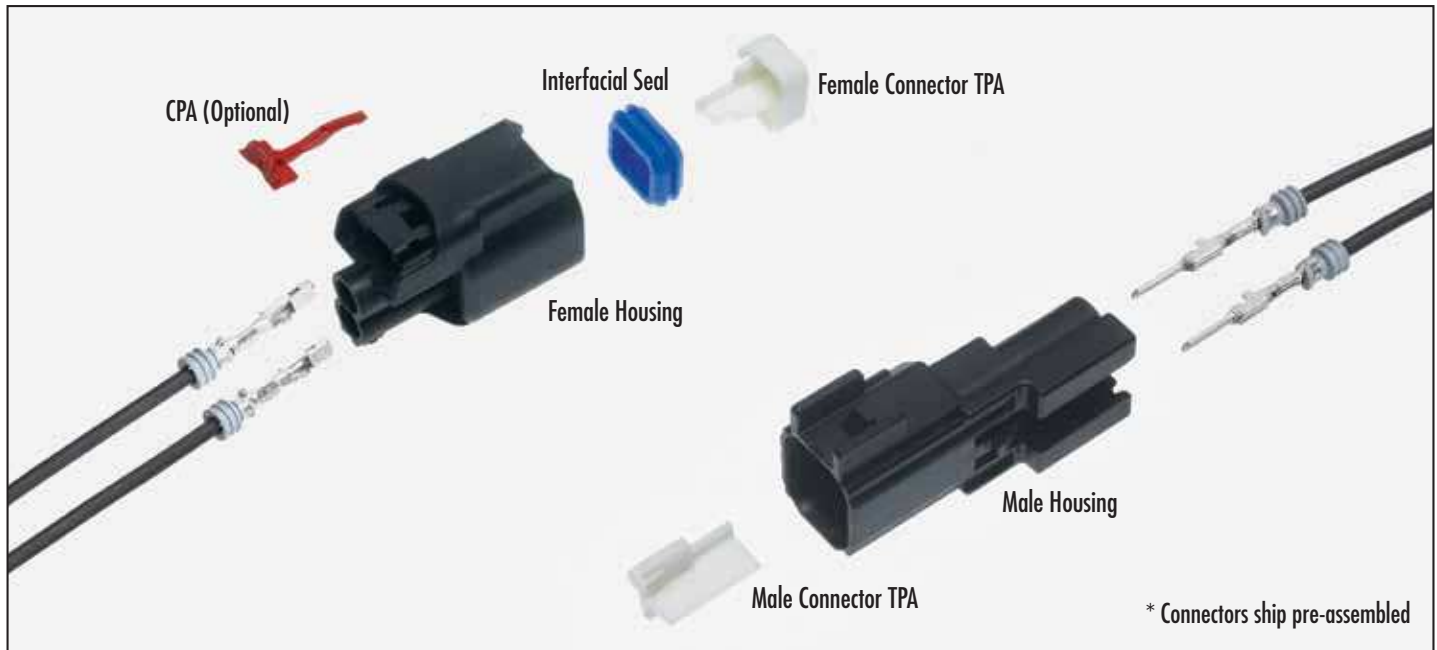
Electrical Requirements validated to USCAR-20 (FCLT), USCAR-21, USCAR-2

