

## FEATURES AND SPECIFICATIONS



# 2.54mm (.100") Pitch MX64 Single Row Sealed Connectors

## 31402, 31403, 31404

### MX64 Single Row Female Connectors Are Designed to USCAR-Approved Footprints and Meet USCAR Testing Requirements

Small and compact, the MX64 single row female connectors set the standard for 2.54mm (.100") pitch sealed connectors. Available sizes include the 1-by-2, 1-by-3, 1-by-4, 1-by-5, 1-by-6 and 1-by-8. These connectors also allow for the greatest level of flexibility by accommodating three different female terminal systems. These include the GET female terminal (Series 34230), commonly used at Ford Motor Company, the Kaizen female terminal, commonly used at General Motors and the MX64 female terminals (Series 33467 and 33468), commonly used at Daimler Chrysler and the general market. In addition, by working with USCAR to optimize the overall size of these connectors, Molex tooled the 1-by-4, 1-by-5, 1-by-6 and 1-by-8 parts to the USCAR-defined Z02 footprint resulting in up to a 25% size reduction in the mating interfaces.

For additional information on USCAR footprints and performance specifications, visit the USCAR website at [www.USCARTEAMS.org](http://www.USCARTEAMS.org).



### Features and Benefits

- Meets all USCAR footprints and testing requirements for 0.64mm (.025") pitch square pin connector systems in compliance with OEM directives
- Ability to accommodate Ford, GM or DCX approved female terminals provides design flexibility
- Matte seal design eliminates secondary operation and costs associated with cable seals
- Available with or without CPA for added locking protection when CPA is used
- Accommodates 18-22 AWG wire and metric wires to support US or offshore wire requirements
- Circuit sizes 1-by-4, 1-by-5, 1-by-6 and 1-by-8 meet the USCAR Z02 optimized footprints and are up to 25% smaller in size as compared to the Z01 footprints
- Four polarization options available protect against mis-mating
- Special polarization color (black) in B, C, D configurations is available for use when earth-toned connectors (black, brown and gray) are used in high visibility packaging area

## SPECIFICATIONS

### Reference Information

Packaging: Bulk  
Mates With: Sensors, other USCAR interfaces  
Designed In: Millimeters  
Recommended Automotive Applications:  
31402 (Ford Motor)  
31403 (Daimler Chrysler/General Market)  
31404 (General Motors)

### Electrical

Voltage: 250V  
Current: 0.64mm (.025") Terminals – 7.0 to 10.0A  
(depending on manufacturer of female terminals)  
Dielectric Withstanding Voltage: DC500V  
Resistance: 100 M $\Omega$  min.  
Isolation: 20 M $\Omega$  min.

### Mechanical

Insertion Force: Less than 75N (16.9 lb) per connector  
Unmate Efforts: Less than 75N (16.9 lb) per connector  
Connector Lock Strength: 110N (24.7 lb) min.  
Female Terminal Retention: Greater than 75N (16.9) with the TPA engaged

### Physical

Terminal Pitch:  
Horizontal 2.54mm (.100");  
Vertical 2.54mm (.100")  
Housing: PBT + 30% Glass Filled  
Female Terminals:  
For 31402 Series use 34230 GET, Tin Plated  
For 31403 Series use 33467 MX64, Gold Plated  
or 33468 MX64, Tin plated  
For 31404 Series, terminals are manufactured by Yazaki  
Operating Temperature:  
USCAR Class III -40 to +125°C

## APPLICATIONS

- Automotive
  - Sensors
- Commercial
  - Sensors



Color Coded  
Polarization Options



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### 31402, 31403, 31404

#### 1-by-2 Connectors

Order No.	Description	Color	Terminal System Used
31402-2100	1x2 Polarization A without CPA	Black	GET 34230 Series
31402-2200	1x2 Polarization B without CPA	Gray	GET 34230 Series
31402-2300	1x2 Polarization C without CPA	Brown	GET 34230 Series
31402-2400	1x2 Polarization D without CPA	Green	GET 34230 Series
31402-2110	1x2 Polarization A with CPA	Black	GET 34230 Series
31402-2210	1x2 Polarization B with CPA	Gray	GET 34230 Series
31402-2310	1x2 Polarization C with CPA	Brown	GET 34230 Series
31402-2410	1x2 Polarization D with CPA	Green	GET 34230 Series
31403-2100	1x2 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-2200	1x2 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-2300	1x2 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-2400	1x2 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-2110	1x2 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-2210	1x2 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-2310	1x2 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-2410	1x2 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-2100	1x2 Polarization A without CPA	Black	Kaizen
31404-2200	1x2 Polarization B without CPA	Gray	Kaizen
31404-2300	1x2 Polarization C without CPA	Brown	Kaizen
31404-2400	1x2 Polarization D without CPA	Green	Kaizen
31404-2110	1x2 Polarization A with CPA	Black	Kaizen
31404-2210	1x2 Polarization B with CPA	Gray	Kaizen
31404-2310	1x2 Polarization C with CPA	Brown	Kaizen
31404-2410	1x2 Polarization D with CPA	Green	Kaizen

