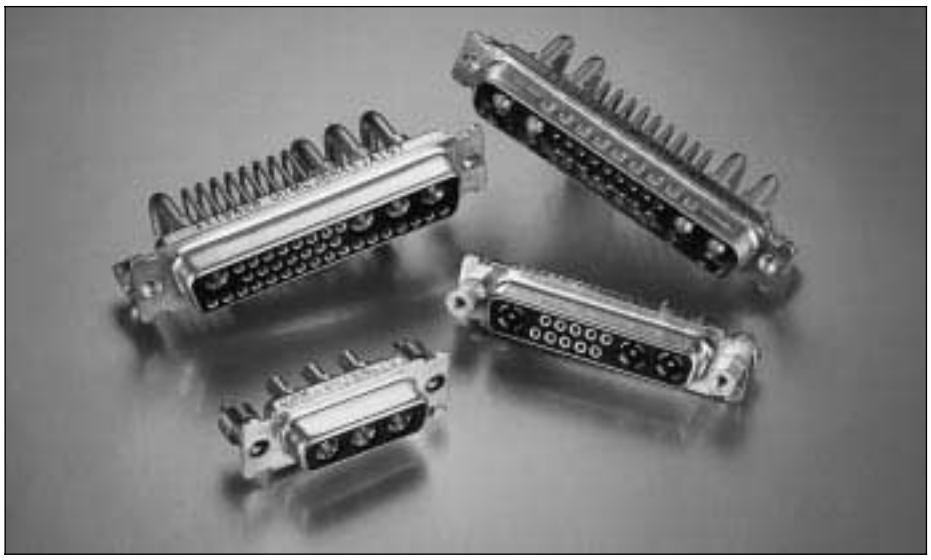
Combination D Subminiature connectors offer the advantages of an industry standard shield I/O interconnect, with the flexibility of a customized special, designed for any application.

This connector system is ideal for applications that require optimization of space while improving overall shielding. Combo D® accomplishes this by combining multiple interconnect types into one fully shielded product, decreasing the number I/O interfaces and reducing the possibility of EMI/RFI leakage.

By continually investing in engineering and manufacturing technology, ITT Cannon has improved the performance and features of this popular product. This catalog contains our latest efforts to meet the global requirements of the commercial electronics industry with a flexible, reliable and cost effective connector solution.



Applications

Video Coaxial Transmission (75 Ω)
RF and Telecom Transmission (50 Ω)
Power Interconnects (Up to 40 A)

Product Features

Standard and European Footprints
Pre-Installed 75 Ω/50 Ω Coaxial or High Power contacts (One Part Number)
Vertical Standoffs or 90° Brackets
90° or Straight PCB
PC Boards up to 3,2 (.125) Thick
PCB Variants Available with Boardlocks and/or Screw Locks (#4-40 or M3)

Specifications

Temperature Rating	−55°C to 125°C	Coaxial VSWR	Less than 1.30 + .03F for F up to 500 MHz
Signal Contact Current Rating	7.5 A current capacity	Coaxial Insertion Loss	.3dB loss at 500 MHz
Signal Contact Resistance	55 millivolt max. at 7.5 test current	High Power Current Rating	Up to 40 A
Signal Contact Dielectric Withstanding Voltage	1250 VAC at Sea Level	High Power Dielectric Withstanding Voltage	1000 VAC at Sea Level
Coaxial Current Rating	5 A	High Voltage Current Rating	5 A
Coaxial Dielectric Withstanding Voltage	1000 VAC at Sea Level	High Voltage Contact Dielectric Withstanding Voltage	2800 V at Sea Level
Coaxial Impedance	75 Ω or 50 Ω		

Materials and Finishes

Connector Assembly

Description	Material	Finish/Treatment
Shell	Steel	Tin
Insulator	Black Polyester, UL 94V-0	None
Pin Contact	Copper Alloy	Gold over Nickel
Socket Contact	Copper Alloy	Gold over Nickel in mating area, Tin on balance
Standoff	Stainless Steel	Passivated
Bracket	Steel	Tin
Rivnut	Steel	Tin
Boardlock	Copper Alloy	Tin

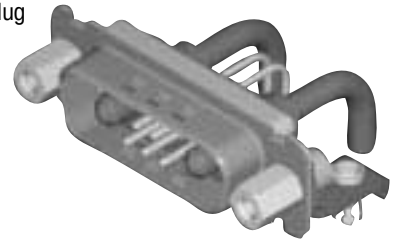
Coaxial/High Power/High Voltage Contact Assemblies