**CURRENT CARRYING CAPACITY CURVE**

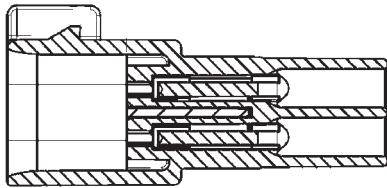
**Max Current vs. Ambient Temperature**



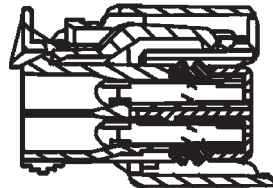
### Exploded View of Connector System



### System Cross Sections

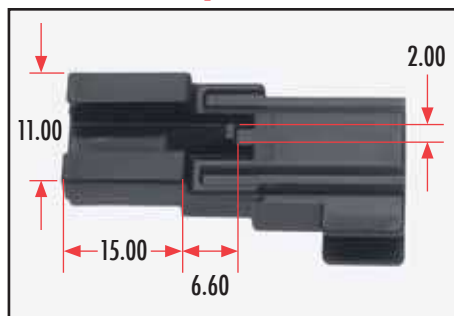


Male Connector

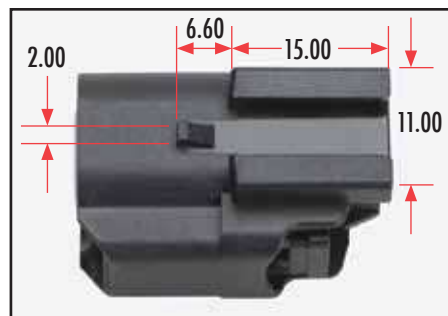


Female Receptacle

### Retention Clip-Slot Feature



Male Connector



Female Receptacle

### Overall Mated Length



Cable Sealed Connector System

## FEATURES AND SPECIFICATIONS



## 1.50mm (060) Cable Sealed Terminal

### 34083/34081 Female



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
Mates With: 34080  
Use With: MX150 plastic series 34250, 34062  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: 3.0N average  
Wire Pull-Out Force:  
14 AWG—180N min.  
22AWG—70N min.  
Mating Force: 3.0N average  
Unmating Force: 3.0N average  
Normal Force: 6.0N average

#### Physical

Contact: Copper Alloy  
Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.40mm (.106 to .055")  
Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
34083-2001	34083-3001	Tin	14 to 16 AWG
34083-2002	34083-3002		18 to 20 AWG
34083-2003	34083-3003		22 AWG
34081-2003	34081-3003	Gold	14 to 16 AWG
34081-2004	34081-3004		18 to 20 AWG
34081-2005	34081-3005		22 AWG
34081-4001	34081-5001	Silver	14 to 16 AWG
34081-4002	34081-5002		18 to 20 AWG
34081-4003	34081-5003		22 AWG

## FEATURES AND SPECIFICATIONS



## 1.50mm (060) Cable Sealed Terminal

### 34080 Male



#### Features and Benefits

- Meets USCAR performance testing
- Low insertion force
- Multiple plating options
- Strong crimps
- Accommodates SAE and metric wires
- Sealed and unsealed versions
- Lead free

#### Reference Information

Packaging: Reel  
Mates With: 34083  
Use With: MX150 plastic series 34091 and 34675  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: 3.0N average  
Wire Pull-Out Force:  
14 AWG—180N min.  
22AWG—70N min.  
Mating Force: 3.0N average  
Unmating Force: 3.0N average  
Normal Force: 6.0N average  
Nominal Width: 1.50mm (.059")  
Nominal Thickness: 0.80mm (.031")

#### Physical

Contact: Copper Alloy  
Plating: Tin  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.40mm (.106 to .055")  
Operating Temperature: -40 to +125°C

Order No.		Plating	Wire Gauge
Right Payoff, B Wound	Left Payoff, D Wound		
34080-0001	34080-1001	Tin	14 to 16 AWG
34080-0002	34080-1002		18 to 20 AWG
34080-0003	34080-1003		22 AWG

## FEATURES AND SPECIFICATIONS



## 1.50mm (060) Cable Sealed Terminal

### Wire Seals



Order No.	Color	Wire Gauge	Insulation Diameter
34753-0001	Green	16 AWG	1.60 to 2.10mm (.062 to .083")
34753-0002	Pink	18 to 20 AWG	1.19 to 1.70mm (.047 to .067")
34753-0003	Yellow	22 AWG	2.18 to 2.70mm (.086 to .106")

For 14 AWG wire cable seals, contact Molex.

