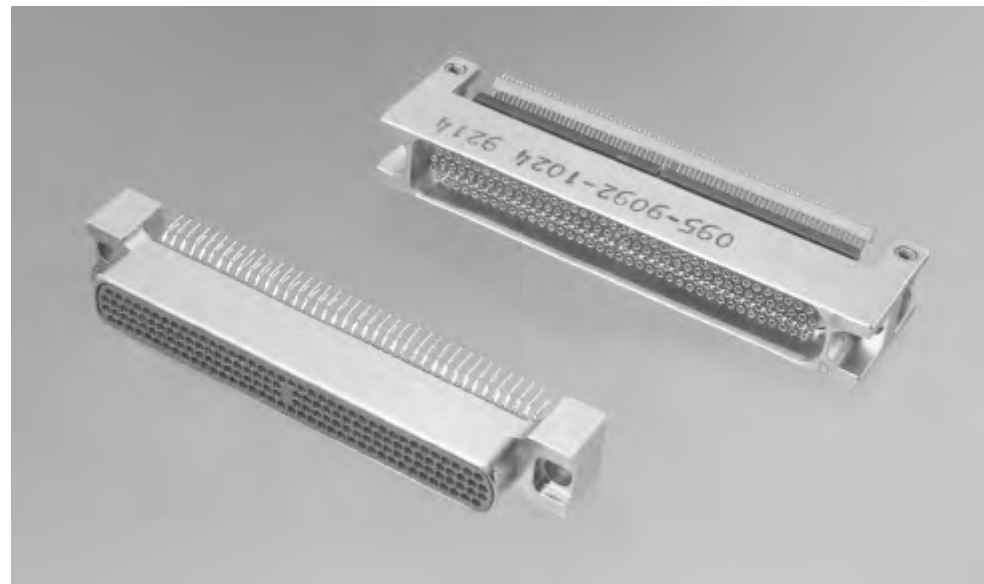


High Density Standard Module (HDSM) Connectors

Features

- Designed for surface mounting on both daughter board and mother board for increased circuit density
- Basic design offers 38, 78, 120, 152, 200, 304, and 400 contact designs
- High reliability twist pin and socket per MIL-DTL-83513 and MIL-DTL-55302
- Connector permits lateral movement of daughter board to accommodate clamping of the heatsink
- Plated through-hole mounting available
- Available with flying leads
- Extender card option available
- Typical mating force for 304 contacts is 38 pounds
- Designed to withstand vapor phase soldering
- Two rotatable (six position) polarizing keys are provided accommodating 36 possible combinations
- Jackscrew hardware available; consult Tyco Electronics
- Different modular inserts may be specified to include coax (Pixi/Con), fiber optic or other special contacts
- Inserts may be partially or fully loaded and installed in the connector shell in various configurations



The MICRODOT HDSM connector is designed for 4 row .050 [1.27] pitch density with a special low force twist pin that meets all requirements of MIL-DTL-55302 and MIL-DTL-83513. This high density connector allows the use of construction to double the packaging density with surface mount capability.

Performance Data Summary

Electrical

Contacts — Pin 24 AWG twist pin, Socket #24 AWG, Wire range 24 AWG to 32 AWG solid and stranded.

Contact Resistance (voltage drop) — 25 millivolts max. at 3 amps, 25° ± 3° C.

Current Rating — 3 amps max. per contact

Dielectric Withstanding Voltage — Volts RMS 60 Hz at room ambient: 600 V for solder pots at sea level. 150 V for solder pots at 70,000 ft. [21,336m] 500 V for wire terminations at sea level. 200 V for wire terminations at 70,000 ft.

Insulation Resistance — 5,000 megohms min. at room ambient.

Magnetic Permeability — 2 mμ max.

Mechanical

Contact Spacing — .050 [1.27] centers

Contact Engagement & Separation — 5.0 oz max. [1.39N] (eng.) 0.5 oz. min. [.14N] 3.5 oz. typ. [.97N] (sep.) force.

Materials and Finishes

Contacts — Copper alloy plated with .000050 [0.00127] gold over copper flash per MIL-G-45204, Type II.

Metal Shell — Insulator — Liquid Crystal Polymer (LCP) per ASTM D5138 or Polyphenylene Sulfide per MIL-M-24519

Body Shell — Aluminum alloy plated Nickel, electroless per MIL-C-26074.

Environmental

Temperature Range — -67°F to 257°F [-55° C to +125° C].

Vibration — No discontinuity in excess of 1 micro sec. when tested in accordance with MIL-STD-1344, Method 2005, test Condition IV.

Insulator Retention — Inserts will withstand a 50 lb. per square inch load in either direction.

