

- Environmental Protection
- MIL-C-24308 Compatibility
- Reliability and Versatility

GD* connectors are ideal for aerospace, military, telecommunications and other applications requiring environmental protection and high reliability.

ITT Cannon developed GD* connectors to meet the needs of the avionics industry. These connectors provide high-density and moisture protection.

Environmental protection is accomplished by the resilient grommet, interfacial seal, and bonded connector components.

Performance and Material Specifications

MATERIALS AND FINISHES

	Materials	Finishes
Shell	Low carbon steel per ASTM-A-620	Yellow chromate over cadmium per QQ-P-416, Type II, Class 2
Insulator	Diallyl phthalate per MIL-M-14 type SDG-F or GDI-30F	—
Contacts	Copper alloy	Standard finish: Gold over nickel Military Finish: Gold 50 microinches thickness per MIL-G-45204, Type II, Grade C, Class 1, over copper per MIL-C-14550
Float Mount Hardware	Stainless steel	Passivated per QQ-P-35
Grommets and Seals	Silicone elastomer or Fluorosilicone	
Bonding Materials	Epoxy	—

MECHANICAL FEATURES

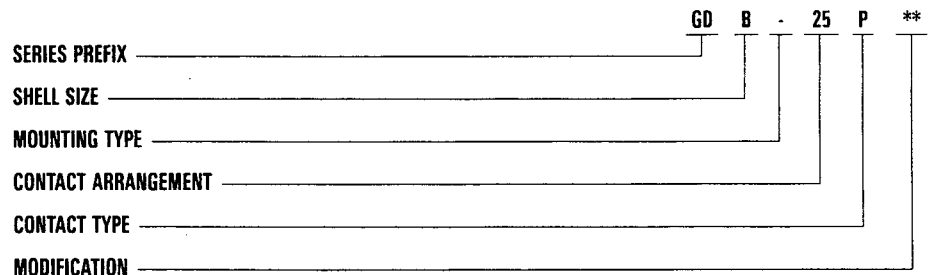
Wire Accommodation – Contact: #20, #22, #24 AWG.
Wire O.D. .071 (1.80) maximum, .038 (0.97) minimum.
Contact Retention – 9 lbs. minimum (40N) after 10 insertions

ELECTRICAL DATA

Test Voltage AC RMS 60 Hz	Sea Level	20,000 Ft.	50,000 Ft.	70,000 Ft.
Average Flashover	1,000	1,000	500	500
Test	1,000	650	325	325

Maximum Current Carrying Capacity of Contacts – #20 Contacts: 5 Amps
Temperature Range – -65°C to +150°C (-53.9°F to +302°F)

How to Order



SERIES PREFIX
GD – Grommet D

SHELL SIZE
E, A, B, D

MOUNTING TYPE
No Designator – .120 (3.05) Diameter Mounting Holes
Y – Float Mount for Rear and Front Panel Mounting

CONTACT ARRANGEMENTS
9, 15, 25, and 50

CONTACT TYPE
P – Pin, crimp termination
S – Socket, crimp termination
PB – Pin, printed circuit termination with non-removable straight tails for .125 (3.18) maximum P.C. Board thickness

MODIFICATIONS (Typical Modifiers)
FO – Connectors supplied Less Contacts
A156 – Connectors supplied with contacts plated per MIL-G-45204 Type II Class 1 over copper per MIL-C-14550 (M24308 Finish)

D Subminiature Connectors

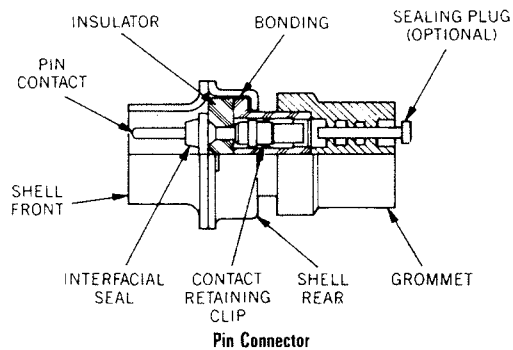
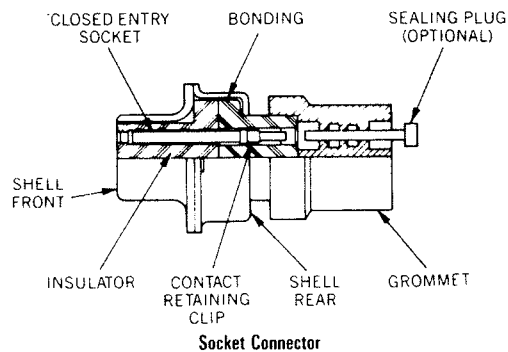
Test Data

GD* connectors meet all applicable requirements of MIL-C-24308. The following are excerpts from ITT Cannon Test Report C82-78 applicable to environmental D Subminiature GD* series connectors. Refer to MIL-C-24308 Test Extracts on page 385.