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 1-by-2 Cable Sealed Receptacle

**34062**  
**Female**



### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Meets USCAR footprints
- Uses cable sealed terminals
- Available with or without CPA
- Polarization options available

### Reference Information

Packaging: Bag  
Mates With: 34091  
Use With: 34081 and 34083 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 5.00mm (.197")

Order No.	Polarity	Color	Clipslot
34062-0021	A	Black	No
34062-0022	B	Light Gray	
34062-0023	C	Black	
34062-0024	D		
34062-0031	A	Light Gray	Yes
34062-0032	B		
34062-0033	C	Black	
34062-0034	D		

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 1-by-2 Cable Sealed Connector

**34675**  
**Male**



### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Uses cable sealed terminals
- Polarization options available
- Optional Clip slot

### Reference Information

Packaging: Bag  
Mates With: 34250  
Use With: 34080 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 5.00mm (.197")

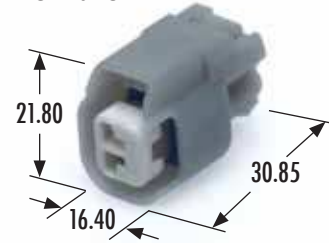
Order No.	Polarity	Color	Clipslot
34675-0002	B	Light Gray	No
34675-0001	C	Black	
34675-0004	B	Light Gray	Yes
34675-0003	C	Black	

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 1-by-2 Cable Sealed Receptacle Global Fuel Injector

**34062\***  
**Female**



### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Meets USCAR footprints
- Uses cable sealed terminals
- Available with or without CPA
- Polarization options available

### Reference Information

Packaging: Bag  
Mates With: Direct Connect only  
Use With: 34081 and 34083 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.70 to 1.50mm (.106 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 5.00mm (.197")

Order No.	Polarity	Color	CPA
34062-0001	A	Black	No
34062-0002	B	Light Gray	
34062-0003	C	Black	
34062-0004	D		
34062-0005	A	Light Gray	Yes
34062-0006	B		
34062-0007	C		
34062-0008	D		

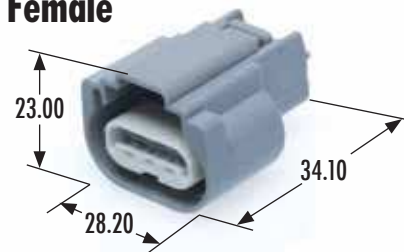
\*This connector is intended for "Direct Connect" applications only

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-3 Cable Sealed Headlamp Connector Single Key

**34250**  
Female



#### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Meets USCAR footprints
- Uses cable sealed terminals
- Available with or without CPA
- Polarization options available

#### Reference Information

Packaging: Bag  
Mates With: 34091  
Use With: 34081 and 34083 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

#### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Silver or Gold  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.49 to 1.50mm (.098 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 4.50mm (.177")

Order No.	Polarity	Color	CPA
34250-0033	A	Black	Yes
34250-0034	B	Gray	
34250-0035	C	Brown	
34250-0036	D	Green	No
34250-0049	A	Black	
34250-0050	B	Gray	
34250-0051	C	Brown	
34250-0052	D	Green	

See sales drawing on molex.com for specific knockout requests



Female Receptacle Polarities

## FEATURES AND SPECIFICATIONS



### 1.50mm MX150™ (060) 1-by-3 Cable Sealed Headlamp Connector Single Key

**34091**  
Male



#### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Meets USCAR footprints
- Uses cable sealed terminals
- Polarization options available
- Clip slot standard

#### Reference Information

Packaging: Bag  
Mates With: 34250  
Use With: 34080 MX150 terminals  
Designed In: Millimeters

#### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

#### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

#### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.49 to 1.50mm (.098 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 4.50mm (.177")

Order No.	Polarity	Color
34091-0003	C	Brown
34091-0004	D	Green

See sales drawing on molex.com for specific knockout requests



Male Connector Polarities

## FEATURES AND SPECIFICATIONS



# 1.50mm MX150™ (060) 1-by-3 Cable Sealed Headlamp Receptacle Dual Key

**34250\***  
**Female**



### Features and Benefits

- Compact 1.50mm (.059") terminal connector
- Meets USCAR footprints
- Uses cable sealed terminals
- Available with or without CPA
- Polarization options available
- Single and dual key options

### Reference Information

Packaging: Bag  
Mates With: Direct Connect Only  
Use With: 34081 and 34083 MX150 terminals  
Designed In: Millimeters

### Electrical

Voltage: 250V  
Current: 22.0A  
Contact Resistance: 10 milliohms max.  
Dielectric Withstanding Voltage: 500V DC  
Insulation Resistance: 20 Megohms min.

