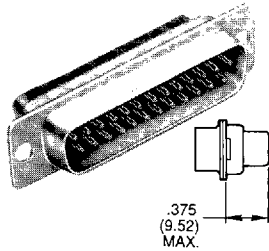


Machined or Stamped Contacts, Size 20

Part Numbers

Crimp Snap-In Contacts Supplied Separately



Tooling – Pages 232-234

Standard Shell Dimensions – Page 73

Mounting Method Detail – Page 6

Tin Shells

Number of Contacts (Shell Size)	Part Numbers	
	With Dimples (Pin Only) Without Contacts	Without Dimples (Socket) Without Contacts
9(E)	DEU-9P-K87-FD	DEU-9S-A197-F0
15(A)	DAU-15P-K87-F0	DAU-15S-A197-F0
25(B)	DBU-25P-K87-F0	DBU-25S-A197-F0
37(C)	DCU-37P-K87-F0	DCU-37S-A197-F0
50(D)	DDU-50P-K87-F0	DDU-50S-A197-F0

Clinch Nut and Float Mounting Options Available:

Add: E = 4-40 Clinch Nut

Y = Float Mounting

Example: DBUE25P-K87-F0

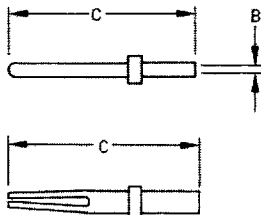
Yellow Chromate Over Cadmium Shells

Number of Positions (Shell Size)	Part Numbers	
	Connectors Without Contacts	Connectors Packaged With Machined Contacts*
9(E)	DEU9P or S-F0	DEU9P or S
15(A)	DAU15P or S-F0	DAU15P or S
25(B)	DBU25P or S-F0	DBU25P or S
37(C)	DCU37P or S-F0	DCU37P or S
50(D)	DDU50P or S-F0	DDU50P or S

*Pin contact is 030-1952-000/Socket contact is 030-1953-000

Machined Crimp Contacts

Machined contacts are furnished loose piece for use with manual and semi-automatic machines.



Description	Part Number	Wire Accommodation	B ±.002 (0.05)	C Max.	Hand Tool
Pin 20	030-1952-000	20, 22, 24	.045(1.14)	.541(13.74)	CCT-DCM-1
Pin 20-18	030-1954-000	(1) 18 or (2) #22	.066(1.68)	.867(22.02)	CCT-DCM-1
Pin 20-26	030-1952-002	26, 28, 30	.025(0.63)	.541(13.74)	CCT-DCM-2
Socket 20	030-1953-000	20, 22, 24	.045(1.14)	.523(13.28)	CCT-DCM-1
Socket 20-18	030-1955-000	(1) 18 or (2) #22	.066(1.68)	.844(21.56)	CCT-DCM-1
Socket 20-26	030-1953-002	26, 28, 30	.025(0.63)	.523(13.28)	CCT-DCM-2

NOTE for Size 20-18 contacts only: Shrink sleeving is suggested on the crimp pot to prevent contacts from touching.

Plastic Insertion/Extraction Tool – CIET-20HD

Metal Extraction Tool – CET-20D

Stamped Crimp Contacts / Reeled

Non-Insulation Support

Contact Size	Wire Accommodation	Contact Part Number		Contacts Per Reel	Hand Tool
		Pin	Socket		
20-18	AWG #18 thru 22 (For AWG #24 consult factory)	D110238-165	D110238-166	7,500	CCT-D*C-4
20	AWG #20 thru 28 (For AWG #30 consult factory)	D110238-34	D110238-35	10,000	CCT-D*C-4

Insulation Support

Wire Accommodation	Contact Part Number		Contact Per Reel	Hand Tool
	Pin	Socket		
AWG #22-#26	D110238-428	D110238-434	7,500	CCTP-D*C-10
AWG #28 thru #32	D110238-431	D110238-436	7,500	CCTP-D*C-8

Plastic Insertion/Extraction Tool – CIET-20HD

Metal Extraction Tool – CET-20D

Semi-Automatic Tooling – Pages 223-225

Highlighted part numbers indicate standard product; usually available with shorter lead times.

