Dura-Con connectors

Plastic Shell D Microminiature connectors

. . . for general use applications where weight reduction is important

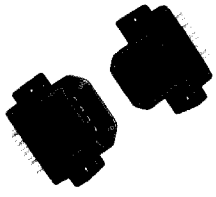
Industry is demanding that more and more technology be packaged in less space. And it must weigh less. Cinch's Dura-Con Plastic Shell D Microminiature Connectors were developed in response to those specific needs. They are ideally suited for space and weight reduction in miniaturized electronics as well as providing shorter signal paths in electronic data processing equipment where environmental considerations are not a factor.

The Dura-Con Plastic Shell D is similar to the Dura-Con Metal Shell D with the exception of the exterior shell material. Shells constructed of tough polyester thermoplastic material provide high performance as well as shock and vibration proof continuity from dry circuit to 3 ampere current.

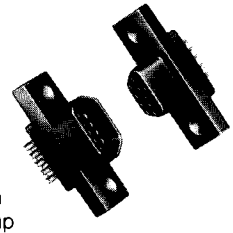
These high density microminiature connectors are available in 7 contact configurations ranging from 9 to 51 Twist-pin 24 size contacts. These connectors can be supplied with custom terminations.

The Dura-Con Plastic Shell D Microminiature Connector is a proven performer in thousands of field applications where small size, light weight and reliability are required. They can be manufactured in production quantities in all 7 contact configurations, as well as in varying shapes for special applications.

Plastic Shell D Microminiature Connectors meets the requirements of MIL-C-83513.

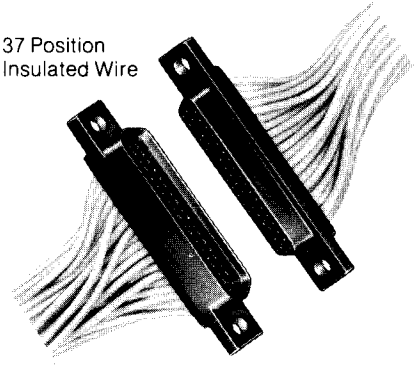


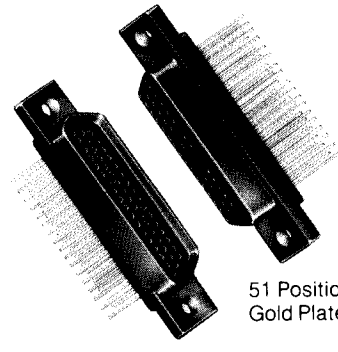
9 Position
Clip Mount



9 Position
Solder Cup

37 Position
Insulated Wire





51 Position
Gold Plated Wire

Performance Data

Electrical

Contact Resistance: When measured in accordance with MIL-C-83513, allowable contact resistance measured on the wire at the rear of the connector is 8 milliohms maximum.

Current Rating: 3 amps max.

Max. Voltage Drop: 24 millivolts at 3 amps.

Dielectric Withstanding Voltage: Sea Level—600VAC; 70,000 ft.—150VAC.

Insulation Resistance: 5000 megohms min.

Mechanical

Engaging and Separating Force: For an individual contact the maximum engaging force is 6 ounces. Minimum separating force is 0.5 ounces per contact.

Mating and Unmating Force: Mating: 10 ounces times the number of contacts. Unmating: 0.5 ounces minimum times number of contacts.

Vibration: Tested in accordance with MIL-STD-1344, Method 2005, Test Condition IV with no discontinuity in excess of one (1) microsecond.

Shock: Tested in accordance with MIL-STD-1344, Method 2004, Test Condition E, with no discontinuity in excess of one (1) microsecond.

Corrosion Resistance: No damage or unacceptable increase in contact resistance after mated sample subjected to 48 hours of salt spray per MIL-STD-1344, Method 101, Condition B.

Temperature Range: -55°C to +135°C.

Durability: No mechanical or electrical defects after 500 cycles at a rate of 200 cycles per hour.

Moisture Resistance: Tested in accordance with MIL-STD-1344, Method 1002, TYPE II (Omit 7a and b). After testing, the insulation resistance is greater than 1,000 megohms.

Standard Materials and Finishes

Connector Bodies: Glass filled thermoplastic, polyester 94 V-O.

Contacts: Pin and socket contact—copper alloy .000050 gold plated.

Mechanical Features

Sizes: 7 sizes: 9, 15, 21, 25, 31, 37 and 51.

Service Class: Non-environmental.