#### 1-by-3 Connectors

Order No.	Description	Color	Terminal System Used
31402-3100	1x3 Polarization A without CPA	Black	GET 34230 Series
31402-3200	1x3 Polarization B without CPA	Gray	GET 34230 Series
31402-3300	1x3 Polarization C without CPA	Brown	GET 34230 Series
31402-3400	1x3 Polarization D without CPA	Green	GET 34230 Series
31402-3110	1x3 Polarization A with CPA	Black	GET 34230 Series
31402-3210	1x3 Polarization B with CPA	Gray	GET 34230 Series
31402-3310	1x3 Polarization C with CPA	Brown	GET 34230 Series
31402-3410	1x3 Polarization D with CPA	Green	GET 34230 Series
31403-3100	1x3 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-3200	1x3 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-3300	1x3 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-3400	1x3 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-3110	1x3 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-3210	1x3 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-3310	1x3 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-3410	1x3 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-3100	1x3 Polarization A without CPA	Black	Kaizen
31404-3200	1x3 Polarization B without CPA	Gray	Kaizen
31404-3300	1x3 Polarization C without CPA	Brown	Kaizen
31404-3400	1x3 Polarization D without CPA	Green	Kaizen
31404-3110	1x3 Polarization A with CPA	Black	Kaizen
31404-3210	1x3 Polarization B with CPA	Gray	Kaizen
31404-3310	1x3 Polarization C with CPA	Brown	Kaizen
31404-3410	1x3 Polarization D with CPA	Green	Kaizen



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### 31402, 31403, 31404

#### 1-by-4 Connectors

Order No.	Description	Color	Terminal System Used
31402-4100	1x4 Polarization A without CPA	Black	GET 34230 Series
31402-4200	1x4 Polarization B without CPA	Gray	GET 34230 Series
31402-4300	1x4 Polarization C without CPA	Brown	GET 34230 Series
31402-4400	1x4 Polarization D without CPA	Green	GET 34230 Series
31402-4110	1x4 Polarization A with CPA	Black	GET 34230 Series
31402-4210	1x4 Polarization B with CPA	Gray	GET 34230 Series
31402-4310	1x4 Polarization C with CPA	Brown	GET 34230 Series
31402-4410	1x4 Polarization D with CPA	Green	GET 34230 Series
31403-4100	1x4 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-4200	1x4 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-4300	1x4 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-4400	1x4 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-4110	1x4 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-4210	1x4 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-4310	1x4 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-4410	1x4 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-4100	1x4 Polarization A without CPA	Black	Kaizen
31404-4200	1x4 Polarization B without CPA	Gray	Kaizen
31404-4300	1x4 Polarization C without CPA	Brown	Kaizen
31404-4400	1x4 Polarization D without CPA	Green	Kaizen
31404-4110	1x4 Polarization A with CPA	Black	Kaizen
31404-4210	1x4 Polarization B with CPA	Gray	Kaizen
31404-4310	1x4 Polarization C with CPA	Brown	Kaizen
31404-4410	1x4 Polarization D with CPA	Green	Kaizen

