

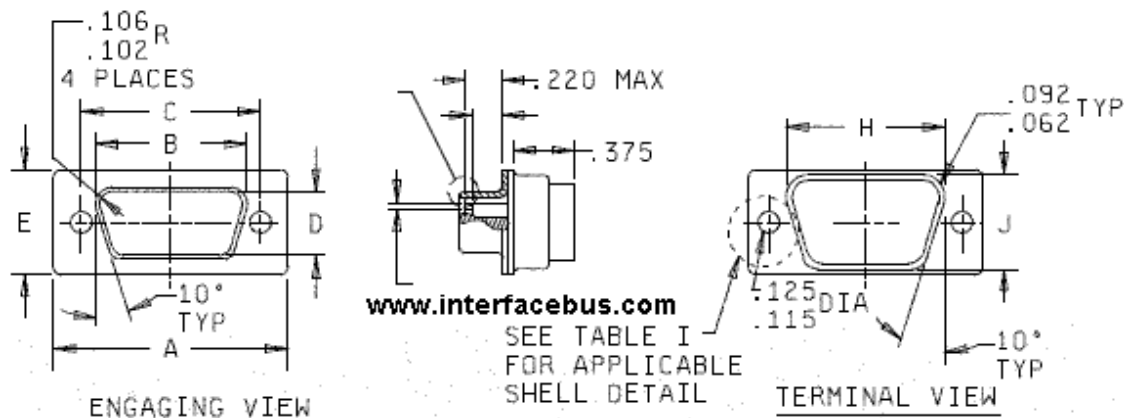


Hardware Mechanical Components

D-Sub Connector Dimensions

This page provides the physical out-line and Mechanical Dimensions for all the different styles of Subminiature D connectors. The term commonly used for this style is D-Sub connectors, or just Dsub.

D-Subminiature Out-line



The graphic above gives the mechanical dimensions for a D-Subminiature connector. [D-Sub Connector manufacturers](#) Use the table below to obtain the absolute shell dimensions based on the size and number of pins used with the connector.

- Shell size 1 is used with the 9 pin D and the high density [3-row] 15 pin D connectors.
- Shell size 2 is used with the standard density [2-row] 15 pin D and the 26 pin D connectors.
- Shell size 3 is used with the 25 pin D and the 44 pin D connectors.
- Shell size 4 is used with the 37 pin D and the 62 pin D connectors.
- Shell size 5 is used with the 50 pin D and the 78 pin D connectors.
- Shell size 6 is used with the 104 pin D connector.

Detail 1/	Shell size	Dimensions										
		A	B	C	D	E	F	G	H	J	K	L
A	1	1.228 (31.19)	.671 (17.04)	.989 (25.12)	.334 (8.48)	.509 (12.93)	.432 (10.97)	.238 (6.05)	.769 (19.53)	.432 (10.97)	.060 (1.52)	.040 (1.02)
		1.198 (30.43)	.661 (16.79)	.979 (24.87)	.324 (8.23)	.479 (12.17)	.412 (10.46)	.229 (5.82)	.749 (19.02)	.412 (10.46)	.035 (.89)	.020 (.51)
		1.556 (39.52)	.999 (25.37)	1.317 (33.45)	.334 (8.48)	.509 (12.93)	.432 (10.97)	.238 (6.05)	1.093 (27.76)	.432 (10.97)	.060 (1.52)	.040 (1.02)
	2	1.526 (38.76)	.989 (25.12)	1.307 (33.20)	.324 (8.23)	.479 (12.17)	.412 (10.46)	.229 (5.82)	1.073 (27.25)	.412 (10.46)	.035 (.89)	.020 (.51)
		2.103 (53.42)	1.539 (39.09)	1.857 (47.17)	.334 (8.48)	.509 (12.93)	.436 (11.07)	.238 (6.05)	1.635 (41.53)	.432 (10.97)	.070 (1.78)	.049 (1.25)
		2.073 (52.65)	1.529 (38.84)	1.847 (46.91)	.324 (8.23)	.479 (12.17)	.416 (10.57)	.229 (5.82)	1.615 (41.02)	.412 (10.46)	.050 (1.27)	.029 (.74)
	3	2.744 (69.76)	2.187 (55.55)	2.505 (63.63)	.334 (8.48)	.509 (12.93)	.436 (11.07)	.238 (6.05)	2.282 (57.96)	.432 (10.97)	.070 (1.78)	.049 (1.25)
		2.714 (68.94)	2.177 (55.30)	2.495 (63.37)	.324 (8.23)	.479 (12.17)	.416 (10.57)	.229 (5.82)	2.262 (57.45)	.412 (10.46)	.050 (1.27)	.029 (.74)
		2.650 (67.31)	2.084 (52.93)	2.411 (61.24)	.446 (11.33)	.620 (15.75)	.436 (11.07)	.238 (6.05)	2.188 (55.58)	.544 (13.82)	.070 (1.78)	.049 (1.25)
	4	2.620 (66.55)	2.074 (52.68)	2.401 (60.99)	.436 (11.07)	.590 (14.99)	.416 (10.57)	.229 (5.82)	2.168 (55.07)	.524 (13.31)	.050 (1.27)	.029 (.74)
		2.744 (69.70)	2.217 (56.31)	2.505 (63.63)	.508 (12.90)	.683 (17.35)	.436 (11.07)	.238 (6.05)	2.312 (58.72)	.606 (15.39)	.070 (1.78)	.049 (1.25)
		2.714 (68.94)	2.207 (56.06)	2.495 (63.37)	.498 (12.65)	.653 (16.59)	.416 (10.57)	.229 (5.82)	2.292 (58.22)	.586 (14.88)	.050 (1.27)	.029 (.74)