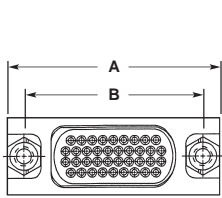
Shock — No discontinuity in excess of 1 micro sec. when tested in accordance with MIL-STD-1344, Method 2004, test Condition E.

Durability — No mechanical or electrical defects detrimental to the function of the connectors after 500 cycles of mating and unmating. (Caution: Mating force increases during durability cycling may be noted).

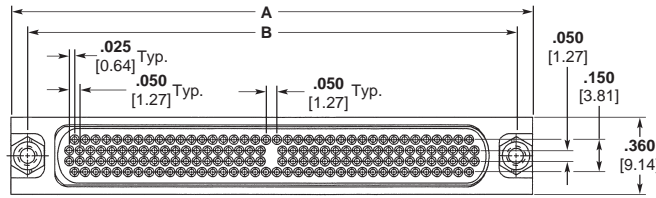
Humidity — After exposure to humidity as specified by MIL-STD-1344, Method 1002, Type II, IR shall be 1 megohm min. immediately following step 7a of Method 1002 and 1000 megohms min. after 24 hours of conditioning per Method 1002.

Salt Spray — Connectors shall meet the performance requirements of contact resistance, mating and unmating forces, and contact retention after being subjected to the 48-hour 5% solution salt spray test per MIL-STD-1344, Method 1001, Condition B.

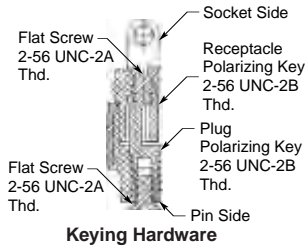
Crimp Termination Tensile Strength — *Unassembled contacts with crimped stranded wire terminations. Wires will not pull out of contacts when the following axial loads are applied: 24 AWG, 5 lbs., 26 AWG, 4 lbs., 28 AWG, 3 lbs.



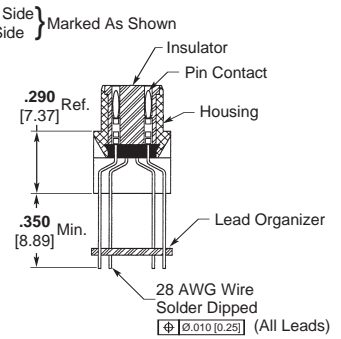
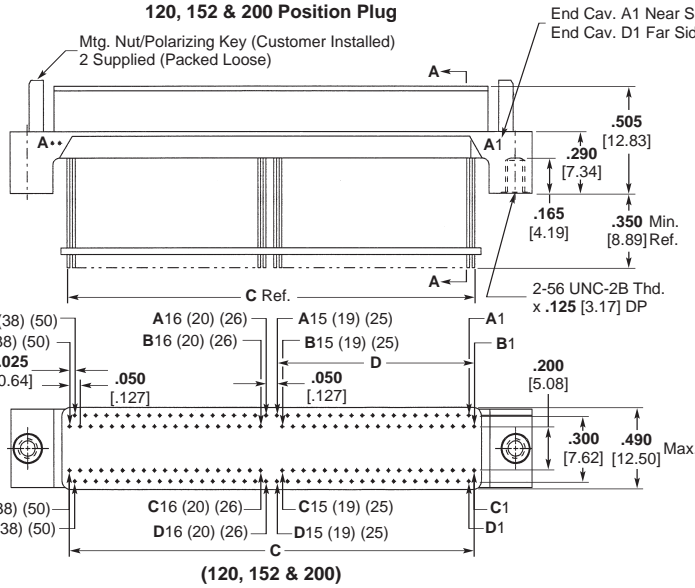
38 & 78 Position Plug