### Mechanical

Contact Insertion Force: Less than 15N  
Contact Retention to Housing: 100N min.  
Wire Pull-Out Force: 90N min.  
Mating Force: Less than 45N  
Unmating Force: Less than 45N  
Normal Force: Terminal dependent

### Physical

Housing: PBT + 10% glass filled, UL 94-HB  
Contact: Copper Alloy  
Contact Plating: Tin, Gold or Silver  
Wire Gauge: 2.00 to 0.50mm<sup>2</sup> (14 to 22 AWG)  
Insulation Diameter: 2.49 to 1.50mm (.098 to .059")  
Operating Temperature: -40 to +125°C  
Pitch: 4.50mm (.177")



Female Receptacle Polarities

Order No.	Polarity	Color	CPA
34250-0001	A	Black	Yes
34250-0002	B	Gray	
34250-0003	C	Brown	
34250-0004	D	Green	
34250-0017	A	Black	No
34250-0018	B	Grey	
34250-0019	C	Brown	
34250-0020	D	Green	

\*Male Dual Key 1-by-3 connector currently not tooled. Contact Molex for more information

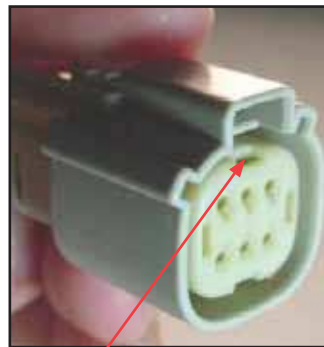
## Seating the TPA Receptacle Side

- With the receptacle terminals fully installed, the TPA can be seated into its final lock position by applying an even force to both ends until it comes to a stop with an audible “click”. TPA movement distance from pre-lock to final lock is 5.00mm (.197”)
- The TPA should never be fully removed from the connector housing

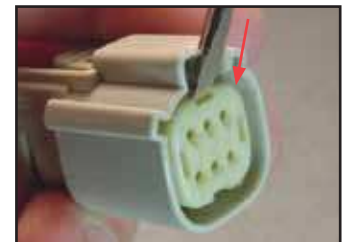


## TPA Servicing Receptacle Side

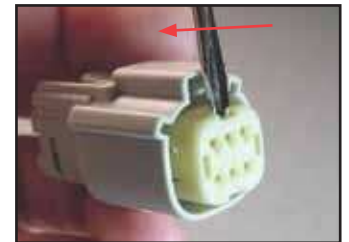
- Step 1: Insert a small screwdriver (max. width of 3.00mm (.118”) into the designated pry point
- Step 2: Using the housing as a pivot point, gently pry out the TPA until it reaches pre-lock position (5.00mm (.197”) travel)
- The TPA should never be fully removed from the connector housing. Excessive force can damage the TPA



Pry Point



Step 1



Step 2

## Seating the TPA Blade Side

- A modified process can be used for the Blade terminal. Using a pair of needle nose pliers, apply even pressure to the TPA. If the TPA resists, it may be detecting a partially installed terminal. Pull the TPA back into its pre-lock position and make sure all terminals are fully installed. Upon completion, the TPA can be seated. TPA movement distance from pre-lock to final lock is 5.00mm (.197”)
- Step 1: Insert a small pair of needle nose pliers to the designated grab point
- Step 2: Pull back 5.00mm (.198”) , gently, until the TPA reaches pre-lock position
- The TPA should never be fully removed from the connector