Industry Standard, Stamped Contacts Size 20 Performance and Material Specifications

MATERIALS AND FINISHES

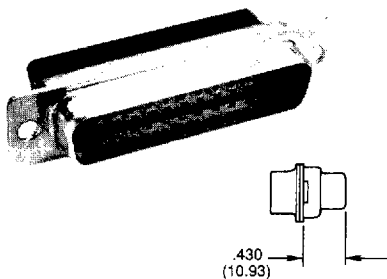
	Material	Finish
Shell	Steel	Tin or Yellow chromate over cadmium or zinc
Insulator	UL 94V-0 rated Thermoplastic, Glass-filled, color black	
Contacts:		
Machined	Copper alloy	Gold over nickel
Stamped and Formed Crimp Type	Copper alloy	Gold over nickel
Float Mount Hardware	Stainless Steel	Passivated
U.L. File No. E8572	CSA File No. 85691-2	

PERFORMANCE SPECIFICATIONS

Wire Size – See contact ordering information.
 Current Rating – #20 contact, 5 Amps / #22 contact, 2 amps
 Voltage Rating – 1000 VAC sea level
 Temperature Rating – -55°C to +105°C
 Contact Resistance – 15 mΩ

Dimensions/Part Numbers

Crimp Snap-In Contacts Supplied Separately



Standard Shell Dimensions – Page 73

Mounting Method Detail – Page 6

Connectors With Tin Shells (Commercial Standard)

Number of Positions (Shell Size)	Part Numbers	
	Pin Connector With Grounding Indents	Socket Connector
9(E)	DEA9P-K87-FO	DEA9S-A197-FO
15(A)	DAA15P-K87-FO	DAA15S-A197-FO
25(B)	DBA25P-K87-FO	DBA25S-A197-FO
37(C)	DCA37P-K87-FO	DCA37S-A197-FO
50(D)	DDA50P-K87-FO	DDA50S-A197-FO

Connectors With Yellow Chromate

Number of Positions (Shell Size)	Part Numbers	
	Pin Connector	Socket Connector
9 (E)	DEA9P-FO	DEA9S-FO
15 (A)	DAA15P-FO	DAA15S-FO
25 (B)	DBA25P-FO	DBA25S-FO
37 (C)	DCA37P-FO	DCA37S-FO
50 (D)	DDA50P-FO	DDA50S-FO

Clinch Nut and Float Mounting Options Available:

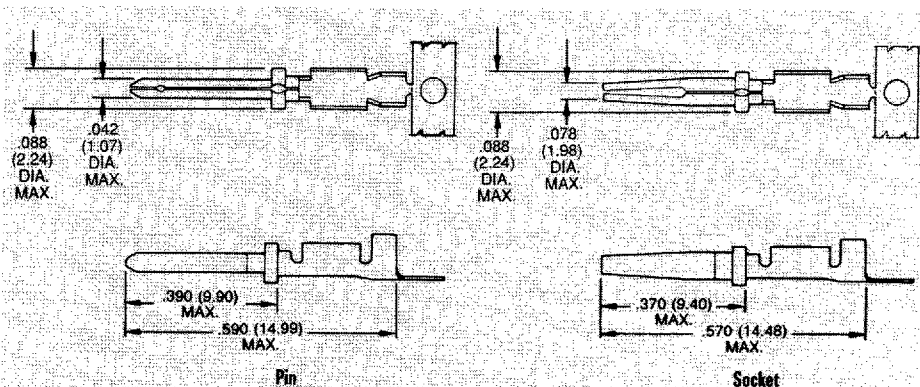
Add: E = 4-40 Clinch Nut

Y = Float Mounting

Example: DBAE25P-K87-FO

Economy, Standard Contacts Size 20

Stamped contacts with insulation support are supplied on reels of 10,000 for use with semi-automatic strip and crimp machines, or loose for use with hand crimp tooling. Two sizes are available to accommodate wire ranges 20-28 AWG.