Contacts and outer shells	Copper Alloy	Gold over Nickel (Tin on coax ground PC tails)
Ring, Retaining	Copper Alloy	Nickel
Insulator (Coaxial only)	Teflon	None
Insulator (High Voltage only)	Thermoplastic	None

U.L. File Number: E8572

40 A High Power 90° — Standard Footprint .489♦ or .454 inch♦♦ (Sizes DE-DC)

Plug



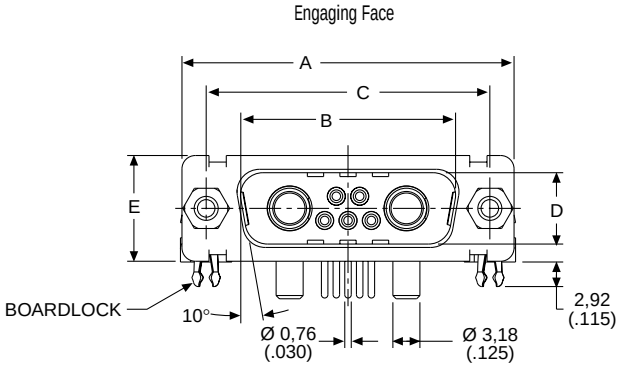
Reader's Resource

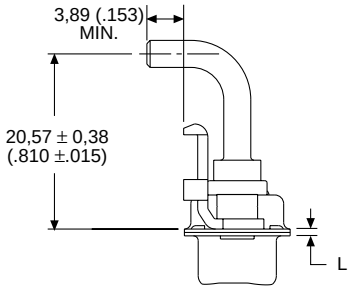
For contact cavity arrangements, see page 222.
For P.C. hole patterns, see pages 244-245.
For panel cutouts, see page 221.
For alternate bracket configuration (when connectors are supplied without boardlocks), see page 226.

Part Numbers with Metal Bracket and Rivnut #4-40 UNC

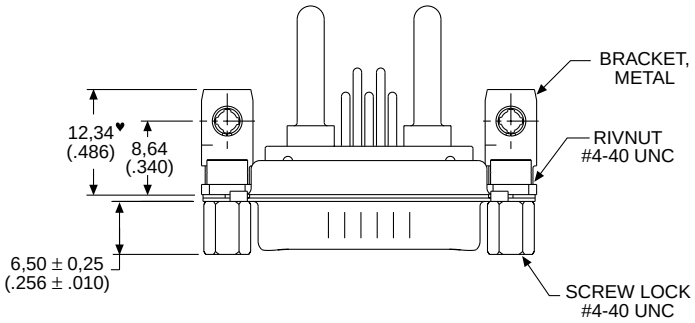
Shell Size	Layout	Part Number Without Screw Locks Without Boardlocks	Part Number Without Screw Locks With Boardlocks	Part Number With Screw Locks Without Boardlocks	Part Number With Screw Locks With Boardlocks
DE	5W1	DEMP5H1PJK87	DEMC5H1PJK87	DEMD5H1PJK87	DEMG5H1PJK87
DA	7W2	DAMP7H2PJK87	DAMC7H2PJK87	DAMD7H2PJK87	DAMG7H2PJK87
DA	11W1	DAMP11H1PJK87	DAMC11H1PJK87	DAMD11H1PJK87	DAMG11H1PJK87
DA	3W3	DAMP3H3PJK87	DAMC3H3PJK87	DAMD3H3PJK87	DAMG3H3PJK87
DA	3WK3♣	DAMP3HK3PJK87TM	DAMC3HK3PJK87TM	DAMD3HK3PJK87TM	DAMG3HK3PJK87TM
DB	5W5	DBMP5H5PJK87	DBMC5H5PJK87	DBMD5H5PJK87	DBMG5H5PJK87
DB	9W4	DBMP9H4PJK87	DBMC9H4PJK87	DBMD9H4PJK87	DBMG9H4PJK87
DB	13W3	DBMP13H3PJK87	DBMC13H3PJK87	DBMD13H3PJK87	DBMG13H3PJK87
DB	17W2	DBMP17H2PJK87	DBMC17H2PJK87	DBMD17H2PJK87	DBMG17H2PJK87
DB	21W1	DBMP21H1PJK87	DBMC21H1PJK87	DBMD21H1PJK87	DBMG21H1PJK87
DC	8W8	DCMP8H8PJK87	DCMC8H8PJK87	DCMD8H8PJK87	DCMG8H8PJK87
DC	13W6	DCMP13H6PJK87	DCMC13H6PJK87	DCMD13H6PJK87	DCMG13H6PJK87
DC	17W5	DCMP17H5PJK87	DCMC17H5PJK87	DCMD17H5PJK87	DCMG17H5PJK87
DC	21WA4	DCMP21HA4PJK87	DCMC21HA4PJK87	DCMD21HA4PJK87	DCMG21HA4PJK87
DC	25W3	DCMP25H3PJK87	DCMC25H3PJK87	DCMD25H3PJK87	DCMG25H3PJK87
DC	27W2	DCMP27H2PJK87	DCMC27H2PJK87	DCMD27H2PJK87	DCMG27H2PJK87