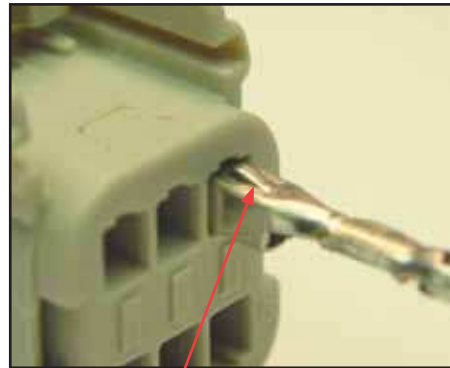
Grab Point



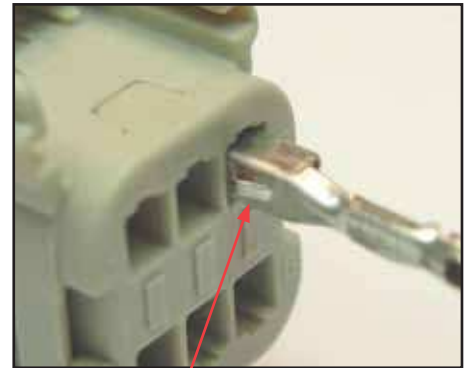
Pull back gently approximately 5.0mm (.197”)

## Terminal Installation

- With TPA still in pre-lock position, orient terminal to rear of connector. Grip the wire no less than 30.00mm (1.181") from the terminal insulation crimp align the orientation feature and insert through appropriate circuit opening. If resistance is encountered, retract the terminal and adjust the angle of insertion. Continue inserting the terminal until it stops and locks up on the lock finger with an audible click



Correct Orientation



90° Mis-orientation

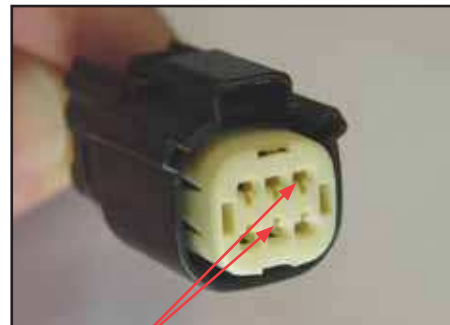
## Terminal Removal

- Once the Lock finger is disengaged, gently pull on the wire to release the terminal. If the terminal resists, the service tool may not be fully engaged. Push the service tool straight into the service opening to ensure that it has fully disengaged the locking finger

- Do not insert the service tool into the terminal opening
- Do not use excessive force, excessive force can damage the lock finger
- Do not insert the service tool at an angle, this may cause damage to the terminal
- Do not apply any lateral force, this may damage the terminal or lock finger

- Using the 1.50mm (.059") service tool #63813-1500, insert the tip into the terminal service hole adjacent to the terminal to be serviced. Push straight down gently and apply pressure to release-locking finger. This motion will release the locking finger, "picking" is not required. Cavity plugs are removed in the same manner

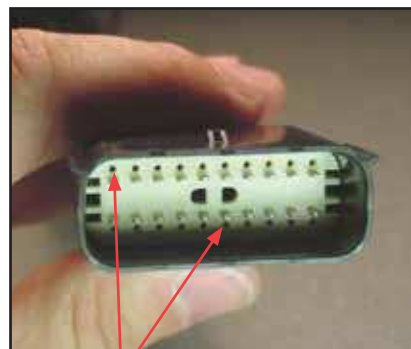
- Do not apply any lateral force, this may damage the tool, or the locking finger
- Do not use excessive force, excessive force can damage the lock finger
- Do not insert the service tool at an angle, this may cause damage to the terminal



Service Ports



Service Tool must be 90° to the connector face



Service Ports



Service Tool must be 90° to the connector face

Please note that the full MX150 Serviceability Manual can be viewed on [www.molex.com/ind/mx150.html](http://www.molex.com/ind/mx150.html)