Test Description	Test Method	Results
Moisture Resistant	MIL-STD-1344 Method 1002.1 Type II	1. No deterioration of performance. 2. Insulation resistance greater than 100 megohms. 3. No evidence of flashover or breakdown during 1000 VAC DWV testing.
Fluid Immersion	20 hours immersion in hydraulic fluid per MIL-H 5606 and lubricating fluid per MIL-L 23699.	1. No detrimental damage. 2. Able to meet requirements of mating and unmating forces test.
Immersion	Two hours immersion in tap water at a depth of 36.00 (914.40) in mated condition, per MIL-STD 810, Method 512, Procedure 1.	While still immersed, the mated connectors exceeded 100 megohm insulation resistance and exhibited no evidence of breakdown or flashover during 1000 VAC (RMS) DWV testing.

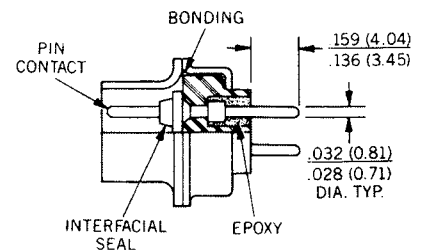
Design Features

- Resilient silicone grommets for wire sealing
- Interfacial seals
- Closed-entry socket contacts
- Bonded components to prevent moisture
- Optional sealing plugs
- Uses M39029 type contacts and termination tooling
- Intermateable with most M24308 type connectors
- Rear-release crimp contacts
- LITTLE CAESAR™ contact retention assembly



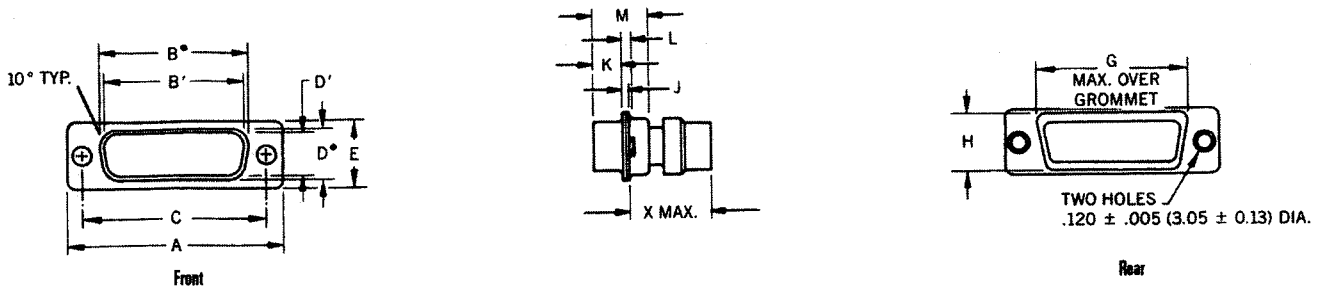
Printed Circuit Applications

GD* pin connectors are available with pre-loaded, non-removable contacts for P.C. board termination. Typical Part No. GDB-25PB. Environmental sealing is accomplished by application of epoxy to each contact cavity, interfacial seals, and bonded connector components.

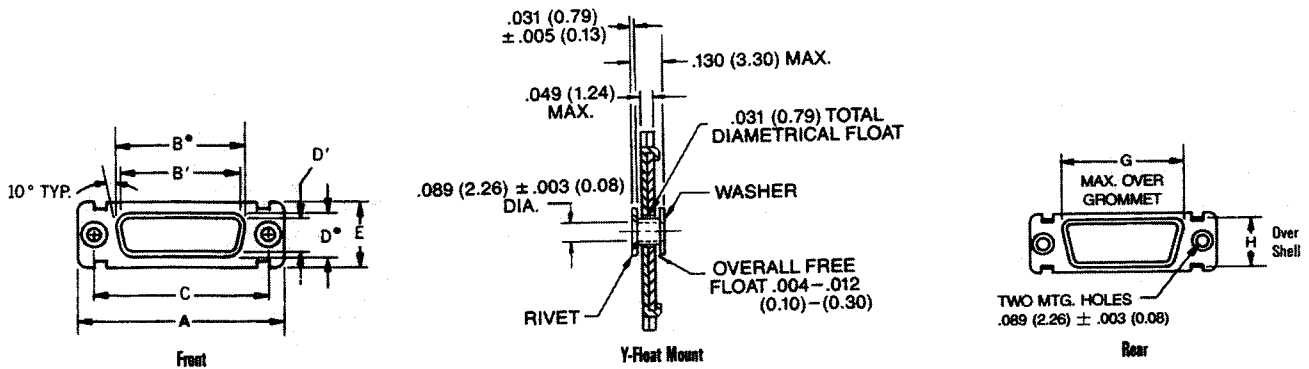


D Subminiature Connectors

Standard Shell Dimensions



Shell With Float Mount Dimensions



It is recommended that only one assembly, either pin or socket, be float mounted. For front panel mounting use reverse float mount.