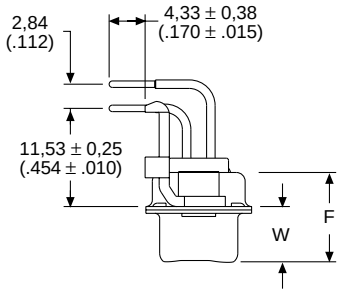
Note: For contacts with 30 microinches gold substitute K127 for K87. Example: DEMP5H1PJK127
For DD shell sizes, see page 62.
♣ Keyed.





Screw lock, boardlock, and signal contacts removed for clarity





Screw lock, boardlock, and high power contact removed for clarity

Note: ♥ Dimension varies with alternate bracket configuration, see Reader's Resource page 226.

Dimensions

Shell Size	A ±0,38 (.015)	B ±0,13 (.005)	C ±0,13 (.005)	D ±0,13 (.005)	E ±0,38 (.015)	F ±0,25 (.010)	W ±0,368 (.0145)	W ±0,41 (.016)	L ±0,25 (.010)
DE	30,81 (1.213)	16,92 (.666)	24,99 (.984)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DA	39,14 (1.541)	25,25 (.994)	33,32 (1.312)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DB	53,04 (2.088)	38,96 (1.534)	47,04 (1.852)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)
DC	69,32 (2.729)	55,42 (2.182)	63,50 (2.500)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)

♦ Connector footprint measured from the front shell.
♦♦ Connector footprint measured from the rear shell.

ITT Cannon

Dimensions are shown in mm (inch)
Dimensions subject to change

40 A High Power 90° — European Footprint 10,2♦ or 9,4 mm♦♦ (Sizes DE-DC)

Plug

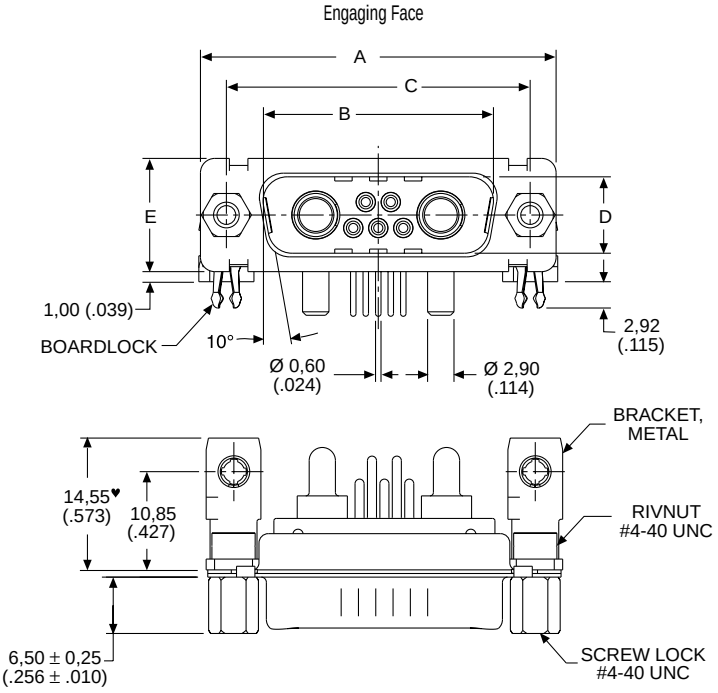
Reader's Resource

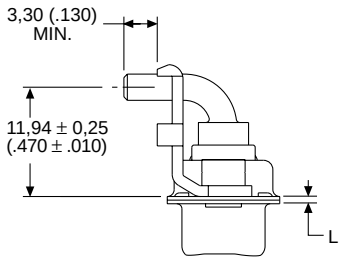
For contact cavity arrangements, see page 222.
For P.C. hole patterns, see pages 250-251.
For panel cutouts, see page 221.
For alternate bracket configuration (when connectors are supplied without boardlocks), see page 226.

