Mini50 Gen II Unsealed Connectors provide improved reliability with features such as a 4-sided cavity for better terminal alignment and increased primary lock retention, a hinged independent secondary lock (ISL), reduced misalignment angles and better scoop proofing, along with an improved connector position assurance (CPA) design.

**Features and Advantages**

**Gen II Unsealed Connectors**

- Optimized 4-sided cavity
  - Provides better terminal alignment
  - Accommodates larger crimp angle tolerance

- Mates with current Mini50 Headers
  - Easy and cost-effective to implement

- Reduced misalignment angles and improved scoop proofing
  - Supports easy mating. Mitigates damage due to mis-mating

- Improved terminal servicing strategy
  - New CTX50 cavity includes molded-in service hole
  - Self guided service tool prevents risk of lock finger overstress
  - Symmetric service tool design does not require 180° polarization

- 25˚ hinged independent secondary lock (ISL)
  - Allows use of higher glass content, which results in a stronger resin and increased secondary lock retention
  - Eliminates risk of ISL bowing

- Molded-in service hole with self-guided service tool
  - Provides easy serviceability
  - Prevents risk of lock finger overstress
  - Does not require 180° polarization

- Reduced misalignment angles and improved scoop proofing
  - Supports easy mating. Mitigates damage due to mis-mating

- The Gen II (optional) CPA has larger push area and stronger beam than Gen I CPA
  - Improves ergonomics
  - Prevents CPS from being seated during shipment

- Accepts existing CTX50 Receptacle Terminal
  - Easy to implement with current high-performing components

- Optional wire dress cover available
  - Creates flexibility in wire-routing design with both 0° and 180° orientations

**Markets and Applications**

**Automotive and Commercial Vehicle**

- Headliners
- Clusters and navigation systems
- Radios
- Cameras and sensors
- HVAC systems
- Switches
- Lighting
- Mirrors

- Mirror and Interior Lighting
- Panels / Navigation
- HVAC
# Reference Information

**Packaging:**
- Housings — Bulk pack
- Terminals — Reel and loose piece

**Mates With:**
- Receptacles Series: 34791, 34824
- Vertical Header Series: 34792, 34824, 34825
- Right-Angle Header Series: 34793, 34912, 34826, 34897

**Use With Terminals:**
- Female Series 560023

**Designed in:** Millimeters

## Physical

**Header Housings:** PA66 GF50 Reinforced

**Receptacle Housings:** PBT GF7.5 Reinforced

**Contact:** Copper (Cu) Alloy

**Plating:**
- Contact Area — Tin (Sn)
- Underplating — Nickel (Ni)

**Wire Gauge:** 0.35 to 0.13mm² (22 to 26 AWG)

**Insulation Diameter:** 1.40mm to 0.89mm (.055 to .035”)

**Operating Temperature:** -40 to +100°C

## Electrical/Mechanical

### Over-Current Loading: No Degradation
- Durability (max.): 20 milliohms
- Tin (Sn) Plating — Up to 10 mating cycles
- Gold (Au) Plating — Over 10 mating cycles

### High-Temperature Exposure, 1008 hours (USCAR-2, GMW3191):
- Post-Test Resistance (max.) — 20 milliohms @ 500V DC
- Isolation Resistance (max.) — 100 Megohms
- Connector Retention Force (min.) — 60N
- Terminal Retention Force (min.) — 50N

### Temp / Humidity Cycling, 240 hours (USCAR-2, GMW3191):
- Post test resistance (max.) — 20 milliohms @ 500V DC
- Isolation resistance (max.) — 100 Megohms
- Connector Retention Force (max.) — 60N
- Terminal Retention (min.) — 50N

### Thermal Shock; class 2, 300 & 600 cycles (USCAR-2):
- Post-test resistance (max.) — 20 milliohms @ 500V DC
- Isolation resistance (max.) — 100 Megohms
- Connector Retention Force (max.) — 60N
- Terminal Retention (min.) — 50N

### Chemical Resistance (USCAR-2, GMW3191, RSA 36-05-019):
- Post-test resistance (max.) — 20 milliohms @ 500V DC
- Isolation resistance (max.) — 100 Megohms
- Connector Terminal Retention (min.) — 30N

### Connector Pry Resistance: (USCAR-2):
- Post-test resistance (max.) — 20 milliohms @ 500V DC

### Polarization Feature Effectiveness (USCAR-2) (min.):
- 3 * avg. mate force

### Connector Retention Force (min.) — 10N

### Secondary Retention Force (min.) — 40N

### Mating Force (USCAR-2) (max.): 75N

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

### Connector Drop Test (USCAR-2, RSA 36-05-019): Post-test visual inspection

### Connector Pry Resistance: (USCAR-2):
- Post-test resistance (max.) — 20 milliohms @ 500V DC

### Random Vibration / Mechanical Shock (Not Coupled to Engine) (USCAR-2, WW 75174):
- Post-test resistance (max.) — 20 milliohms @ 500V DC

### Random Vibration with Thermal Cycling / Mechanical Shock (Not Coupled to Engine) (USCAR-2, GMW3191, RSA 36-05-019):
- Post-test resistance (max.) — 20 milliohms @ 500V DC

### Random Vibration with High-Temp. Exposure / Mechanical Shock Not Coupled to Engine (USCAR-2, GMW3191, RSA 36-05-019):
- Post-test resistance (max.) — 20 milliohms @ 500V DC

### Corrosion Resistance (USCAR-2, GMW3191, RSA 36-05-019):
- Post-test resistance (max.) — 20 milliohms @ 500V DC
- Isolation resistance (max.) — 100 Megohms

## Electrical

### Voltage (max.): 14V DC

### Current (max.): Dependent on connector size, terminal, ambient temperature and related factors. Actual maximum current rating is application dependent and should be evaluated for each use.

### Contact Resistance (max.): 20 milliohms

### Dielectric Withstanding Voltage (min.): 1500V AC

### Isolation Resistance (min.): 100 Megohms