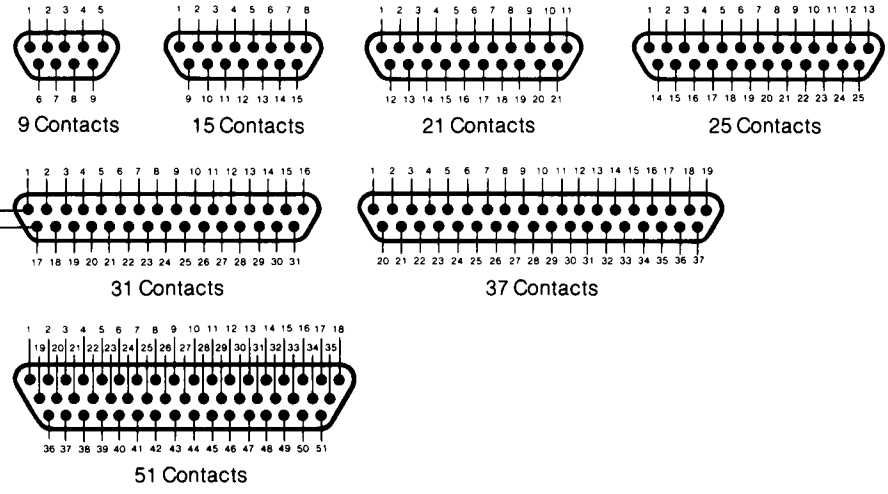
Polarization: Keystone-shaped shells.

Contact Spacing Centers: 0.050".

Shell Styles: Plug and receptacle.

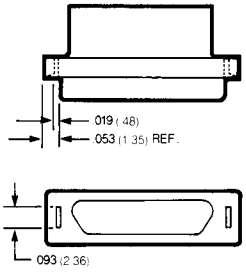
Contact Arrangements

(Face View of Pin Insulator)
(Use reverse order for socket)



Shell Dimensions

with slots for clip mount
(other dimensions apply)

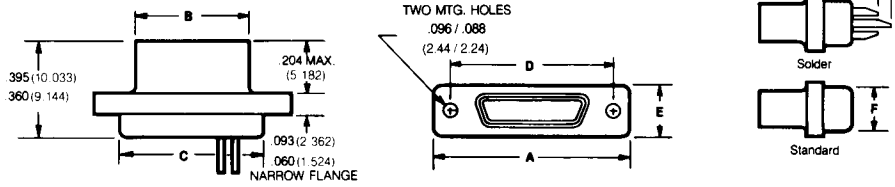


For Clip Mount Hardware Consult Factory

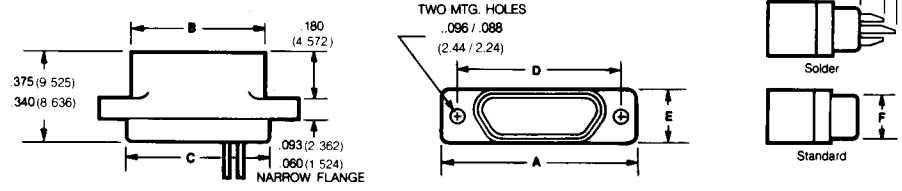
Shell Dimensions

with screw mounting holes

Pin Contact Shell



Socket Contact Shell



Part Number	A ± .010 (.254)		B Max.		C +.010 (.254) -.018 (.457)		D ± .005 (.127)		E ± .010 (.254)		F Max.	
	In.	MM	In.	MM	In.	MM	In.	MM	In.	MM	In.	MM
DCDA-9P	.778	19.76	.292	7.42	.398	10.11	.565	14.35	.208	5.28	.173	4.39
DCDA-9S	.778	19.76	.376	9.55	.398	10.11	.565	14.35	.208	5.28	.173	4.39
DCDA-15P	.928	23.57	.442	11.23	.548	13.92	.715	18.16	.208	5.28	.173	4.39
DCDA-15S	.928	23.57	.526	13.36	.548	13.92	.715	18.16	.208	5.28	.173	4.39
DCDA-21P	1.078	27.38	.592	15.04	.698	17.73	.865	21.97	.208	5.28	.173	4.39
DCDA-21S	1.078	27.38	.676	17.17	.698	17.73	.865	21.97	.208	5.28	.173	4.39
DCDA-25P	1.178	29.92	.692	17.58	.798	20.27	.965	24.51	.208	5.28	.173	4.39
DCDA-25S	1.178	29.92	.776	19.71	.798	20.27	.965	24.51	.208	5.28	.173	4.39
DCDA-31P	1.328	33.73	.842	21.39	.948	24.08	1.115	28.32	.208	5.28	.173	4.39
DCDA-31S	1.328	33.73	.926	23.52	.948	24.08	1.115	28.32	.208	5.28	.173	4.39
DCDA-37P	1.478	37.54	.992	25.20	1.098	27.89	1.265*	32.13	.208	5.28	.173	4.39
DCDA-37S	1.478	37.54	1.076	27.33	1.098	27.89	1.265*	32.13	.208	5.28	.173	4.39
DCDA-51P	1.428	36.27	.942	23.93	1.048	26.62	1.215	30.86	.250	6.35	.220	5.59
DCDA-51S	1.428	36.27	1.026	26.06	1.048	26.62	1.215	30.86	.250	6.35	.220	5.59