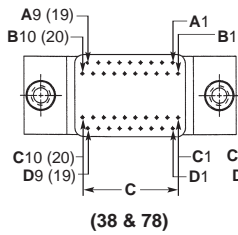
120, 152 & 200 Position Plug



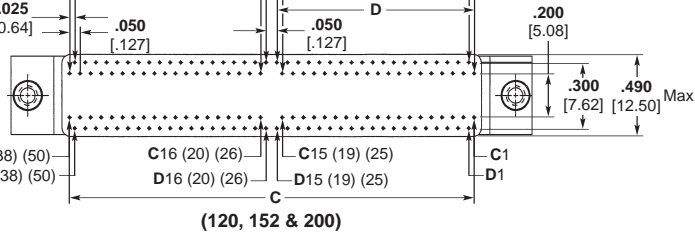
Keying Hardware



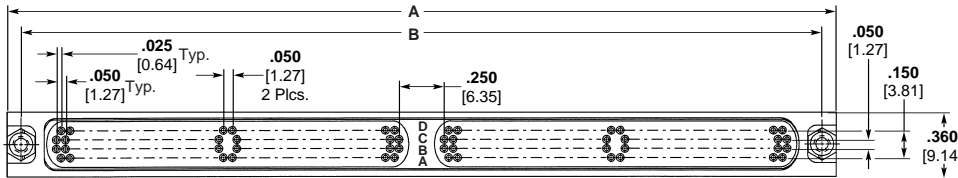
Section A-A



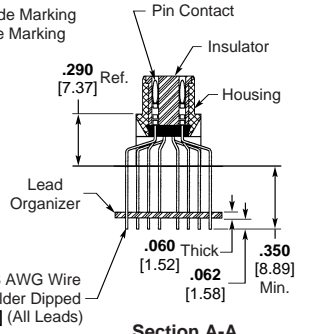
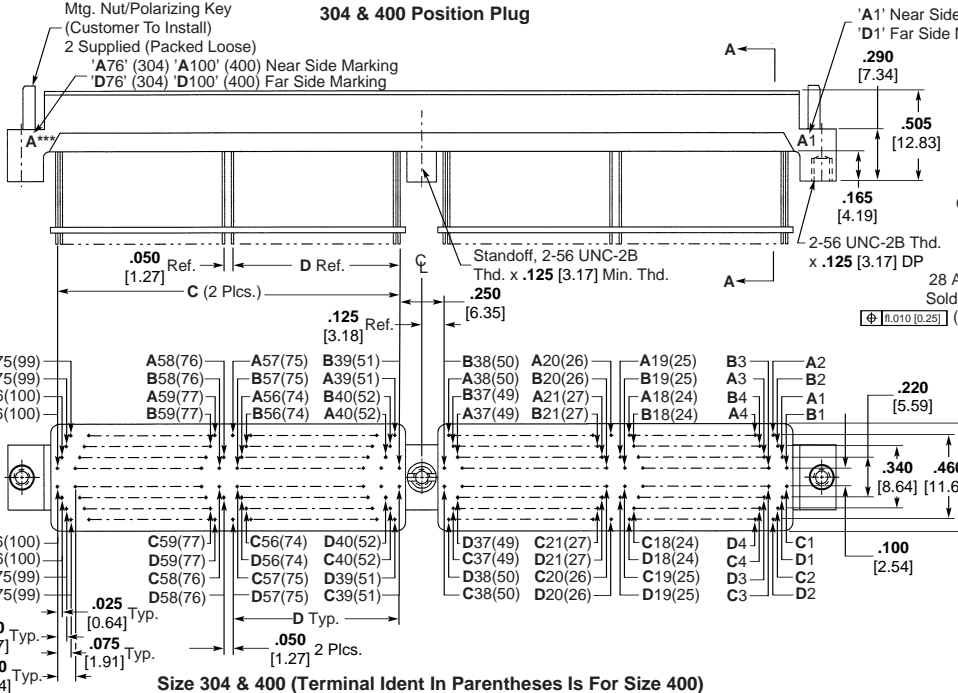
(38 & 78)



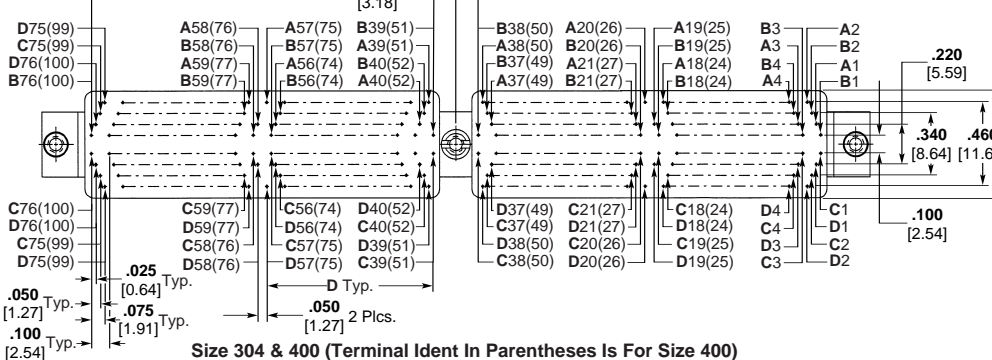
(120, 152 & 200)