Part Numbers with Metal Bracket and Rivnut #4-40 UNC

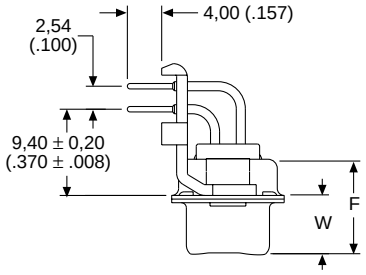
Shell Size	Layout	Part Number Without Screw Locks Without Boardlocks	Part Number Without Screw Locks With Boardlocks	Part Number With Screw Locks Without Boardlocks	Part Number With Screw Locks With Boardlocks
DE	5W1	DEMP5P1PVK87	DEMC5P1PVK87	DEMD5P1PVK87	DEMG5P1PVK87
DA	7W2	DAMP7P2PVK87	DAMC7P2PVK87	DAMD7P2PVK87	DAMG7P2PVK87
DA	11W1	DAMP11P1PVK87	DAMC11P1PVK87	DAMD11P1PVK87	DAMG11P1PVK87
DA	3W3	DAMP3P3PVK87	DAMC3P3PVK87	DAMD3P3PVK87	DAMG3P3PVK87
DA	3WK3♣	DAMP3PK3PVK87TM	DAMC3PK3PVK87TM	DAMD3PK3PVK87TM	DAMG3PK3PVK87TM
DB	5W5	DBMP5P5PVK87	DBMC5P5PVK87	DBMD5P5PVK87	DBMG5P5PVK87
DB	9W4	DBMP9P4PVK87	DBMC9P4PVK87	DBMD9P4PVK87	DBMG9P4PVK87
DB	13W3	DBMP13P3PVK87	DBMC13P3PVK87	DBMD13P3PVK87	DBMG13P3PVK87
DB	17W2	DBMP17P2PVK87	DBMC17P2PVK87	DBMD17P2PVK87	DBMG17P2PVK87
DB	21W1	DBMP21P1PVK87	DBMC21P1PVK87	DBMD21P1PVK87	DBMG21P1PVK87
DC	8W8	DCMP8P8PVK87	DCMC8P8PVK87	DCMD8P8PVK87	DCMG8P8PVK87
DC	13W6	DCMP13P6PVK87	DCMC13P6PVK87	DCMD13P6PVK87	DCMG13P6PVK87
DC	17W5	DCMP17P5PVK87	DCMC17P5PVK87	DCMD17P5PVK87	DCMG17P5PVK87
DC	21WA4	DCMP21PA4PVK87	DCMC21PA4PVK87	DCMD21PA4PVK87	DCMG21PA4PVK87
DC	25W3	DCMP25P3PVK87	DCMC25P3PVK87	DCMD25P3PVK87	DCMG25P3PVK87
DC	27W2	DCMP27P2PVK87	DCMC27P2PVK87	DCMD27P2PVK87	DCMG27P2PVK87

For M3 threads replace MP with MS, MC with ML, MD with MO, MG with MJ.
Notes: For tin plated PC tails add A226 (signal contacts only). Example DEMP5P1PVK87A226
For performance class 2 substitute K127 for K87. Example: DEMP5P1PVK127
♣ Keyed.





Screw lock, boardlock, and signal contacts removed for clarity



Screw lock, boardlock, and high power contact removed for clarity

Note: ♥ Dimension varies with alternate bracket configuration, see Reader's Resource page 226.

Dimensions

Shell Size	A ±0,38 (.015)	B ±0,13 (.005)	C ±0,13 (.005)	D ±0,13 (.005)	E ±0,38 (.015)	F ±0,25 (.010)	W ±0,368 (.0145)	W ±0,41 (.016)	L ±0,25 (.010)
DE	30,81 (1.213)	16,92 (.666)	24,99 (.984)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DA	39,14 (1.541)	25,25 (.994)	33,32 (1.312)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DB	53,04 (2.088)	38,96 (1.534)	47,04 (1.852)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)
DC	69,32 (2.729)	55,42 (2.182)	63,50 (2.500)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)

♦ Connector footprint measured from the front shell.
♦♦ Connector footprint measured from the rear shell.

