

# Mini Cool Edge 0.60mm Connectors

## MEETS SFF-TA-1002, GEN Z, EDSFF, OCP NIC 3.0 AND PCIE® ENCLOSURE COMPATIBLE FORM FACTOR(PECF) SPECIFICATION

Mini Cool Edge is a 0.60mm high density, high speed card edge connector for new generation small form factor system. This fine pitch solution offers multiple BTB applications like right angle, mezzanine and coplanar and support cable interconnect options.

Mini Cool Edge 0.60mm meets SFF-TA-1002, Gen Z, EDSFF and OCP NIC 3.0 specifications.

- Common applications include Solid State Drive, Network Interface Card, Add-In Card.
- Vertical, right angle, straddle mount and orthogonal options are available
- High Speed from 32GT/s to 56GT/s, and up to 112GT/s PAM4

### FEATURES

- Signal pin pitch at 0.60mm with current rating of 1.1A, up to 12 pins for power application
- Signal pins options from 56, 84, 140, 168, 280
- Customization of pin count upon request
- Small form factor
- Discrete pin design
- Supports 1.6mm thick mating board
- Hybrid & power individual options from 4C-HP, 4 power pins and 2 power pins available



### BENEFITS

- Supports small power BTB applications
- Provides power for module card
- Supports different board-to-board, module applications like FPGA, SSD, NIC
- Serves as a space-saving connector
- Supports single-ended, high speed differential pairs up to 32G NRZ, 56G PAM4, 112G PAM4
- For most standard BTB applications
- Support accelerator card, GPU application and power module

## ▶ Mini Cool Edge 0.60mm Connectors

### TECHNICAL INFORMATION

#### MATERIAL

- Contact Base Metal: Copper alloy
- Contact Area Finish: Gold over nickel
- Solder Area Finish: Tin over nickel
- Housing: High temperature thermoplastic (UL 94V-0)

#### ELECTRICAL PERFORMANCE

- Contact Resistance: 15mΩ max. change after test
- Power Supply: 72W max.
- Dielectric Withstanding Voltage: 300V AC

#### MECHANICAL PERFORMANCE

- Durability: 200 mating cycles
- Mating Force: 0.55N/pin max.
- Unmating Force: 0.50N/pin min.

#### SPECIFICATIONS

- Amphenol Product Specification: S-ME-004

#### PACKAGING

- Orthogonal: Tube
- Straddle mount: Tray

#### ENVIRONMENTAL

- Humidity: EIA 364-31B Method III, without conditioning
- Temperature Life: 105±2°C for 168 hours. Per EIA 364-17
- Thermal Shock: 5 cycles between -55°C to +85°C. Per EIA 364-32 Method A
- Mixed Flow Gas: 10 days to simulate 7 years field life. EIA364-65 class IIA, Option 4

#### TOOLING INFORMATION

- Special pin count option available upon request

#### TARGET MARKETS/APPLICATIONS



Baseband  
Commercial Systems  
Networking  
Radio Units



High-end Computing System  
Server and Storage Systems

### PART NUMBERS

| Description  | Part Numbers    | Gen Z | EDSFF | OCP NIC 3.0 |
|--|-----------------|-------|-------|-------------|
| Mini Cool Edge 0.60mm 48 signal pins, SMT, Vertical                            | ME1004810101011 |       |       |             |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Vertical                            | ME1005610101011 | ✓     | ✓     |             |
| Mini Cool Edge 0.60mm 84 signal pins, SMT, Vertical                            | ME1008410101011 | ✓     | ✓     |             |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, Vertical                           | ME1014010101011 | ✓     | ✓     | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, Vertical                           | ME1016810101011 |       |       | ✓           |
| Mini Cool Edge 0.60mm 196 signal pins, SMT, Vertical                           | ME1019610101011 |       |       |             |
| Mini Cool Edge 0.60mm 224 signal pins, SMT, Vertical                           | ME1022410103011 |       |       |             |
| Mini Cool Edge 0.60mm 280 signal pins, SMT, Vertical                           | ME1028040101011 | ✓     |       |             |
| Mini Cool Edge 0.60mm 140 signal pins with 4 power pins, SMT, Vertical         | ME1014040183011 | ✓     |       |             |
| Mini Cool Edge 4 power pins, Vertical  | ME10000401P0011 | ✓     |       |             |
| Mini Cool Edge 2 power pins, Vertical  | ME10000101P1011 | ✓     |       |             |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Right angle, Seating height 3.05mm  | ME1005610201011 | ✓     |       |             |
| Mini Cool Edge 0.60mm 84 signal pins, SMT, Right angle, Seating height 3.05mm  | ME1008410201011 | ✓     |       |             |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, Right angle, Seating height 3.05mm | ME1014010201011 | ✓     |       |             |
| Mini Cool Edge 0.6mm 168 signal pins, SMT, Right angle, Seating height 3.05mm  | ME1016810201011 | ✓     |       |             |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Right angle, Seating height 4.05mm  | ME1005610201031 |       | ✓     |             |
| Mini Cool Edge 0.60mm 84 signal pins, SMT, Right angle, Seating height 4.05mm  | ME1008410201031 |       | ✓     |             |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, Right angle, Seating height 4.05mm | ME1014010201031 |       | ✓     | ✓           |

