Mini50 Sealed Wire-to-Device Receptacle

molex

Delivering significant space savings over traditional USCAR 0.64mm connectors, Mini50 Sealed Wire-to-Device Receptacles utilize smaller pins, terminals and wire gauges while providing protection from water and dust ingress

MX64 Sealed 1X4 Receptacle (USCAR)

Mini50 Sealed 1X4 Receptacle

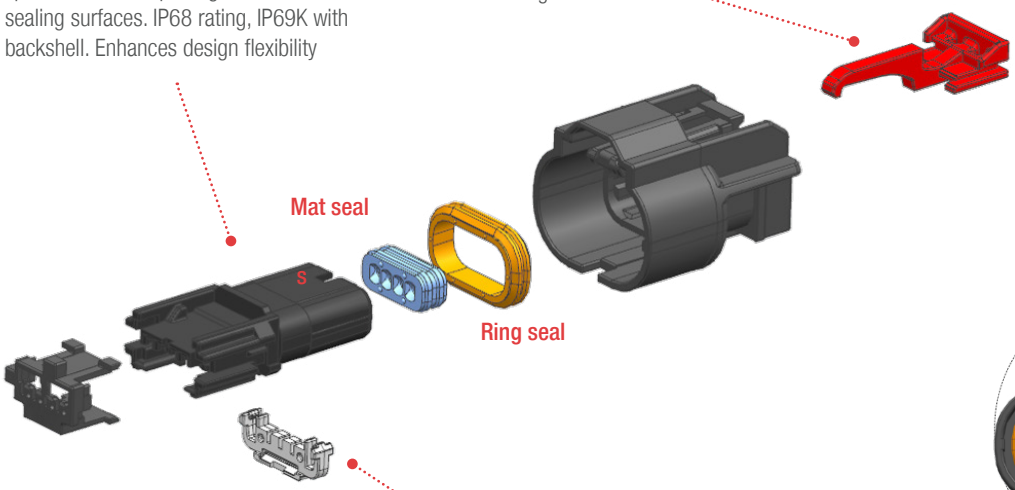
Features and Advantages

Single-Row Receptacle

Sealed receptacle
Delivers a 0.50mm connector interface tested to meet full USCAR specifications. No parting lines on sealing surfaces. IP68 rating, IP69K with backshell. Enhances design flexibility

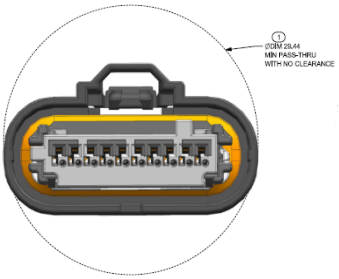
Optional CPA
Mating assurance feedback device that prevents accidental un-mating

Reduced package sizes
Shrink footprint 25% compared to USCAR 0.64mm unsealed interfaces. Reduces PCB footprint by 30% compared to 4-circuit connectors



Polarization options
Eliminates mating and assembly errors. Color-coded to correspond to polarity

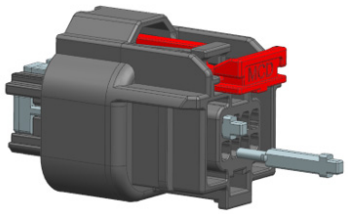
Independent secondary lock (ISL) terminal-retention feature
Pre-loaded in assembly for applied cost savings



Rounded shape
Allows for through-hole routing

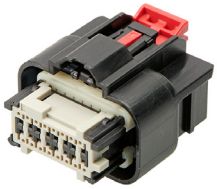
Dual-Row Connectors

Cavity plug available
Delivers design flexibility. Enables multiple circuit counts within the same connector, simplifying inventory



Cavity Plug

2-by-4 Receptacle



2-by-8 Receptacle

Mini50 Sealed Wire-to-Device Receptacle

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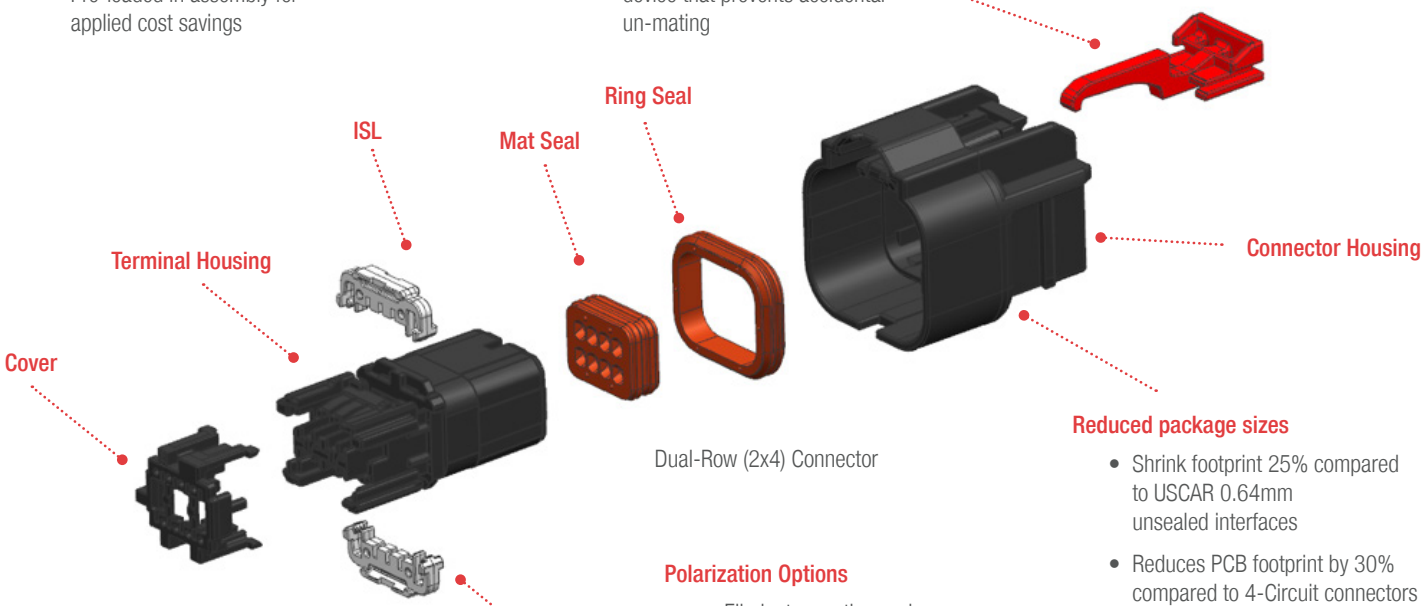
Independent secondary lock (ISL) terminal-retention feature