ITT Cannon

Dimensions are shown in mm (inch)
Dimensions subject to change

40 A High Power 90° — European Footprint 10,2♦ or 9,4 mm♦♦ (Sizes DE-DC)

Receptacle

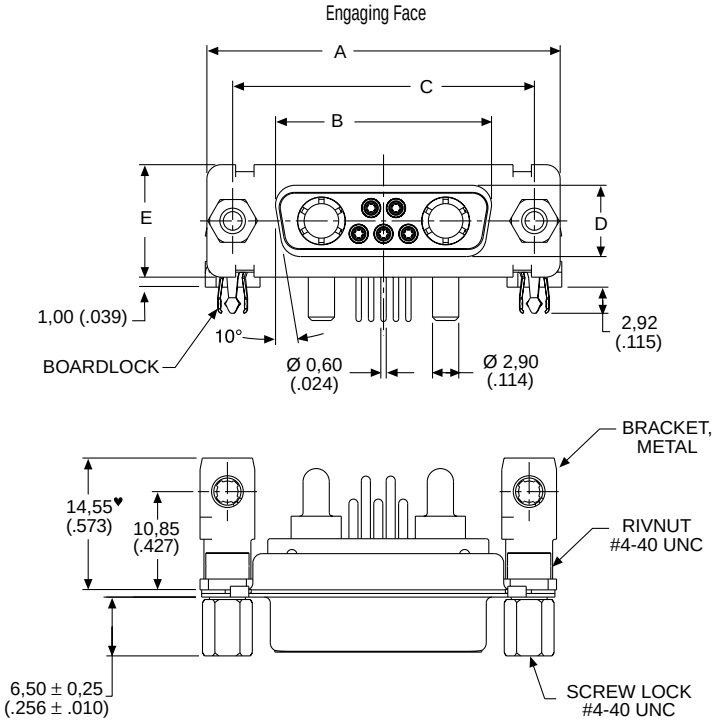
Reader's Resource

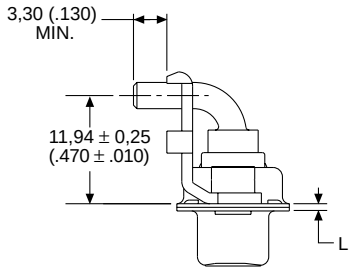
For contact cavity arrangements, see page 223.
For P.C. hole patterns, see pages 252-253.
For panel cutouts, see page 221.
For alternate bracket configuration (when connectors are supplied without boardlocks), see page 226.

Part Numbers with Metal Bracket and Rivnut #4-40 UNC

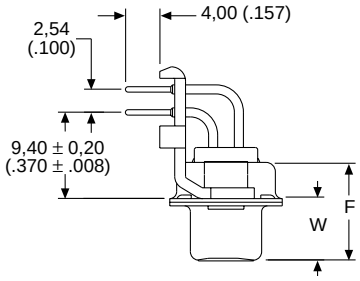
Shell Size	Layout	Part Number Without Screw Locks Without Boardlocks	Part Number Without Screw Locks With Boardlocks	Part Number With Screw Locks Without Boardlocks	Part Number With Screw Locks With Boardlocks
DE	5W1	DEMP5P1SVA197	DEMC5P1SVA197	DEMD5P1SVA197	DEMG5P1SVA197
DA	7W2	DAMP7P2SVA197	DAMC7P2SVA197	DAMD7P2SVA197	DAMG7P2SVA197
DA	11W1	DAMP11P1SVA197	DAMC11P1SVA197	DAMD11P1SVA197	DAMG11P1SVA197
DA	3W3	DAMP3P3SVA197	DAMC3P3SVA197	DAMD3P3SVA197	DAMG3P3SVA197
DA	3WK3♣	DAMP3PK3SVA197TM	DAMC3PK3SVA197TM	DAMD3PK3SVA197TM	DAMG3PK3SVA197TM
DB	5W5	DBMP5P5SVA197	DBMC5P5SVA197	DBMD5P5SVA197	DBMG5P5SVA197
DB	9W4	DBMP9P4SVA197	DBMC9P4SVA197	DBMD9P4SVA197	DBMG9P4SVA197
DB	13W3	DBMP13P3SVA197	DBMC13P3SVA197	DBMD13P3SVA197	DBMG13P3SVA197
DB	17W2	DBMP17P2SVA197	DBMC17P2SVA197	DBMD17P2SVA197	DBMG17P2SVA197
DB	21W1	DBMP21P1SVA197	DBMC21P1SVA197	DBMD21P1SVA197	DBMG21P1SVA197
DC	8W8	DCMP8P8SVA197	DCMC8P8SVA197	DCMD8P8SVA197	DCMG8P8SVA197
DC	13W6	DCMP13P6SVA197	DCMC13P6SVA197	DCMD13P6SVA197	DCMG13P6SVA197
DC	17W5	DCMP17P5SVA197	DCMC17P5SVA197	DCMD17P5SVA197	DCMG17P5SVA197
DC	21WA4	DCMP21PA4SVA197	DCMC21PA4SVA197	DCMD21PA4SVA197	DCMG21PA4SVA197
DC	25W3	DCMP25P3SVA197	DCMC25P3SVA197	DCMD25P3SVA197	DCMG25P3SVA197
DC	27W2	DCMP27P2SVA197	DCMC27P2SVA197	DCMD27P2SVA197	DCMG27P2SVA197

