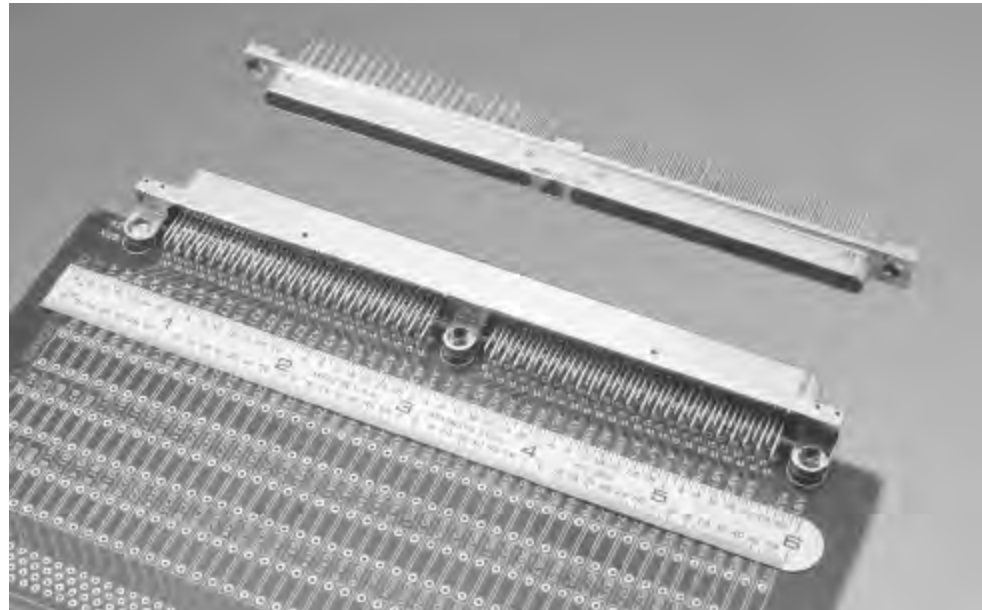


*Electronics*

**MCEM Series Metal Shell Edgeboard Connectors**

**Metal Shell Edge Board Connectors**

- Meets MIL-DTL-55302 performance requirements
- Layouts 128 and 184 are QPL to slash sheets 120, 121, 122 and 123
- Connectors are available in 40, 44, 80, 110, 128, 152, and 184 positions
- Utilizes low force twist pins and our low force sockets. Mating forces in the 3 to 4 oz. [.83 to 1.11N] range per contact are typical with low force pin and low force socket
- Designed for surface mounting and through-the-board mounting
- Available termination
  - Mother board (pin side) — cactus bend
  - Daughter board (socket side) — coke bottle, right-angle bend to "A" or "B" side
  - Solder pots, and variety of other wire terminations for pin and socket connectors available at customer's request
- Two hexagonal polarizing keys (per MIL-DTL-55302 slash sheet 124) are provided. Jackscrew hardware is available. For programmable keying/jacking modifications consult Tyco Electronics



In addition to the plastic versions of the 2 piece edgeboard connectors, a metal shell assembly is designed and tooled. The metal shells are made of aluminum alloy per QQ-A-591. The insert material is Diallyl phthalate, Polyphenylene sulfide (Ryton) or Liquid Crystal Polymer (LCP). The techni-

cal and performance data is essentially the same as that shown for the MCDM Series on page 25. These are rugged, durable connectors and are ideal for use in areas of high density packaging and where frequent connect and disconnects are required. Designed initially for applications in airborne data recorders,

computers and associated equipment in navigational systems. The mother board connector can be ordered to fit any pattern on the circuit board. The units can also be provided with contacts on .100 [2.54] spacing which results in .100 [2.54] grid pattern.

**Performance Data**

**Electrical**

**Contact Resistance** — The average mated contact resistance is 4 milliohms, with a maximum value of 8 milliohms. The average resistance value at 100 microvolts is 4.8 milliohms.

**Dielectric Withstanding Voltage** — 800 VAC RMS at sea level (600 for solder pots); 200 VAC RMS at 70,000 feet [21,336m] (150 for solder pots).