Semi-Automatic Tooling – Pages 223-225

Loose Contacts (Order Multiples of 100)

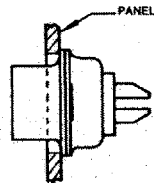
	Part Number				Reeled Contacts — 10,000 Pieces per Reel			
	Pin Contact		Socket Contact		Pin Contact		Socket Contact	
	24-28 AWG	20-24 AWG	24-28 AWG	20-24 AWG	24-28 AWG	20-24 AWG	24-28 AWG	20-24 AWG
Gold over Nickel	—	—	—	—	D110238-476	D110238-475	D110238-478	D110238-477
30μ Gold over Nickel	030-2487-015	030-2487-014	030-2488-015	030-2488-014	D110238-472	D110238-471	D110238-474	D110238-473

Highlighted part numbers indicate standard product; usually available with shorter lead times.

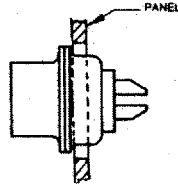
Tooling

Hand Tool		Extraction Tool	
Description	Part Number	Wire Size	Description
CCT-D*A-1	995-2000-000	20-24	CIET-D*A-20-24
		24-28	CIET-D*A-24-28
			Part Number
			980-0008-135
			980-0008-136

Panel Cutouts

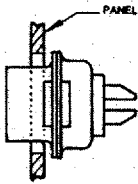
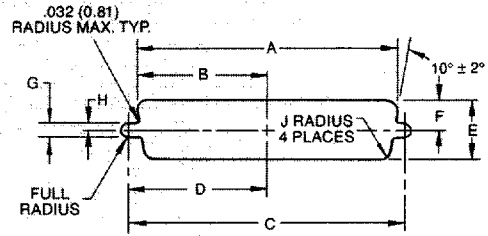


Rear mounting of standard shell

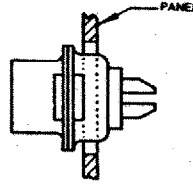


Front mounting of standard shell

Standard Cutout

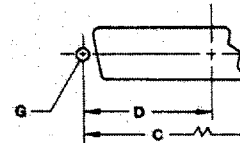


Rear mounting of float mount shell (Y-code)



Front mounting of reverse float mount shell (Y-code)

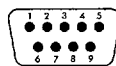
Optional Cutout (For Rear Mounting)