## PART NUMBERS

| Description  | Part Numbers    | Gen Z | EDSFF | OCP NIC 3.0 |
|--|-----------------|-------|-------|-------------|
| Mini Cool Edge 0.60mm 168 signal pins, SMT, Right angle, Seating height 4.05mm                           | ME1016810201031 |       |       | ✓           |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Right angle, Seating height 4.05mm, Gen 5                     | ME1005610201041 |       | ✓     |             |
| Mini Cool Edge 0.60mm 84 signal pins, SMT, Right angle, Seating height 4.05mm, Gen 5                     | ME1008410201041 |       | ✓     |             |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, Right angle, Seating height 4.05mm, Gen 5                    | ME1014010201041 |       | ✓     | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, Right angle, Seating height 4.05mm, Gen 5                    | ME1016810201041 |       |       | ✓           |
| Mini Cool Edge 0.6mm 56 signal pins, SMT, Right angle, Seating height 7.05mm                             | ME1005610211081 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Straddle mount, 1.6mm PCB, 0.0mm offset                       | ME1005613401101 | ✓     | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, SMT, Straddle mount, 2.36mm PCB, 0.0mm offset                      | ME1005613401201 | ✓     | ✓     |             |
| Mini Cool Edge 0.6mm 56 signal pins, SMT, Straddle mount, 2.794mm PCB, 0.0mm offset                      | ME10056334B1A01 | ✓     | ✓     |             |
| Mini Cool Edge 0.60mm 84 signal pins, SMT, Straddle mount, 1.6mm PCB, 0.0mm offset                       | MET008431401101 | ✓     | ✓     |             |
| Mini Cool Edge 0.6mm 84 signal pins, SMT, Straddle mount, 1.93mm PCB, -0.3mm offset                      | MET008431401311 | ✓     | ✓     |             |
| Mini Cool Edge 0.6mm 84 signal pins, SMT, Straddle mount, 2.36mm PCB, 0.0mm offset                       | ME1008413402201 | ✓     | ✓     |             |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, OCP, Straddle mount, 1.6mm PCB, 0.0mm offset                 | ME1014013401101 | ✓     | ✓     | ✓           |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, OCP, Straddle mount, 1.93mm PCB, -0.3mm offset               | ME1014013401311 | ✓     | ✓     | ✓           |
| Mini Cool Edge 0.60mm 140 signal pins, SMT, OCP, Straddle mount, 2.36mm PCB, 0.0mm offset                | ME1014013401201 | ✓     | ✓     | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, OCP, Straddle mount, 1.6mm PCB, 0.0mm offset                 | ME1016813401101 | ✓     |       | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, OCP, Straddle mount, 1.93mm PCB, -0.3mm offset               | ME1016813401311 | ✓     |       | ✓           |
| Mini Cool Edge 0.6mm 168 signal pins, SMT, OCP, Straddle mount, 2.11mm PCB, 0.0mm offset                 | ME10168434A0601 | ✓     |       | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, OCP, Straddle mount, 2.36mm PCB, 0.0mm offset                | ME1016813401201 | ✓     |       | ✓           |
| Mini Cool Edge 0.60mm 168 signal pins, SMT, OCP, Straddle mount, 2.6mm PCB, 0.0mm offset                 | ME1016843433701 | ✓     |       | ✓           |
| Mini Cool Edge 0.6mm 168 signal pins, SMT, OCP, Straddle mount, 2.794mm PCB, 0.0mm offset                | ME10168334B2A01 | ✓     |       | ✓           |
| Mini Cool Edge 0.6mm 168 signal pins, SMT, OCP, Straddle mount, 3.00mm PCB, 0.0mm offset                 | ME1016813401411 | ✓     |       | ✓           |
| Mini Cool Edge 0.6mm 56 signal pins, 1x1, Gen 4+, Press-fit, Orthogonal                                  | ME2005602311011 |       | ✓     |             |
| Mini Cool Edge 0.6mm 56 signal pins, 1x4, Gen 4+, Press-fit, Orthogonal                                  | ME2005602311041 |       | ✓     |             |
| Mini Cool Edge 0.6mm 56 signal pins, 1x1, Gen 5, Press-fit, Orthogonal                                   | ME3005602311011 |       | ✓     |             |
| Mini Cool Edge 0.6mm 56 signal pins, 1x4, Gen 5, Press-fit, Orthogonal                                   | ME3005602311041 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 3, PCB-SMT, Orthogonal, 8.655mm offset, Stamping Shell    | ME1005630501211 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 3, PCB-SMT, Orthogonal, 8.655mm offset, Die casting Shell | ME1005630502211 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 4, PCB-SMT, Orthogonal, 8.655mm offset, Stamping Shell    | ME2005630501211 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 4, PCB-SMT, Orthogonal, 8.655mm offset, Die casting Shell | ME2005630502211 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 5, PCB-SMT, Orthogonal, 8.655mm offset, Stamping Shell    | ME3005630501211 |       | ✓     |             |
| Mini Cool Edge 0.60mm 56 signal pins, 1x1, Gen 5, PCB-SMT, Orthogonal, 8.655mm offset, Die casting Shell | ME3005630502211 |       | ✓     |             |

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