P = Pin, S = Socket

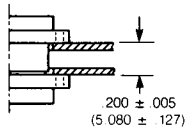
* Tol is $^{+.010}_{-.005}$

Dura-Con connectors

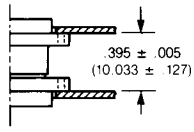
PLASTIC SHELL, continued

Panel Mounting Dimensions

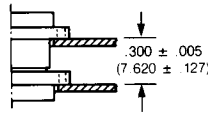
Pin and socket, rear mounted



Pin and socket, front mounted



Pin, front mounted Socket, rear mounted



Panel Cutout Dimensions

Figure 1. Front Mounting

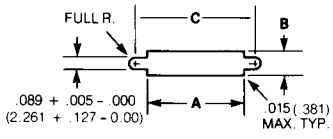


Figure 2. Rear Mounting

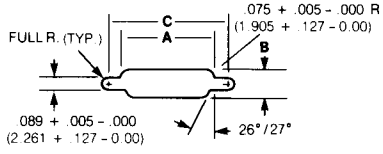
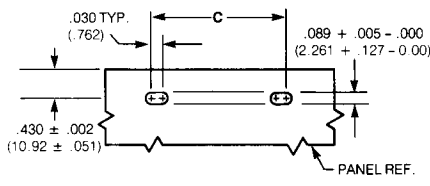


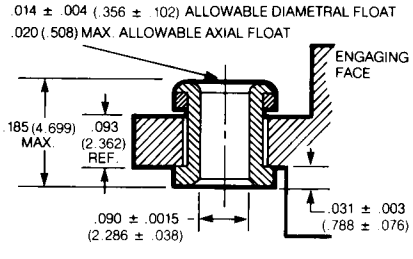
Figure 3. Edgeboard Mounting



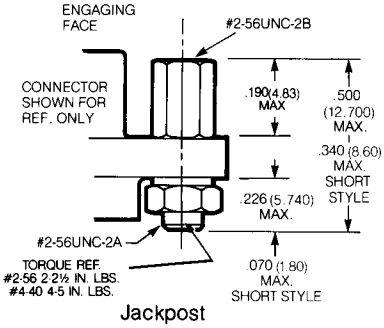
Part Number	Figure Number	A +.004 -.000 (.101) (.000)		B +.004 -.000 (.101) (.000)		C +.005 -.000 (.127) (.000)	
		In.	MM	In.	MM	In.	MM
DCDA-9	1	.408	10.36	.172	4.37	.570	14.48
	2	.373	9.47	.216	5.49	.570	14.48
	3	—	—	—	—	.570	14.48
DCDA-15	1	.558	14.17	.172	4.37	.720	18.29
	2	.523	13.28	.216	5.49	.720	18.29
	3	—	—	—	—	.720	18.29
DCDA-21	1	.708	17.98	.172	4.37	.870	22.10
	2	.674	17.12	.216	5.49	.870	22.10
	3	—	—	—	—	.870	22.10
DCDA-25	1	.808	20.52	.172	4.37	.970	24.64
	2	.774	19.66	.216	5.49	.970	24.64
	3	—	—	—	—	.970	24.64
DCDA-31	1	.958	24.33	.172	4.37	1.120	28.45
	2	.924	23.47	.216	5.49	1.120	28.45
	3	—	—	—	—	1.120	28.45
DCDA-37	1	1.108	28.14	.172	4.37	1.270	32.26
	2	1.074	27.28	.216	5.49	1.270	32.26
	3	—	—	—	—	1.270	32.26
DCDA-51	1	1.058	26.87	.215	5.46	1.220	30.99
	2	1.024	26.01	.259	6.58	1.220	30.99
	3	—	—	—	—	1.220	30.99

Mounting Hardware

Float mounts are available for use on DCDA connectors. A cut-away view is shown at right. Float mount and screw mount hole configurations have the same basic shell dimensions. Front panel mounted float mount (standard) is shown. Reverse mounting is available on request.