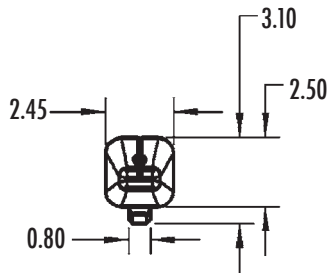
**MX150™ Male Blade Terminals**

**MX150™ Female Receptacle Terminals**

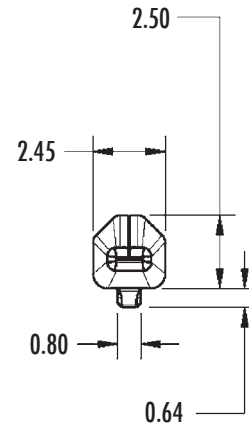
**Terminal Payoff Directions**

**MX150 Male Blade Terminals**

**Standard Terminal  
(Traditional Shape)**

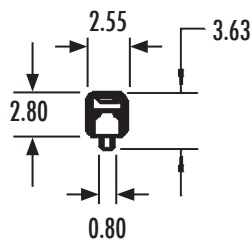


**Shorting-Bar Terminal  
(Doghouse Shape)**

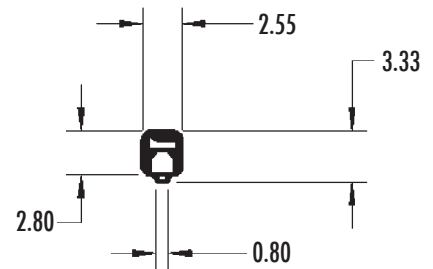


**MX150 Female Receptacle Terminals**

**Unsealed Applications**



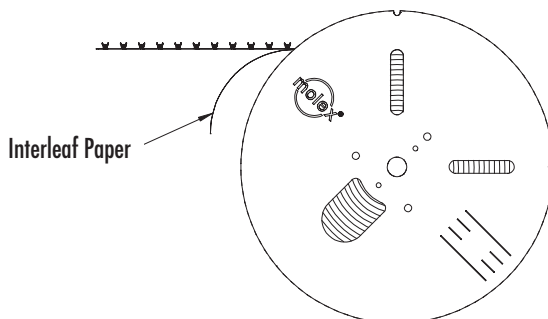
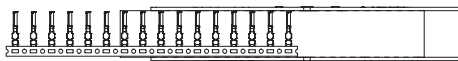
**Sealed Applications**



**Terminal Payoff Directions**

**Direction B**

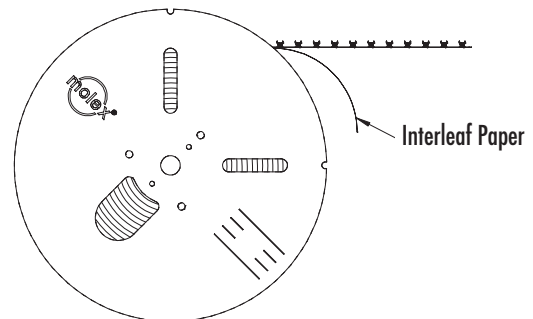
Right Payoff with Paper Interleaf (Right to Left)



Use with Molex Hand Tools

**Direction D**

Left Payoff with Paper Interleaf (Left to Right)



