

Hercules™

High-Speed Ruggedized Interconnect System



The Hercules Interconnect System with plug and cable assembly is embedded in a ruggedized circular MIL-38999 shell to provide a durable and high-bandwidth interconnect scheme suitable for many Military and Aerospace high-bandwidth applications not previously accommodated by industry standard interconnects.



Features & Benefits

- Rugged light-weight aluminum MIL-38999 Series III size 9, 13, 17 and 23 threaded-coupling circular shells
- Keying: "A", "B", "C", "D", and "E"
- Available as Plug-Cable Assemblies and Jam-Nut or Flange-Mount Receptacles for Solder Tail, Press Fit or Pigtail
- Jacket types available: LSZH, PVC, FEP and Halar Expando
- Cable types available in 24, 26, 28, 30 AWG, high bandwidth
- Supports data rates in excess of 10 Gb/s and differential-pair signaling with low-skew pairs & shielding for EMI/RFI protection
- Matched impedance design of 100 ohm
- Fully electrically tested
- Custom lengths built to order
- One connector for a variety of standard protocols

Specifications

Electrical

[mated connector pair, less cable]

- Impedance: 100 ± 15 ohms differential at 100ps rise time
- Crosstalk: < -30 dB up to 5 GHz / -20 dB up to 10 GHz from multiple aggressors
- Insertion loss: < -1 dB up to 5 GHz
- Power per contact: 3 amp at 10 °C temperature rise
- Low-level contact resistance: < 20 mΩ
- Insulation resistance: > 300 MΩ for 1 min at 300 VDC*
- DWV: No defect for 1 min at 300 VDC*

*[*potential based on cable material used]*

Mechanical

- Contact material: Copper Alloy
- Standard contact finish: 100 μ-inch min Au over 100 μ-inch min Ni
- Aluminum shell with plating options
- Durability: 500 cycles

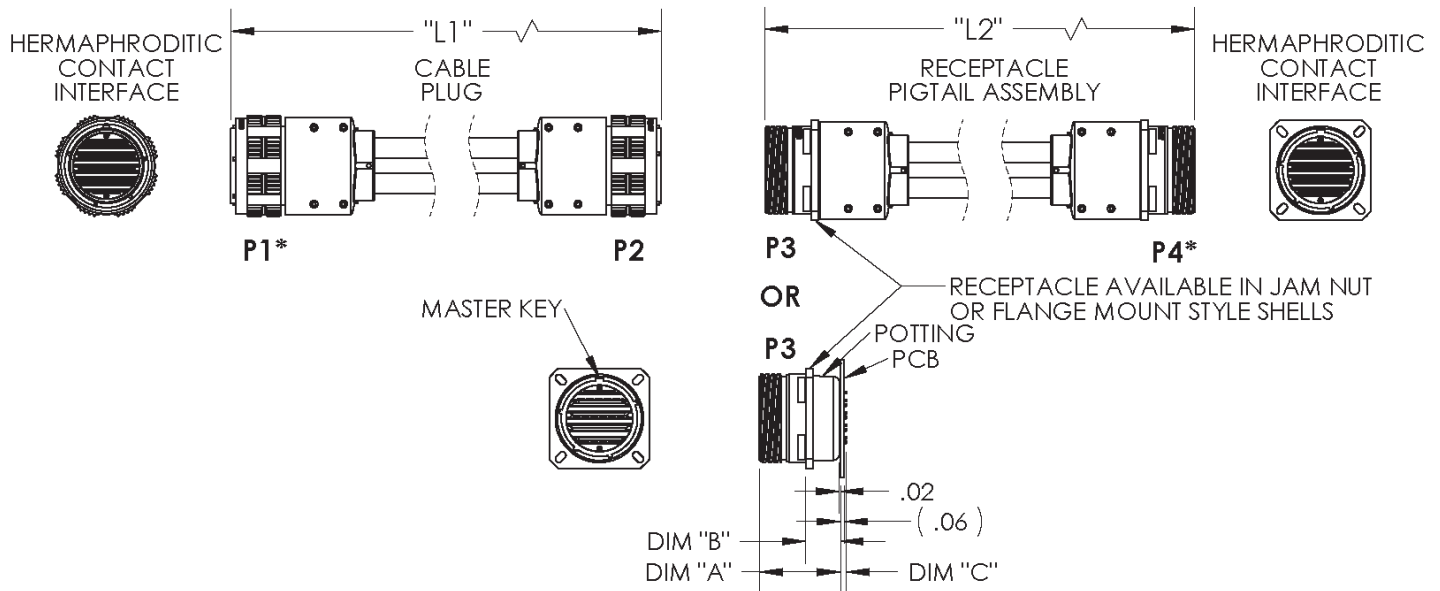
Environmental

- Between -40 °C to $+125$ °C standard with $+175$ °C available upon request
- VITA 46 Shock and Vibration

Members



Hercules is the Approved VITA-76 (High-Performance Cable) Standard



PIN STYLE	*DIM "A"	*DIM "B"	DIM "C"
SOLDER TAIL	.96 [24.4]	.18 [4.6]	.10 [2.5]
SOLDER TAIL	1.38 [35.1]	.59 [15.0]	.10 [2.5]
SOLDER TAIL	1.38 [35.1]	.59 [15.0]	.15 [3.8]
SOLDER TAIL	1.38 [35.1]	.59 [15.0]	.20 [5.1]
SOLDER TAIL	1.38 [35.1]	.59 [15.0]	.25 [6.4]
PRESS FIT	1.38 [35.1]	.59 [15.0]	.10 [2.5]
PRESS FIT	.96 [24.4]	.18 [4.6]	.10 [2.5]

* DENOTES SIZE 23 FLANGE MOUNT ASSEMBLY DIMENSIONS

*OPTIONS (P1, P4)

- A. HERCULES™ MIL-38999 HERMAPHRODITIC
- B. 4X IB STRAIGHT THUMBSCREW
- C. SFP+
- D. MINI-SAS
- E. QSFP
- F. OTHER (RJ-45, USB, IPASS (PCIE))

Shell Size	No. of Differential Pairs	Protocol(s)	No. of Contacts
9	2	USB 2.0, 10GE	8
13	6+6 Spares	USB 2.0, USB 3.0 10G E, 100G E, Micro-SATA, Mini-SAS, Display Port	28
17	18+6 Spares	USB 2.0, USB 3.0 10G E, 100G E, SATA, eSATA, Micro-SATA, Mini-SAS, PCIe, 4X IB, Serial I/O, DVI, Display Port	66
23	44+4 Spares	USB 2.0, USB 3.0 10G E, 100G E, SATA, eSATA, Micro-SATA, Mini-SAS, PCIe, 4X IB, 12X IB, Serial I/O, DVI, Display Port	145

ADDITIONAL PROTOCOLS ACCOMMODATED ARE TBD

Contact Us!

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