For M3 threads replace MP with MS, MC with ML, MD with MO, MG with MJ.
Notes: For performance class 2 substitute K126 for A197. Example: DEMP5P1SVK126
♣ Keyed.





Screw lock, boardlock, and signal contacts removed for clarity



Screw lock, boardlock, and high power contact removed for clarity

Note: ♥ Dimension varies with alternate bracket configuration, see Reader's Resource page 226.

Dimensions

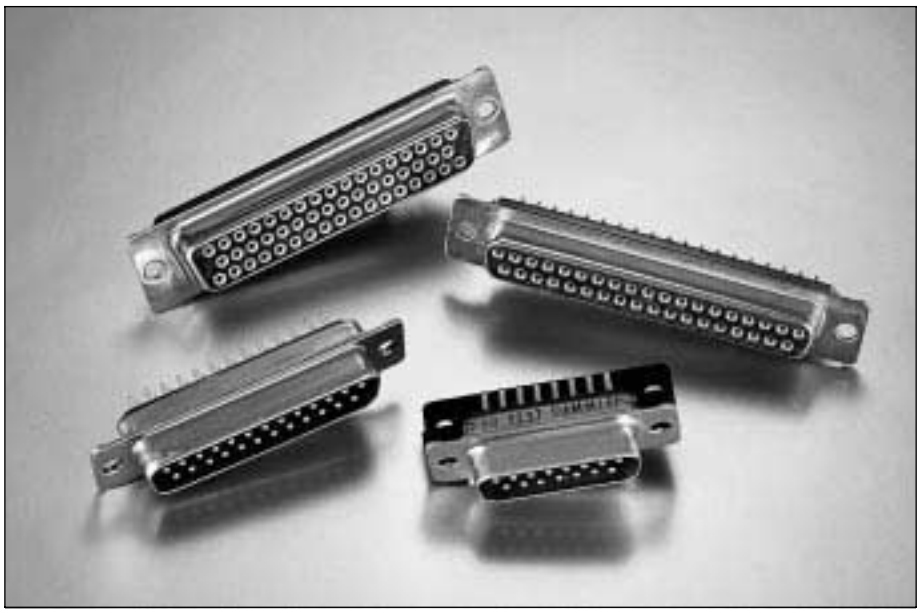
Shell Size	A ±0,38 (.015)	B ±0,13 (.005)	C ±0,13 (.005)	D ±0,13 (.005)	E ±0,38 (.015)	F ±0,25 (.010)	W ±0,38 (.015)	L ±0,25 (.010)
DE	30,81 (1.213)	16,33 (.643)	24,99 (.984)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0.76 (.030)
DA	39,14 (1.541)	24,66 (.971)	33,32 (1.312)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DB	53,04 (2.088)	38,38 (1.511)	47,04 (1.852)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)
DC	69,32 (2.729)	54,84 (2.159)	63,50 (2.500)	7,90 (.311)	12,55 (.494)	10,90 (.429)	6,94 (.273)	0,76 (.030)

♦ Connector footprint measured from the front shell.
♦♦ Connector footprint measured from the rear shell.

ITT Cannon Military/High Reliability D Subminiature connectors are used in many applications, including aerospace, transportation, communication systems, information systems and test equipment. Being the inventor of the D Subminiature connector, ITT Cannon is able to use its extensive design expertise and high quality manufacturing processes to insure the optimum performance and reliability.

The D Subminiature connectors with fixed contacts in solder cup, straight and 90° PC contact terminations are qualified to MIL-C-24308 (see cross reference, pages 142-143). These high-reliability D Subminiature connectors are the finest quality connectors available at the most competitive prices in the market.