Use with Molex Hand Tools and Molex Applicators

## FEATURES AND SPECIFICATIONS

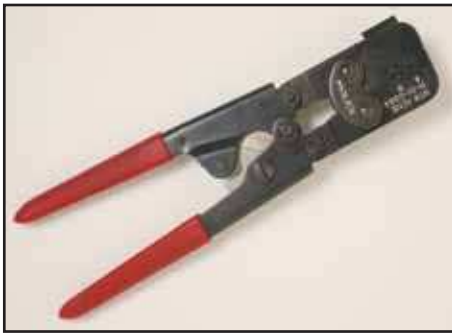
### Application Tooling

**Dimensions:** Height: 152.00mm (5.984")  
Width: 132.00mm (5.197")  
Depth: 101.00mm (3.976")

**Weight:** Gross: 5.4kg (12 lbs.)  
Unpacked: 4.1kg (9 lbs.)

**Mechanics:** Stroke: 28.50 and 41.30mm  
(1.122 and 1.626")  
Shut Height: 135.80mm (5.346")  
Processing

**Capability:** 2500 terminations per hour,  
depending on operator's skill and  
application



Hand Tool



Mechanical - Applicator

## ORDERING INFORMATION

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool
MX150 Female Sealed	33012-2003	33012-3003	Tin	22 AWG	63811-6000	63900-1000	63813-1500
	33012-2002	33012-3002		20 AWG		63900-0900	
				18 AWG		63900-0800	
	33012-2001	33012-3001		16 AWG	63811-5900	63900-0700	
				14 AWG			
	33012-2003	33012-3003		0.35 mm <sup>2</sup>	N/A	N/A	
				0.50 mm <sup>2</sup>	63811-6200	63900-1000	
	33012-2002	33012-3002		0.75 mm <sup>2</sup>		63900-0900	
			1.00 mm <sup>2</sup>	63811-6100	63900-0800		
	33012-2001	33012-3001	1.50 mm <sup>2</sup>		63900-0700		
	33001-2005	33001-3005	Gold	22 AWG	63811-6000	63900-1000	
				20 AWG		63900-0900	
				18 AWG		63900-0800	
	33001-2004	33001-3004		16 AWG	63811-5900	63900-0700	
				14 AWG			
	33001-2003	33001-3003		0.35 mm <sup>2</sup>	N/A	N/A	
				0.50 mm <sup>2</sup>	63811-6200	63900-1000	
	33001-2005	33001-3005		0.75 mm <sup>2</sup>		63900-0900	
			1.00 mm <sup>2</sup>	63811-6100	63900-0800		
	33001-2004	33001-3004	1.50 mm <sup>2</sup>		63900-0700		
	33001-2003	33001-3003	Silver	22 AWG	63811-6000	63900-1000	
	33001-4003	33001-5003		20 AWG		63900-0900	
				18 AWG		63900-0800	
	33001-4002	33001-5002		16 AWG	63811-5900	63900-0700	
		14 AWG					
33001-4001	33001-5001	0.35 mm <sup>2</sup>		N/A	N/A		
		0.50 mm <sup>2</sup>		63811-6200	63900-1000		
33001-4003	33001-5003	0.75 mm <sup>2</sup>			63900-0900		
		1.00 mm <sup>2</sup>	63811-6100	63900-0800			
33001-4002	33001-5002	1.50 mm <sup>2</sup>		63900-0700			
33001-4001	33001-5001						

To use applicators, D Wound terminals must be used.

\* Complete Applicators come with the perishable tooling loaded into the applicator.

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool		
MX150 Male Sealed	33000-0003	33000-1003	Tin	22 AWG	63811-2600	63900-0600	63813-1500		
	33000-0002	33000-1002		20 AWG		63900-0500			
				18 AWG		63900-0400			
	33000-0001	33000-1001		Tin	16 AWG	63811-2400		63900-0300	
					14 AWG			63900-0200	
	33000-0003	33000-1003		Gold	0.35 mm <sup>2</sup>	N/A		N/A	
	33000-0002	33000-1002			0.50 mm <sup>2</sup>			63900-0600	
					0.75 mm <sup>2</sup>			63900-0500	
	33000-0001	33000-1001	Gold		1.00 mm <sup>2</sup>			63811-2600	63900-0300
					1.50 mm <sup>2</sup>				63900-0200
	33011-1006	33011-0006	Silver		22 AWG			63811-2600	63900-0600
	33011-1004	33011-0004			20 AWG				63900-0500
					18 AWG				63900-0400
	33011-1002	33011-0002		Silver	16 AWG	63811-2400		63900-0300	
					14 AWG			63900-0200	
	33011-1006	33011-0006		Tin	0.35 mm <sup>2</sup>	N/A		N/A	
	33011-1004	33011-0004			0.50 mm <sup>2</sup>			63900-0600	
					0.75 mm <sup>2</sup>			63900-0500	
	33011-1002	33011-0002	Tin		1.00 mm <sup>2</sup>			63811-2600	63900-0300
					1.50 mm <sup>2</sup>				63900-0200
	33011-2001	33011-3001	Gold		22 AWG			63811-2600	63900-0600
	33011-2002	33011-3002			20 AWG				63900-0500
					18 AWG				63900-0400
	33011-2003	33011-3003		Gold	16 AWG	63811-2400		63900-0300	
					14 AWG			63900-0200	
	33011-2001	33011-3001		Silver	0.35 mm <sup>2</sup>	N/A		N/A	
	33011-2002	33011-3002			0.50 mm <sup>2</sup>			63900-0600	
					0.75 mm <sup>2</sup>			63900-0500	
33011-2003	33011-3003	Silver	1.00 mm <sup>2</sup>		63811-2600		63900-0300		
			1.50 mm <sup>2</sup>				63900-0200		