**Durability** — Less than the maximum allowable, 8 milliohms after 500 mating cycles.

**Insulation Resistance** — Greater than 5,000 megohms at room ambient temperature.

**Maximum Current Carrying**

**Capacity** — No. 24 contact 3 amperes.

**Mechanical**

**Contact Engaging & Separation**

**Forces** — 5.0 oz. max. [1.39N] (eng.), 0.5 oz. min. [.14N] (sep.).

**Environmental**

**Temperature Range** — -67°F to 302°F [-55° C to +150° C] for Diallyl Phthalate; -67°F to 257°F [-55° C to +125° C] for Polyphenylene Sulfide.

**Vibration** — No discontinuity in excess of 1  $\mu$  sec. during twelve 20 minute sweeps from 10 to 2000 CPS at .06 double amplitude or 20 G forces, whichever is less.

**Materials and Finish**

**Shells** — High grade aluminum alloy, electroless nickel plated per AMS 2404.

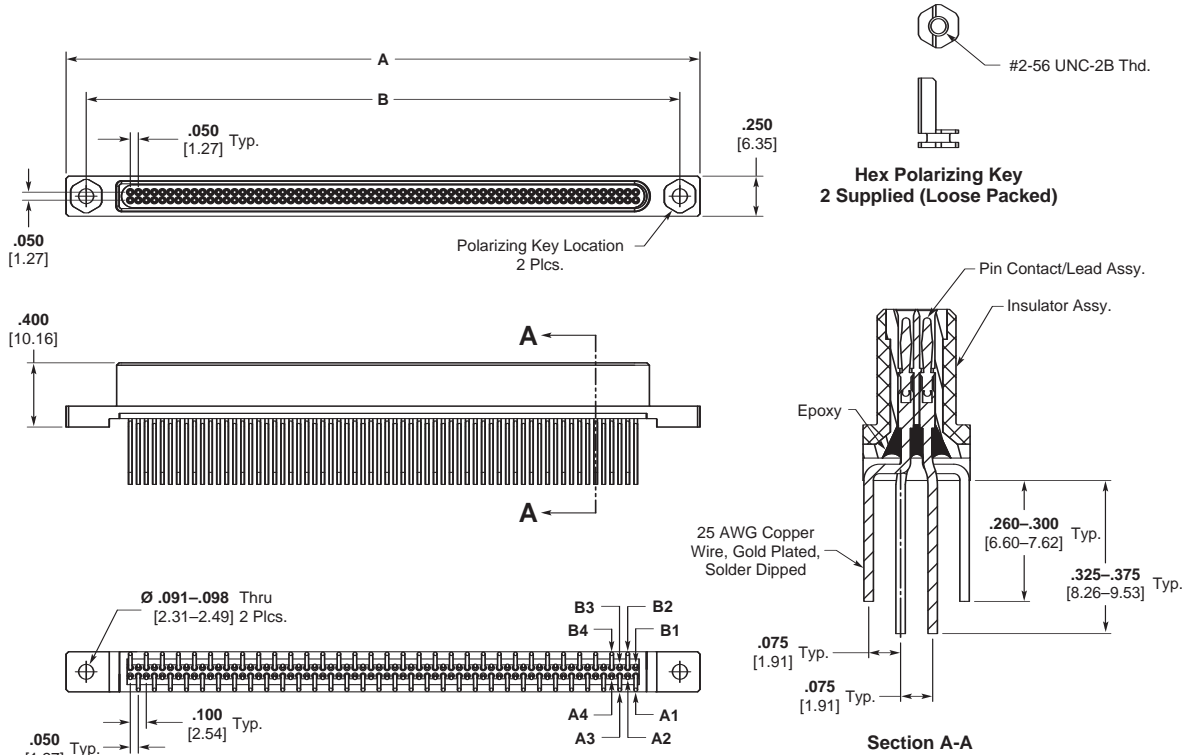
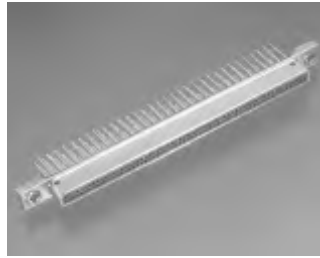
**Insulator** — Diallyl Phthalate per MIL-M-14, Type SDG-F (for 128 & 184); Polyphenylene Sulfide per MIL-M-24519 (for 40, 44, 80, 110 & 152), or Liquid Crystal Polymer per ASTM D5138.