#### 1-by-5 Connectors

Order No.	Description	Color	Terminal System Used
31402-5100	1x5 Polarization A without CPA	Black	GET 34230 Series
31402-5200	1x5 Polarization B without CPA	Gray	GET 34230 Series
31402-5300	1x5 Polarization C without CPA	Brown	GET 34230 Series
31402-5400	1x5 Polarization D without CPA	Green	GET 34230 Series
31402-5110	1x5 Polarization A with CPA	Black	GET 34230 Series
31402-5210	1x5 Polarization B with CPA	Gray	GET 34230 Series
31402-5310	1x5 Polarization C with CPA	Brown	GET 34230 Series
31402-5410	1x5 Polarization D with CPA	Green	GET 34230 Series
31403-5100	1x5 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-5200	1x5 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-5300	1x5 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-5400	1x5 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-5110	1x5 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-5210	1x5 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-5310	1x5 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-5410	1x5 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-5100	1x5 Polarization A without CPA	Black	Kaizen
31404-5200	1x5 Polarization B without CPA	Gray	Kaizen
31404-5300	1x5 Polarization C without CPA	Brown	Kaizen
31404-5400	1x5 Polarization D without CPA	Green	Kaizen
31404-5110	1x5 Polarization A with CPA	Black	Kaizen
31404-5210	1x5 Polarization B with CPA	Gray	Kaizen
31404-5310	1x5 Polarization C with CPA	Brown	Kaizen
31404-5410	1x5 Polarization D with CPA	Green	Kaizen



**2.54mm (.100") Pitch  
MX64 Single Row  
Sealed Connectors**

**31402, 31403, 31404**

**1-by-6 Connectors**

Order No.	Description	Color	Terminal System Used
31402-6100	1x6 Polarization A without CPA	Black	GET 34230 Series
31402-6200	1x6 Polarization B without CPA	Gray	GET 34230 Series
31402-6300	1x6 Polarization C without CPA	Brown	GET 34230 Series
31402-6400	1x6 Polarization D without CPA	Green	GET 34230 Series
31402-6110	1x6 Polarization A with CPA	Black	GET 34230 Series
31402-6210	1x6 Polarization B with CPA	Gray	GET 34230 Series
31402-6310	1x6 Polarization C with CPA	Brown	GET 34230 Series
31402-6410	1x6 Polarization D with CPA	Green	GET 34230 Series
31403-6100	1x6 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-6200	1x6 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-6300	1x6 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-6400	1x6 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-6110	1x6 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-6210	1x6 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-6310	1x6 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-6410	1x6 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-6100	1x6 Polarization A without CPA	Black	Kaizen
31404-6200	1x6 Polarization B without CPA	Gray	Kaizen
31404-6300	1x6 Polarization C without CPA	Brown	Kaizen
31404-6400	1x6 Polarization D without CPA	Green	Kaizen
31404-6110	1x6 Polarization A with CPA	Black	Kaizen
31404-6210	1x6 Polarization B with CPA	Gray	Kaizen
31404-6310	1x6 Polarization C with CPA	Brown	Kaizen
31404-6410	1x6 Polarization D with CPA	Green	Kaizen

**1-by-8 Connectors**

Order No.	Description	Color	Terminal System Used
31402-8100	1x8 Polarization A without CPA	Black	GET 34230 Series
31402-8200	1x8 Polarization B without CPA	Gray	GET 34230 Series
31402-8300	1x8 Polarization C without CPA	Brown	GET 34230 Series
31402-8400	1x8 Polarization D without CPA	Green	GET 34230 Series
31402-8110	1x8 Polarization A with CPA	Black	GET 34230 Series
31402-8210	1x8 Polarization B with CPA	Gray	GET 34230 Series
31402-8310	1x8 Polarization C with CPA	Brown	GET 34230 Series
31402-8410	1x8 Polarization D with CPA	Green	GET 34230 Series
31403-8100	1x8 Polarization A without CPA	Black	MX64 33467/33468 Series
31403-8200	1x8 Polarization B without CPA	Gray	MX64 33467/33468 Series
31403-8300	1x8 Polarization C without CPA	Brown	MX64 33467/33468 Series
31403-8400	1x8 Polarization D without CPA	Green	MX64 33467/33468 Series
31403-8110	1x8 Polarization A with CPA	Black	MX64 33467/33468 Series
31403-8210	1x8 Polarization B with CPA	Gray	MX64 33467/33468 Series
31403-8310	1x8 Polarization C with CPA	Brown	MX64 33467/33468 Series
31403-8410	1x8 Polarization D with CPA	Green	MX64 33467/33468 Series
31404-8100	1x8 Polarization A without CPA	Black	Kaizen
31404-8200	1x8 Polarization B without CPA	Gray	Kaizen
31404-8300	1x8 Polarization C without CPA	Brown	Kaizen
31404-8400	1x8 Polarization D without CPA	Green	Kaizen
31404-8110	1x8 Polarization A with CPA	Black	Kaizen
31404-8210	1x8 Polarization B with CPA	Gray	Kaizen
31404-8310	1x8 Polarization C with CPA	Brown	Kaizen
31404-8410	1x8 Polarization D with CPA	Green	Kaizen

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