To use applicators, D Wound terminals must be used.  
 \* Complete Applicators come with the perishable tooling loaded into the applicator.

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool	
MX150 Female Unsealed	33012-2023	33012-3023	Tin	22 AWG	63811-6000	63900-1000	63813-1500	
	33012-2022	33012-3022		20 AWG		63900-0900		
				18 AWG		63900-0800		
	33012-2021	33012-3021		Tin	16 AWG	63811-5900		63900-0700
	33012-2023	33012-3023			14 AWG			63900-1000
				33012-2022	33012-3022	Gold		0.50 mm <sup>2</sup>
	33012-2021	33012-3021		0.75 mm <sup>2</sup>	63900-0800			
				1.00 mm <sup>2</sup>	63900-0700			
33012-2021	33012-3021	Silver	1.50 mm <sup>2</sup>	63811-6100	63900-0800			
					63900-0700			

To use applicators, D Wound terminals must be used.  
 \* Complete Applicators come with the perishable tooling loaded into the applicator.

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool
MX150 Male Shorting-Bar	31296-1008	31296-0008	Gold	18 AWG	N/A	N/A	63813-1500
				20 AWG			

To use applicators, D Wound terminals must be used.  
 \* Complete Applicators come with the perishable tooling loaded into the applicator.

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool
MX150 Male Cable Seal	34080-0003	34080-1003	Tin	22 AWG	63819-9200	63895-1500	N/A
	34080-0002	34080-1002		20 AWG		63895-1400	
	34080-0001	34080-1001		18 AWG		63819-9100	
	34080-0003	34080-1003		16 AWG	63819-9200	63895-1500	
	34080-0002	34080-1002		14 AWG		63895-1400	
	34080-0001	34080-1001		0.50 mm <sup>2</sup>	63819-9100	63895-1300	
				0.75 mm <sup>2</sup>		63895-1500	
		1.00 mm <sup>2</sup>		63895-1400			
		1.50 mm <sup>2</sup>		63895-1300			

To use applicators, D Wound terminals must be used.

\* Complete Applicators come with the perishable tooling loaded into the applicator.

	MOLEX PART# (RIGHT PAYOFF) B Wind	MOLEX PART# (LEFT PAYOFF) D Wind	PLATING	Wire Gauge	Hand Crimp Tool	Applicator (D Wind Only)	Extraction Tool
MX150 Female Cable Seal	34083-2001	34083-3001	Tin	14 to 16 AWG	63819-9300	63895-1600	N/A
	34083-2002	34083-3002		18 to 20 AWG	63819-9400	63895-1700	
	34083-2003	34083-3003		22 AWG		63895-1800	
	34081-2003	34081-3003	Gold	14 to 16 AWG	63819-9300	63895-1600	
	34081-2004	34081-3004		18 to 20 AWG	63819-9400	63895-1700	
	34081-2005	34081-3005		22 AWG		63895-1800	
	34081-4001	34081-5001	Silver	14 to 16 AWG	63819-9300	63895-1600	
	34081-4002	34081-5002		18 to 20 AWG	63819-9400	63895-1700	
	34081-4003	34081-5003		22 AWG		63895-1800	

To use applicators, D Wound terminals must be used.

\* Complete Applicators come with the perishable tooling loaded into the applicator.





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

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