Applications:
- Aerospace
- Transportation
- Communication Systems
- Information Systems
- Test Equipment



Product Features

- Suitable for a variety of cable and printed circuit board options
- Solder cup version accommodates wire size 20 AWG maximum
- 5 A standard current rating
- Clinch Nut and Float Mount Options

Specifications

Temperature Rating	−55°C to 125°C	Coaxial VSWR	Less than 1.30 + .03F for F up to 500 MHz
Signal Contact Current Rating	7.5 A current capacity	Coaxial Insertion Loss	.3dB loss at 500 MHz
Signal Contact Resistance	55 millivolt max. at 7.5 test current	High Power Current Rating	Up to 40 A
Signal Contact Dielectric Withstanding Voltage	1250 VAC at Sea Level	High Power Dielectric Withstanding Voltage	1000 VAC at Sea Level
Coaxial Current Rating	5 A	High Voltage Current Rating	5 A
Coaxial Dielectric Withstanding Voltage	1000 VAC at Sea Level	High Voltage Contact Dielectric Withstanding Voltage	2800 V at Sea Level
Coaxial Impedance	75 Ω or 50 Ω		

Materials and Finishes

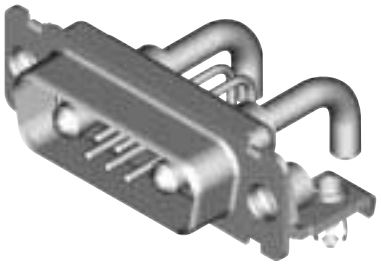
Description	Material	Finish/Treatment
Shell	Steel	Yellow Chromate over Zinc (Cadmium available upon request; order code -A101)
Insulator	Polyester, UL 94V-0, Color: Green	None
Contacts (Military)	Copper Alloy	50 microinches of Gold over Nickel in mating area, Gold over Nickel on balance
Contacts (Commercial)	Copper Alloy	Gold over Nickel on mating area, Tin on balance
Dual Float Mount Hardware	Stainless Steel	Passivated
Clinch Nut Hardware	Stainless Steel with plastic insert	Passivated
Standoff	Stainless Steel	Passivated
Plastic Bracket	Thermoplastic, UL 94V-0	None
Metal Bracket	Steel	Zinc (Tin if boardlocks are attached)

Coaxial/High Power/High Voltage Contact Assemblies

Contacts and Outer Shells	Copper Alloy	Gold over Nickel
Ring, Retaining	Copper Alloy	Nickel
Insulator (Coaxial Only)	Teflon	None
Insulator (High Voltage Only)	Thermoplastic	None

40 A High Power 90° PCB (Sizes DE-DC)

Plug



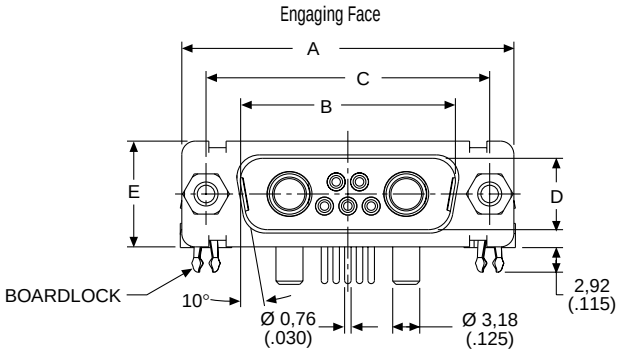
Reader's Resource

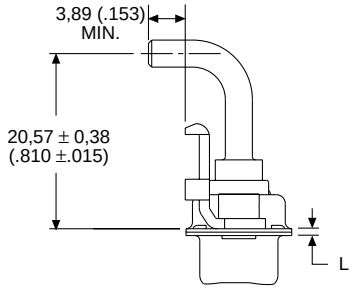
For contact cavity arrangements, see page 222.
For P.C. hole patterns, see pages 244-245.
For panel cutouts, see page 221.
For hardware views (Standard), see page 226.
For alternate bracket configuration (when connectors are supplied without boardlocks), see page 226.