**Contacts** — Pin (low force): beryllium and OFHC copper, gold plated. Socket (low force): Copper alloy, gold plated.

**Hardware** — Corrosion resistant stainless steel passivated.

MCEM Series Metal Shell Edgeboard Connectors (Continued)

Mother Board (Pin Side)  
40, 44, 80, 110 & 128 Positions



Dimensions for **.062 [1.57] PC Board**

No. of Contacts	A ± .010 [± .254]	B ± .005 [± .127]
40	<b>1.750</b> 44.45	<b>1.500</b> 38.10
44	<b>1.850</b> 46.99	<b>1.600</b> 40.64
80	<b>2.750</b> 69.85	<b>2.500</b> 63.50
110	<b>3.500</b> 88.90	<b>3.250</b> 82.55
<b>128</b>	<b>3.950</b> 100.33	<b>3.700</b> 93.98

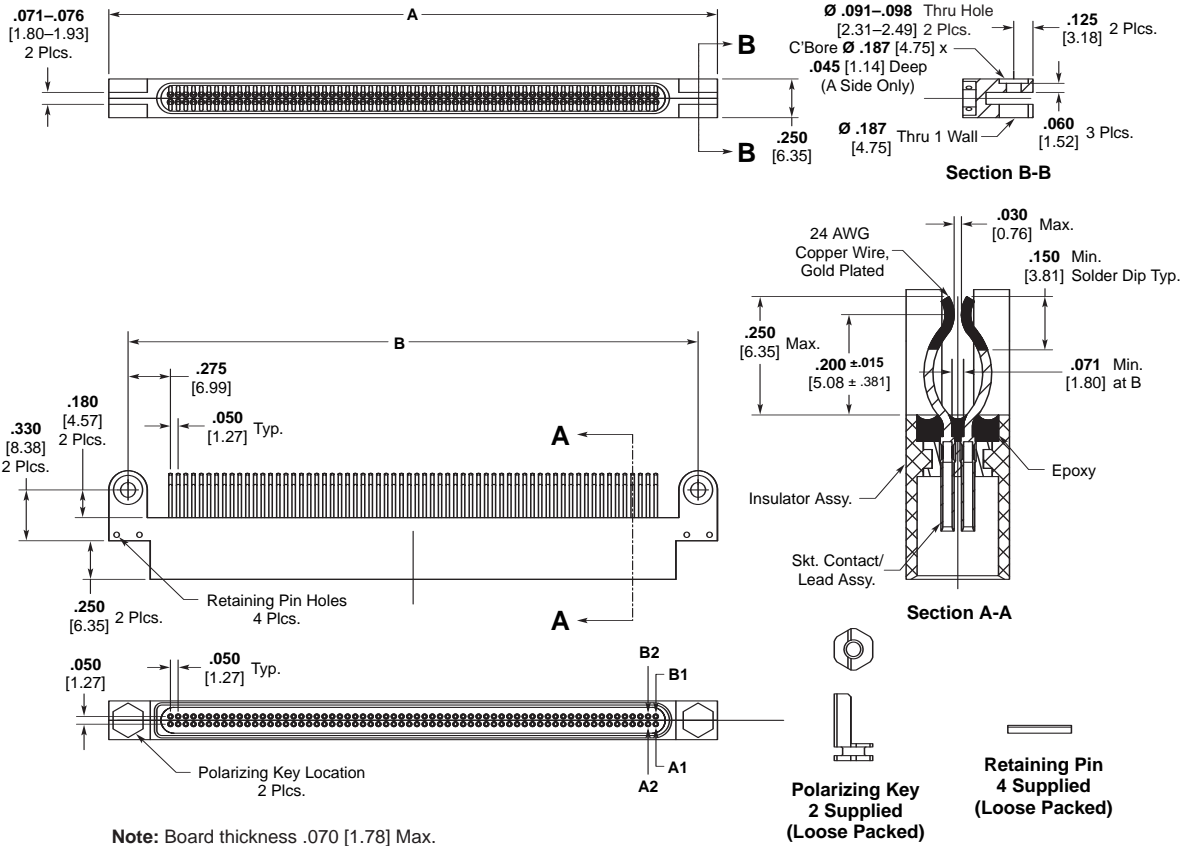
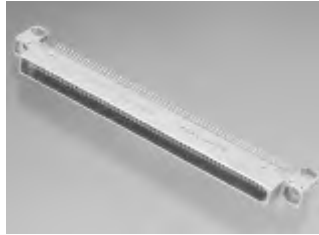
**Note:** For PC Boards of different widths, consult Tyco Electronics.