- Pre-loaded in assembly for applied cost savings

Optional CPA

- Mating assurance feedback device that prevents accidental un-mating



Dual-Row (2x4) Connector

Polarization Options

- Eliminates mating and assembly errors
- Color-coded to correspond to polarity

Reduced package sizes

- Shrink footprint 25% compared to USCAR 0.64mm unsealed interfaces
- Reduces PCB footprint by 30% compared to 4-Circuit connectors

Applications

Automotive and Transportation

- Power Steering
- Cameras
- Sensors (parking, radar, etc).
- Braking
- Exterior Lighting
- Mirrors

Exterior/Mirrors/Cameras

Automotive Industry

Lighting

Mini50 Sealed Wire-to-Device Receptacle

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Specifications

REFERENCE INFORMATION

Packaging:
- Housings – Bulk pack
- Terminals – Reel and loose piece

Use With Terminals:
- Female Series 34905

Designed in: Millimeters

Dimensions:
- 1x2: Height 16.30; Length 14.50; Depth: 28.00mm
- 1x4: Height 16.60; Length 18.40; Depth 28.00mm
- 1x10: Height 16.60; Length 29.20; Depth 28.00mm

PHYSICAL

Receptacle Housings: High Temperature Thermoplastic

Contact: Copper (Cu) Alloy

Plating:
- Contact Area — Tin (Sn) or Silver (Ag)
- Wire Gauge: 0.13mm² to 0.35mm²

Insulation Diameter: 1.40mm to 0.95mm

Operating Temperature:
- With Tin Terminal: -40 to +105°C
- With Silver Terminals: -40 to +125°C

ELECTRICAL

Voltage (max.): 14V DC

Current (max.): 4.0A

Contact Resistance (max.): 20 milliohms

Dielectric Withstanding Voltage (min.): 1000V AC

Isolation Resistance (min.): 100 Megohms @ 500V DC

ELECTRICAL / MECHANICAL

Durability (max.): 20 milliohms
- Mating cycles (max.): 10

High-Temperature Exposure, 1008 hours (USCAR-2 , GMW3191):
- Post test resistance (max.) – 20 milliohms
- Isolation resistance (max.) – 100 Megohms @ 500V DC

Temp / Humidity Cycling, 240 hours (USCAR-2 , GMW3191):
- Post test resistance (max.) – 20 milliohms
- Isolation resistance (max.) – 100 Megohms @ 500V DC
- Terminal Retention (min.) = 50N

Thermal Shock; class 2/3 300 cycles (USCAR-2 , GMW3191):
- Post test resistance (max.) – 20 milliohms
- Isolation resistance (max.) – 100 Megohms @ 500V DC
- Terminal Retention (min.) = 30N

Vibration / Mechanical Shock (Not Coupled to Engine): (USCAR-2, GMW3191):
- Post test resistance (max.) – 20 milliohms

Thermal Aging at Max Temp
1008 hours @ 125°C
28kPa for 15 sec. min.
- Submersion for 30 minutes
- Isolation Resistance (min.): 100 Megohms @ 500V DC

ELECTRICAL / MECHANICAL

Current Capability: (USCAR-2, GMW3191):
- Temperature rise over ambient < 55°C
- Post test resistance (max.) – 20 milliohms

Terminal – Connector Insertion Force (USCAR-2, GMW3191):
- Insertion Force (max.) = 5N
- Primary Retention Force (min.) = 20N
- Secondary Retention Force (min.) = 60N

Mating Force (USCAR-2, GMW3191) (max.):
- 45N (1x4)
- 75N (1x10)

Unmating Force (USCAR-2) (max.): 75N

Connector Drop Test: (USCAR-2):
Post test visual inspection

Polarization Feature Effectiveness (USCAR-2):
min = 3* mate force

SEALING

Sealing Class: 2 (IP68) without Backshell after 2 service cycles

Ordering Information

SEALED RECEPTACLES

Series No.	Component	Rows	Circuit Sizes
34967	Sealed Receptacles	Single	2, 4 and 10

CTX50 SEALED TERMINALS

Series No.	Plating	Wire Gauge (mm²)	Wound Direction / Payoff Direction
34905	Tin or Silver	0.08 to 0.13	D=Left; B=Right
		0.22 to 0.35	

Note: Reference PS-34791-000 for all validated wire types.

SERVICE TOOL FOR MINI50 SEALED

Part No.	Component
63824-7500	Extraction Tool for CTX50 Contacts for Mini50 Sealed Receptacle

www.molex.com/link/mini50.html

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