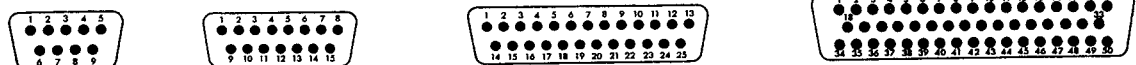
Shell size	A ± .015 (0.38)	B \bullet ± .005 (0.13)	B' ± .005 (0.13)	C ± .005 (0.12)	D \bullet ± .005 (0.13)	D' ± .005 (0.13)	E ± .015 (0.38)	G Max.	H ± .010 (0.25)	J ± .010 (0.25)	K ± .006 (0.13)	L ± .010 (0.25)	M ± .005 (0.13)	X Max.
GDE-9P	1.213 (30.81)	—	.666 (16.91)	.984 (24.99)	—	.329 (8.36)	.494 (12.55)	.750 (19.05)	.422 (10.72)	.030 (0.76)	.235 (5.97)	.045 (1.14)	.422 (10.72)	.718 (18.24)
GDE-9S	1.213 (30.81)	.643 (16.33)	—	.984 (24.99)	.311 (7.90)	—	.494 (12.55)	.750 (19.05)	.422 (10.72)	.030 (0.76)	.243 (6.17)	.045 (1.14)	.422 (10.72)	.718 (18.24)
GDA-15P	1.541 (39.14)	—	.994 (25.24)	1.312 (33.32)	—	.329 (8.36)	.494 (12.55)	1.093 (27.76)	.422 (10.72)	.030 (0.76)	.235 (5.97)	.045 (1.14)	.422 (10.72)	.718 (18.24)
GDA-15S	1.541 (39.14)	.971 (24.66)	—	1.312 (33.32)	.311 (7.90)	—	.494 (12.55)	1.093 (27.76)	.422 (10.72)	.030 (0.76)	.243 (6.17)	.045 (1.14)	.422 (10.72)	.718 (18.24)
GDB-25P	2.088 (53.03)	—	1.534 (38.96)	1.852 (47.04)	—	.329 (8.36)	.494 (12.55)	1.625 (41.28)	.422 (10.72)	.039 (0.99)	.230 (5.84)	.060 (1.52)	.426 (10.82)	.718 (18.24)
GDB-25S	2.088 (53.03)	1.511 (38.38)	—	1.852 (47.04)	.311 (7.90)	—	.494 (12.55)	1.625 (41.28)	.422 (10.72)	.030 (0.76)	.243 (6.17)	.045 (1.14)	.429 (10.90)	.718 (18.24)
GDD-50P	2.635 (66.92)	—	2.079 (52.81)	2.406 (61.11)	—	.441 (11.20)	.605 (15.37)	2.162 (54.91)	.534 (13.56)	.039 (0.99)	.230 (5.84)	.060 (1.52)	.426 (10.82)	.718 (18.24)
GDD-50S	2.635 (66.92)	2.064 (52.42)	—	2.406 (61.11)	.423 (10.74)	—	.605 (15.37)	2.162 (54.91)	.534 (13.56)	.030 (0.76)	.243 (6.17)	.045 (1.14)	.429 (10.90)	.718 (18.24)

*dimensions B, D, and H are measured as outside dimensions at the bottom of draw.

NOTE: B \bullet and D \bullet are the outside dimensions for socket side, B' and D' are the inside dimensions for pin side.

Contact Arrangements

Face View Pin Insert



Shell Size
Contact Arrangement
Contact Size

E
9
#20

A
15
#20

B
25
#20

D
50
#20

D Subminiature Connectors

Contacts

Finish	Type	ITT Cannon Part Number	M39029 Part Number
Standard	Pin #20	330-5291-000	
Gold/Nickel	Socket #20	031-1007-000	
A156	Pin #20	330-5291-037	M39029/64-369
Gold/Copper	Socket #20	031-1007-042	M39029/63-368

Accessories

SEALING PLUGS: GD* grommets are designed to accept MS27488-20 sealing plugs, ITT Cannon P/N 225-0070-000 ordered separately.

LOCKING HARDWARE, DUST CAPS: GD* Connectors will accommodate most standard D Subminiature accessories.

Hand Crimp Tool

M22520/2-01 with M22520/2-08 locator. Semi-automatic and fully automatic tooling is also available.



Insertion/Extraction Tool (Plastic)

Contact Size	ITT Cannon Description	ITT Cannon Part Number	Insertion Color Tip	Extraction Color Tip
#20	CIET-20HDL	274-7010-000	White	Green