Items in bold italic are qualified to MIL-DTL-55302.  
Configuration shown is per MIL-DTL-55302/120.

**Electronics**

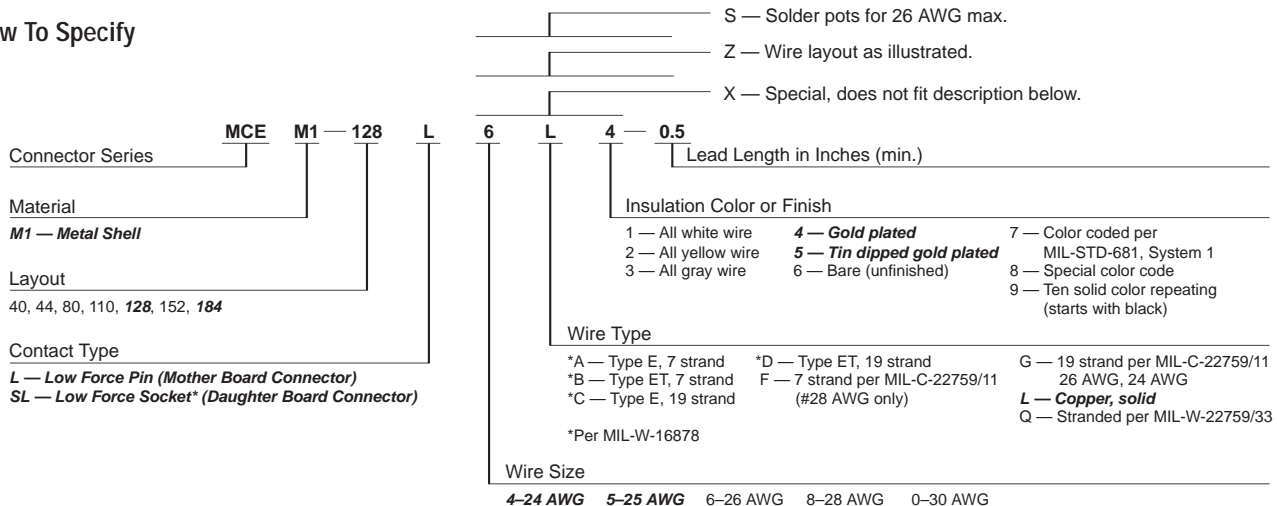
**MCEM Series Metal Shell Edgeboard Connectors (Continued)**

Daughter Board  
(Socket Side)  
40, 44, 80, 110 & 128 Positions



Note: Board thickness .070 [1.78] Max.