Physical Connector Dimensions by Shell Size

Shell size: DA, DB, DC, DD, and DE. {see below}

Standard (size 20 contacts): 9, 15, 25, 37, and 50 pins (IAW DIN 41 652,MIL-C-24308,IEC807). Also available as dual (mixed) stacked.

High Density 'HD' (size 22 contacts):15, 26, 44, 62, 78, and 104 pins

Power 3W3, 3WK3, 5W5, 8W8; 3, 5, 8 single row High Power Contacts

Note the amount of space a Dsub takes up on a printed circuit board depends on its placement.

A right angle connector will require a footprint determined by the number of pins in the connector.

With each row of pins requiring more board space.

How to count the pins of a Dsub;

[D-Sub Connector Insert Arrangements](#)

D-Sub Connector types: all shell sizes

Board Mount D-Sub Connectors:

...**Right Angle** D-Sub Connector

.....**Through-Hole** D-Sub Connector

.....**Surface Mount** D-Sub Connector SMT

.....**Dual Port** Two connectors stacked together



Stacked Dsub

...**Straight** D-Sub Connector: Solder

.....**Press-fit** D-Sub Connector: Solderless [\[Compliant Pin definition\]](#)

.....**Wire Wrap** D-Sub Connector: Solder-less [\[Wire Wrap definition\]](#)

Cable D-Sub Connectors:

...**IDC** D-Sub Connector; Discrete Wire

...**IDC** D-Sub Connector; Flat Ribbon Cable [[Insulation Displacement D-Sub Connector Dimensions](#)]

...**Crimp Snap-in** D-Sub Connector; Discrete Wire

...**Solder Cup** D-Sub Connector; Discrete Wire

Types of DSub Shell Sizes

Standard Density	High Density
DA Shell 15 position	HD DA Shell 26 position
DB Shell 25 position	HD DB Shell 44 position
DC Shell 37 position	HD DC Shell 62 position
DD Shell 50 position	HD DD Shell --
DE Shell 9 position	HD DE Shell 15 position

D-Sub connector common usage in personal computers;

9-pin DE D-Sub connectors are used as an [RS232 Serial port](#)

15-pin DA D-Sub connectors are used as an SVGA [Video port](#)

25-pin DB D-Sub connectors are used as a [parallel / printer port](#)

Note that most people just use the term 'DB'; DB9, DB15, DB25.

Many new PCs no longer use Dsub connectors,

The serial and parallel port connectors have been replaced by [USB](#) connectors.

The older SVGA ports replaced by [DVI](#), or [DisplayPort](#) interfaces.

D-Sub Connector Terms:

HD: High Density [normally more than two rows of contacts]

Filtered: [Pin-Filtered] Suppress electro-magnetic interference (EMI) or radio frequency (RFI)

High Density, HD: Pack 3 rows of pins into the next smaller 2-row shell size, 15-pins into a 9 pin shell size

IDC: Insulation Displacement Connection [MIL-DTL-24308/27]

IEC: (International Electrotechnical Commission) ~ an International Standards Body

MIL: Military, as in Department of Defense Standard 'DOD'

MIL-C-24308: Connectors, Electrical, Rectangular, Miniature, Polarized Shell, Rack and Reel, Shield, Straight, Deep

MIL-DTL-24308; A sub-standard of MIL-C-24308. DTL stands for Detail Specification Sheet

[RoHS](#): Restriction of Hazardous Substances

SMD: Surface Mount Device [any non-through-hole component]

SMT: Surface Mount Technology

THR: Thru Hole Reflow, 'Pin in Paste'

D-Subminiature connectors are listed on the following pages;

[Commercial D-Sub Connector manufacturers](#) page.

[Military D-Sub Connector manufacturers, Mil-C-24308](#), listing companies that manufacturer Dsub connectors [to military specifications].

Related page; [Military Connector Specifications](#)

Editor note; I think MIL-C-24308 has been withdrawn and replaced by MIL-DTL-24308.

In any case this is an out-dated style of connector. They are still widely used, but Db connectors are on the decline.

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