Part Numbers with Metal Bracket and Rivnut #4-40 UNC

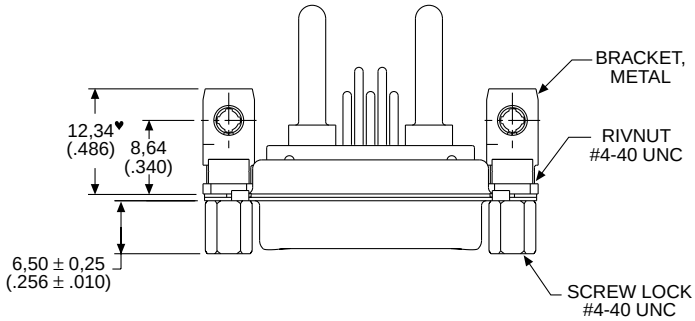
Shell Size	Layout	Part Number Without Screw Locks Without Boardlocks	Part Number Without Screw Locks With Boardlocks	Part Number With Screw Locks Without Boardlocks	Part Number With Screw Locks With Boardlocks
DE	5W1	DEMMP5H1PJ	DEMMC5H1PJ	DEMMD5H1PJ	DEMMG5H1PJ
DA	7W2	DAMMP7H2PJ	DAMMC7H2PJ	DAMMD7H2PJ	DAMMG7H2PJ
DA	11W1	DAMMP11H1PJ	DAMMC11H1PJ	DAMMD11H1PJ	DAMMG11H1PJ
DA	3W3	DAMMP3H3PJ	DAMMC3H3PJ	DAMMD3H3PJ	DAMMG3H3PJ
DA	3WK3♣	DAMMP3HK3PJTM	DAMMC3HK3PJTM	DAMMD3HK3PJTM	DAMMG3HK3PJTM
DB	5W5	DBMMP5H5PJ	DBMMC5H5PJ	DBMMD5H5PJ	DBMMG5H5PJ
DB	9W4	DBMMP9H4PJ	DBMMC9H4PJ	DBMMD9H4PJ	DBMMG9H4PJ
DB	13W3	DBMMP13H3PJ	DBMMC13H3PJ	DBMMD13H3PJ	DBMMG13H3PJ
DB	17W2	DBMMP17H2PJ	DBMMC17H2PJ	DBMMD17H2PJ	DBMMG17H2PJ
DB	21W1	DBMMP21H1PJ	DBMMC21H1PJ	DBMMD21H1PJ	DBMMG21H1PJ
DC	8W8	DCMMP8H8PJ	DCMMC8H8PJ	DCMMD8H8PJ	DCMMG8H8PJ
DC	13W6	DCMMP13H6PJ	DCMMC13H6PJ	DCMMD13H6PJ	DCMMG13H6PJ
DC	17W5	DCMMP17H5PJ	DCMMC17H5PJ	DCMMD17H5PJ	DCMMG17H5PJ
DC	21WA4	DCMMP21HA4PJ	DCMMC21HA4PJ	DCMMD21HA4PJ	DCMMG21HA4PJ
DC	25W3	DCMMP25H3PJ	DCMMC25H3PJ	DCMMD25H3PJ	DCMMG25H3PJ
DC	27W2	DCMMP27H2PJ	DCMMC27H2PJ	DCMMD27H2PJ	DCMMG27H2PJ

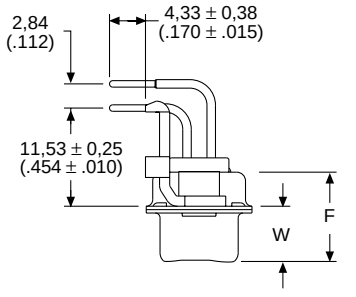
Notes: For DD shell size, see page 156.
♣ Keyed





Screw lock, boardlock, and signal contacts removed for clarity





Screw lock, boardlock, and high power contact removed for clarity

Note: ♥ Dimension varies with alternate bracket configuration, see Reader's Resource page 226.

Dimensions

Shell Size	A ±0,38 (.015)	B ±0,13 (.005)	C ±0,13 (.005)	D ±0,13 (.005)	E ±0,38 (.015)	F ±0,25 (.010)	W ±0,368 (.0145)	W ±0,41 (.016)	L ±0,25 (.010)
DE	30,81 (1.213)	16,92 (.666)	24,99 (.984)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DA	39,14 (1.541)	25,25 (.994)	33,32 (1.312)	8,36 (.329)	12,55 (.494)	10,72 (.422)	6,693 (.2635)	—	0,76 (.030)
DB	53,04 (2.088)	38,96 (1.534)	47,04 (1.852)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)
DC	69,32 (2.729)	55,42 (2.182)	63,50 (2.500)	8,36 (.329)	12,55 (.494)	10,82 (.426)	—	6,84 (.269)	0,99 (.039)