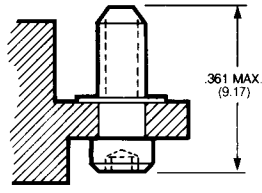


Float Mounting

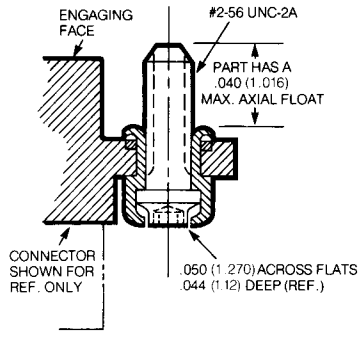


Jackpost

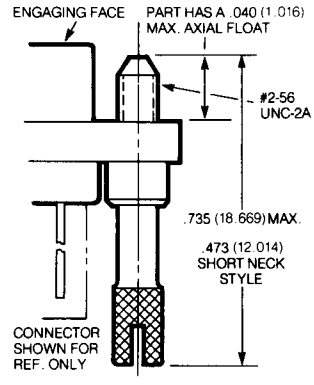
Mounting Hardware (Continued)



Removable Jackscrew
See S or M Below



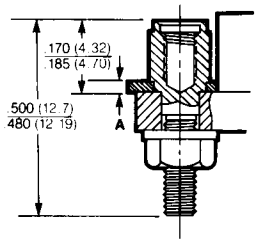
Jackscrew (Low profile)



Jackscrew (Standard)

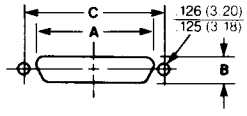
Jackpost Bushing

(for rear panel mounting)



Jackpost Part Number	Panel Thickness		A Dimen.	
	In.	MM	In.	MM
281-00-00-024	.094	2.5	.092/.087	2.34/2.21
281-00-00-025	.063	1.6	.061/.056	1.55/1.42
281-00-00-026	.047	1.2	.047/.042	1.19/1.07
281-00-00-027	.031	0.8	.030/.025	0.76/0.64

Plug and Receptacle Dimensions



Part Number (by Shell Size)	A +.004 (.101) -.000 (.000)		B +.004 (.101) -.000 (.000)		C ±.005 (.127)	
	In.	MM	In.	MM	In.	MM
9	.374	9.50	.216	5.49	.565	14.35
15	.524	13.31	.216	5.49	.715	18.16
21	.674	17.12	.216	5.49	.865	21.97
25	.774	19.66	.216	5.49	.965	24.51
31	.924	23.47	.216	5.49	1.115	28.34
37	1.074	27.28	.216	5.49	1.270	32.26
51	1.024	26.01	.259	6.58	1.215	30.86

How to Order

DC D A 37 P 6 E 2 18.0 K

Cinch Dura-Con D Connector

Insulator Type
D = Thermoplastic Glass Reinforced

Mounting Type
A = Screw Mount Flange
B = Clip Mount Flange
C = Screw Mount (Narrow Flange)

No. of Contacts
9, 15, 21, 25, 31, 37, 51

Contact Type
P—Pin (Plug)
S—Socket (Receptacle)

Wire Size in AWG
4 = 24, 5 = 25, 6 = 26, 8 = 28, 0 = 30 or S = Solder Cup
Stranded wire available in even number sizes only.

Wire Type—Insulated or solid wire
C = Solid Copper
D = Solid Dumet
E = MIL-W-16878/4, 7 Strand
F = MIL-W-16878/6, 7 Strand
G = MIL-W-16878/4, 19 Strand
H = MIL-W-16878/6, 19 Strand
J = Solid Insulated Wire
K = Insulated Wire Per MIL-W-22759/11
L = Insulated Wire Per MIL-W-22759/19

Termination, Color or Finish
1 = White
2 = Yellow
3 = Tin Plated
4 = Gold Plated
5 = Color Coded Per MIL-Std. 681, System 1.

Lead Length In Inches XX.X

Mounting Types
B = No Hardware
F = Float Mount
R = Reverse Float Mount
K = Jackscrew (Standard)
D = Jackscrew (Short Neck Style)
L = Jackscrew (Low Profile)
Q = Screwlock
P = Jackpost, MIL-C-83513/5-07
C = Jackpost, (Short Style)
M = Jackscrew, Hex. Hd., Low Profile MIL-C-83513/5-02
S = Jackscrew, Slot Hd., Low Profile MIL-C-83513/5-05
H = Jackscrew, Hex. Hd., High Profile MIL-C-83513/5-03
J = Jackscrew, Slot Hd., High Profile MIL-C-83513/5-06