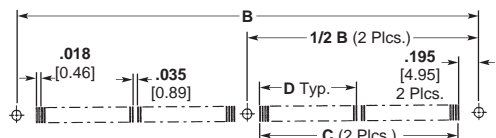
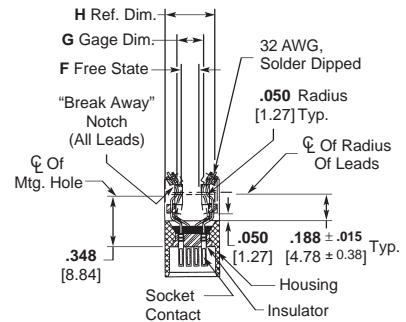
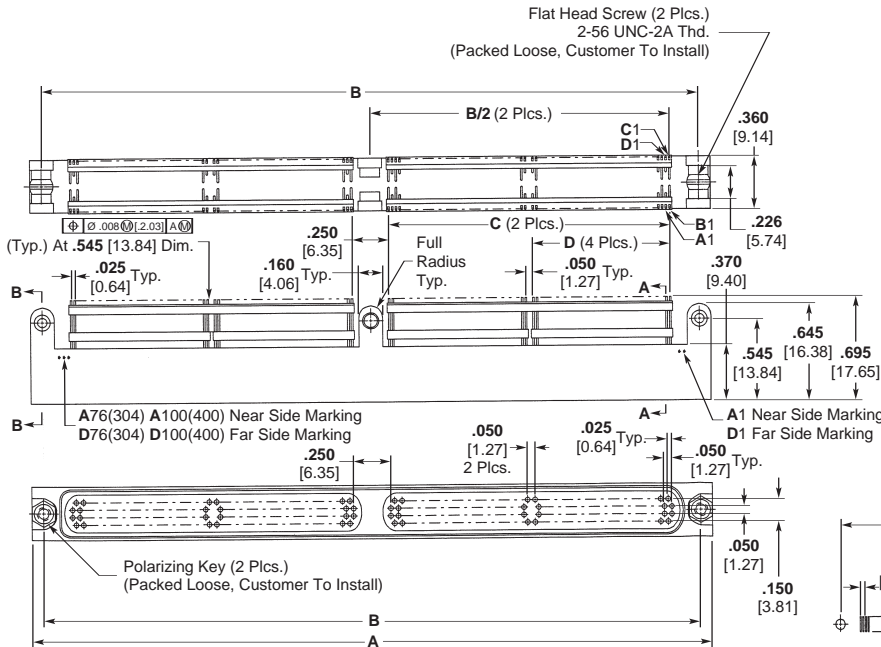
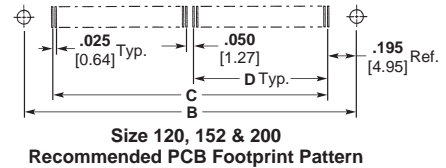
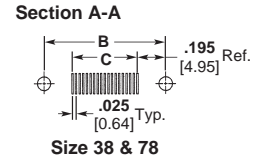
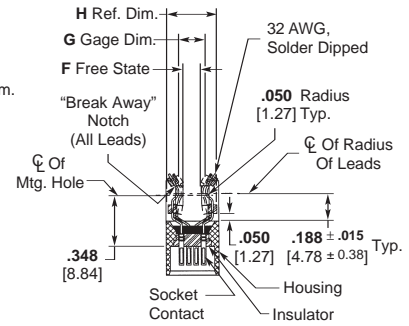
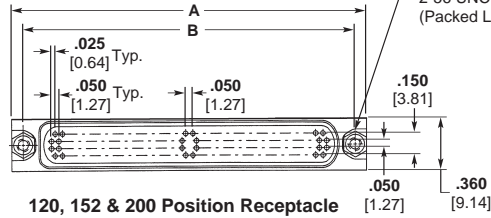
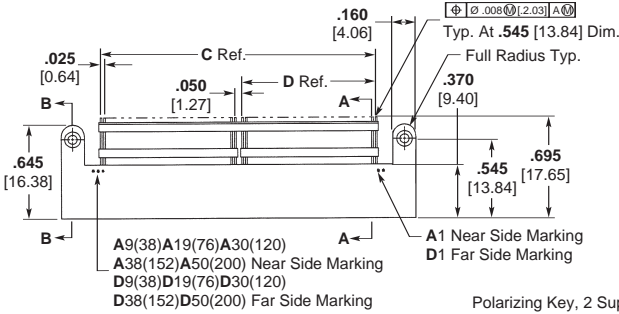
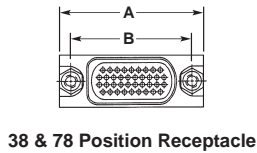
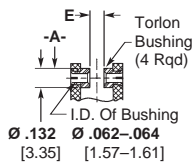
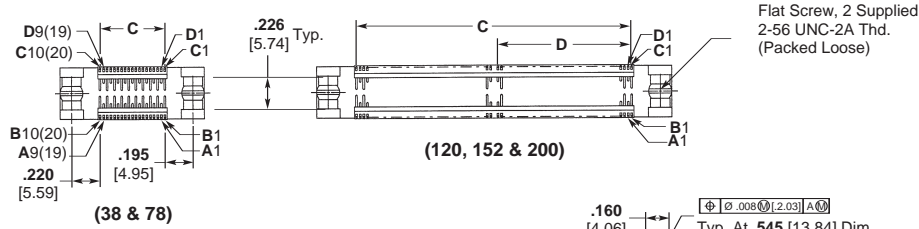
304 & 400 Position Plug