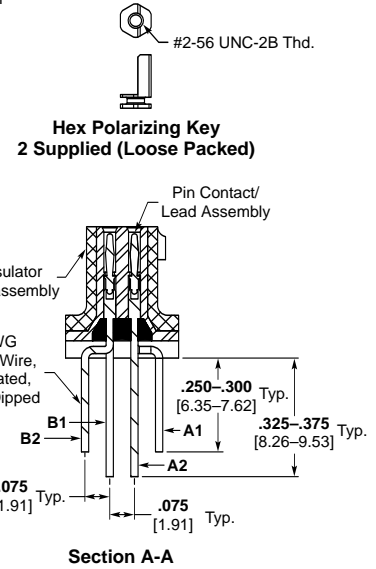
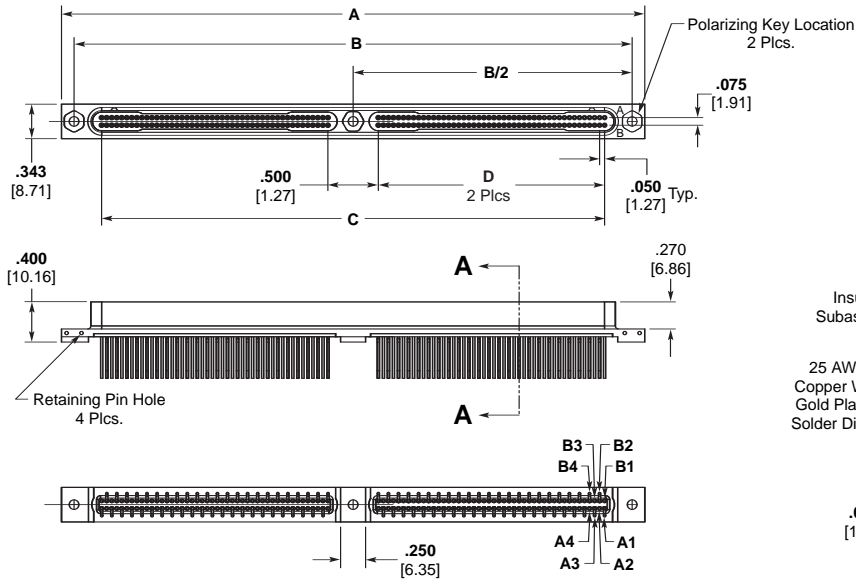
**How To Specify**



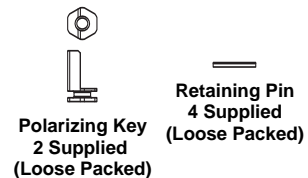
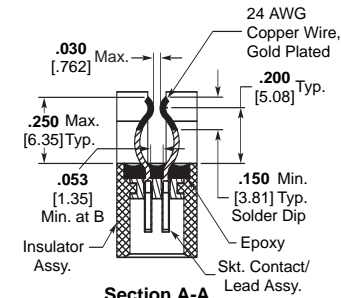
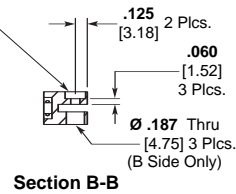
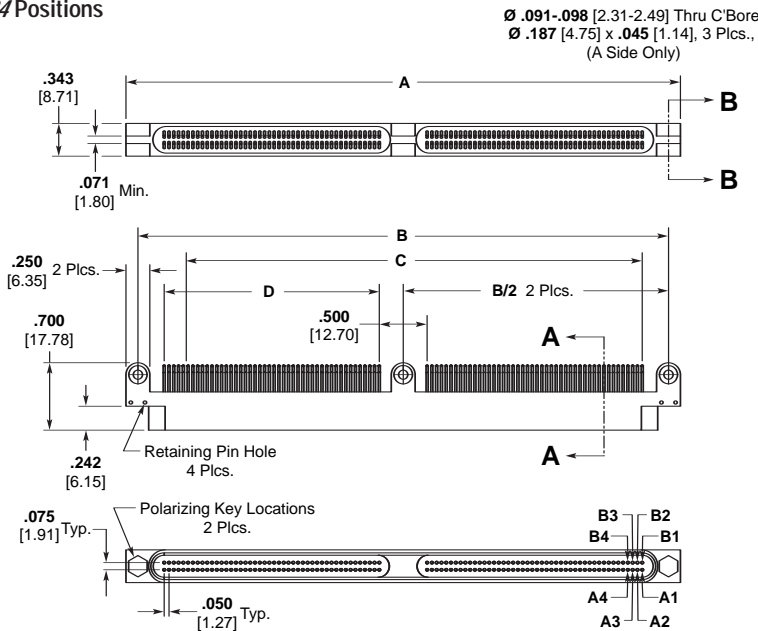
Items in bold italic are qualified to MIL-DTL-55302. Configuration shown is per MIL-DTL-55302/121.

Polarization - Hexagonal hardware is supplied with connector. Mounting - Standard mounting holes are shown. Consult Tyco Electronics for modifications.

**Mother Board (Pin Side)**  
152 & 184 Positions



**Daughter Board (Socket Side)**  
152 & 184 Positions



No. of Contacts	A ± .010 [± .254]	B ± .005 [± .127]	C Basic	D Basic
152	4.550 115.57	4.300 109.22	4.750 120.65	1.850 46.99
184	5.800 147.32	5.550 140.97	5.000 127.00	2.250 57.15