Mini50 Sealed Wire-to-Device Receptacle

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.

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.

Mat seal

Ring seal

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.

Dual-Row Connectors

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

Rounded shape
Allows for through-hole routing.
Mini50 Sealed Wire-to-Device Receptacle

Applications

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

Exterior/Mirrors/Cameras

Automotive Industry

Lighting

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

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

Connector Housing

Dual-Row (2x4) Connector

Terminal Housing

Cover

Mat Seal

Ring Seal

ISL

ISL
Mini50 Sealed Wire-to-Device Receptacle

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

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Component</th>
<th>Rows</th>
<th>Circuit Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>34967</td>
<td>Sealed Receptacles</td>
<td>Single</td>
<td>2, 4 and 10</td>
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</tbody>
</table>

CTX50 SEALED TERMINALS

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Plating</th>
<th>Wire Gauge (mm²)</th>
<th>Wound Direction / Payoff Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>34905</td>
<td>Tin or Silver</td>
<td>0.08 to 0.13</td>
<td>D=Left; B=Right</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.22 to 0.35</td>
<td></td>
</tr>
</tbody>
</table>

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

SERVICE TOOL FOR MINI50 SEALED

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>63824-7500</td>
<td>Extraction Tool for CTX50 Contacts for Mini50 Sealed Receptacle</td>
</tr>
</tbody>
</table>

www.molex.com/link/mini50.html

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