Section A-A



Size 304 & 400 (Terminal Ident In Parentheses Is For Size 400)



High Density Standard Module (HDSM) Connectors (Continued)

No. of Cavities	A Dim.	B Dim.	C Dim.	D Dim.
Single Bay				
38	1.000 25.40	.840 21.34	.450 11.43	—
78	1.500 38.10	1.340 34.04	.950 24.13	—
120	2.050 52.07	1.890 48.01	1.500 38.10	.725 18.42
152	2.450 62.23	2.290 58.17	1.900 48.26	.925 23.50
200	3.050 77.47	2.890 73.41	2.500 63.50	1.225 31.12
Double Bay				
304	4.600 116.84	4.440 112.78	1.900 48.26	.925 23.50
400	5.800 147.32	5.640 143.26	2.500 63.50	1.225 31.12

How To Specify

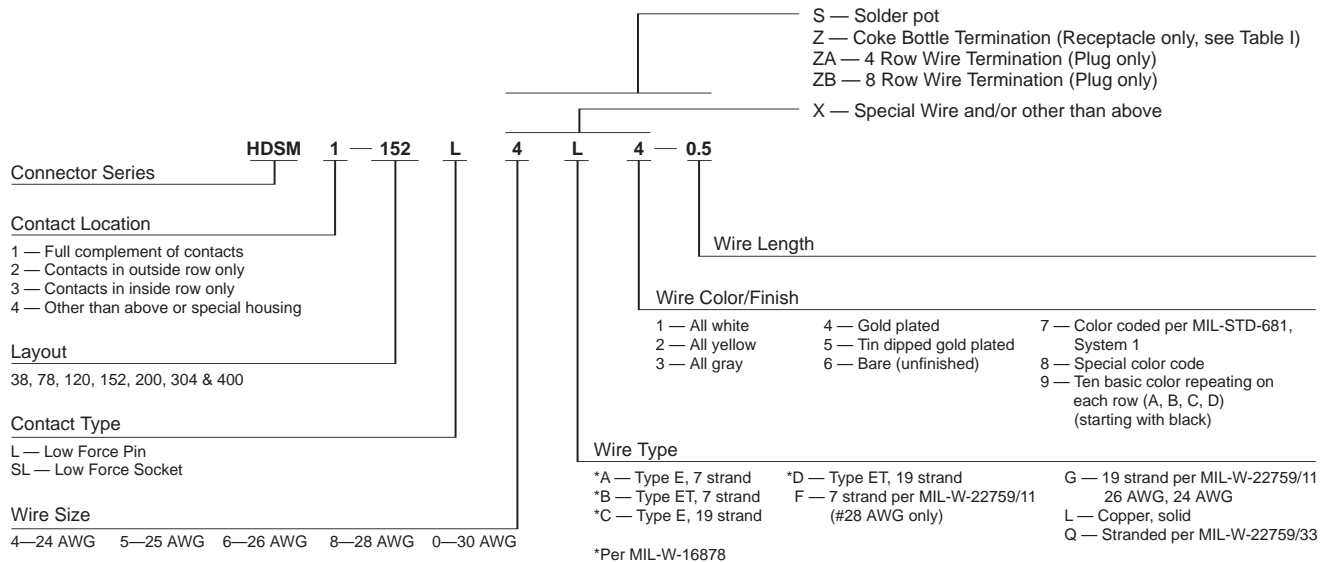


Table I

Dash No.	Gap Between Bushing "E"	F Dim.	G Dim.	H Dim. (Ref.)
1	.100	.120	.180	.330
	2.54	3.05	4.57	8.38
2	.093	.060	.150	.330
	2.36	1.52	3.81	8.38
3	.118	.235	.260	.483
	2.99	5.97	6.60	12.27
4	.145	.120	.180	.330
	3.68	3.05	4.57	8.38