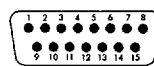
Connector Size	Mounting Method	A ±.005 (0.13)	B ±.005 (0.13)	C ±.005 (0.13)	D ±.005 (0.13)	E ±.005 (0.13)	F ±.005 (0.13)	G ±.002 (0.05)	H ±.002 (0.05)	J ±.002 (0.05)
A Standard	Front Mounting	1.202 (30.53)	.601 (15.26)	1.312 (33.32)	.656 (16.66)	.513 (13.03)	.257 (6.52)	.120 (3.04)	.060 (1.52)	.083 (2.10)
	Rear Mounting	1.134 (28.80)	.567 (14.40)	1.312 (33.32)	.656 (16.66)	.449 (11.40)	.225 (5.71)	.120 (3.04)	.060 (1.52)	.132 (3.35)
A Float	Front Mounting	1.234 (31.34)	.617 (15.67)	1.312 (33.32)	.656 (16.66)	.545 (13.84)	.273 (6.93)	.088 (2.23)	.044 (1.11)	.083 (2.10)
	Rear Mounting	1.166 (29.61)	.583 (14.80)	1.312 (33.32)	.656 (16.66)	.481 (12.21)	.241 (6.12)	.088 (2.23)	.044 (1.11)	.132 (3.35)
B Standard	Front Mounting	1.743 (44.27)	.872 (22.14)	1.852 (47.04)	.926 (23.52)	.513 (13.03)	.257 (6.52)	.120 (3.04)	.060 (1.52)	.083 (2.10)
	Rear Mounting	1.674 (42.51)	.837 (21.25)	1.852 (47.04)	.926 (23.52)	.449 (11.40)	.225 (5.71)	.120 (3.04)	.060 (1.52)	.132 (3.35)
B Float	Front Mounting	1.775 (45.08)	.888 (22.55)	1.852 (47.04)	.926 (23.52)	.545 (13.84)	.273 (6.93)	.088 (2.23)	.044 (1.11)	.083 (2.10)
	Rear Mounting	1.706 (43.33)	.853 (21.66)	1.852 (47.04)	.926 (23.52)	.481 (12.21)	.241 (6.12)	.088 (2.23)	.044 (1.11)	.132 (3.35)
C Standard	Front Mounting	2.391 (60.73)	1.196 (30.37)	2.500 (63.50)	1.250 (31.75)	.513 (13.03)	.257 (6.52)	.120 (3.04)	.060 (1.52)	.083 (2.10)
	Rear Mounting	2.326 (59.08)	1.163 (29.54)	2.500 (63.50)	1.250 (31.75)	.449 (11.40)	.225 (5.71)	.120 (3.04)	.060 (1.52)	.132 (3.35)
C Float	Front Mounting	2.423 (61.54)	1.212 (30.78)	2.500 (63.50)	1.250 (31.75)	.545 (13.84)	.273 (6.93)	.088 (2.23)	.044 (1.11)	.083 (2.10)
	Rear Mounting	2.354 (59.79)	1.177 (29.89)	2.500 (63.50)	1.250 (31.75)	.481 (12.21)	.241 (6.12)	.088 (2.23)	.044 (1.11)	.132 (3.35)
D Standard	Front Mounting	2.297 (58.34)	1.149 (29.18)	2.406 (61.11)	1.203 (30.55)	.623 (15.82)	.312 (7.92)	.120 (3.04)	.060 (1.52)	.083 (2.10)
	Rear Mounting	2.218 (56.33)	1.109 (28.16)	2.406 (61.11)	1.203 (30.55)	.555 (14.09)	.278 (7.06)	.120 (3.04)	.060 (1.52)	.132 (3.35)
D Float	Front Mounting	2.329 (59.15)	1.165 (29.59)	2.406 (61.11)	1.203 (30.55)	.655 (16.63)	.328 (8.33)	.088 (2.23)	.044 (1.11)	.083 (2.10)
	Rear Mounting	2.250 (57.15)	1.125 (28.57)	2.406 (61.11)	1.203 (30.55)	.587 (14.90)	.294 (7.46)	.088 (2.23)	.044 (1.11)	.132 (3.35)
E Standard	Front Mounting	.874 (22.19)	.437 (11.09)	.984 (24.99)	.492 (12.49)	.513 (13.03)	.257 (6.52)	.120 (3.04)	.060 (1.52)	.083 (2.10)
	Rear Mounting	.806 (20.47)	.403 (10.23)	.984 (24.99)	.492 (12.49)	.449 (11.40)	.225 (5.71)	.120 (3.04)	.060 (1.52)	.132 (3.35)
E Float	Front Mounting	.906 (23.01)	.453 (11.50)	.984 (24.99)	.492 (12.49)	.545 (13.84)	.273 (6.93)	.088 (2.23)	.044 (1.11)	.083 (2.10)
	Rear Mounting	.838 (21.28)	.419 (10.64)	.984 (24.99)	.492 (12.49)	.481 (12.21)	.241 (6.12)	.088 (2.23)	.044 (1.11)	.132 (3.35)

Contact Arrangements – Standard

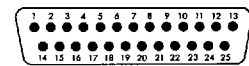
Face View Pin Insert



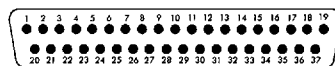
E
9
#20



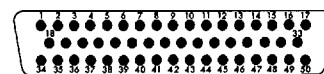
A
15
#20



B
25
#20



C
37
#20

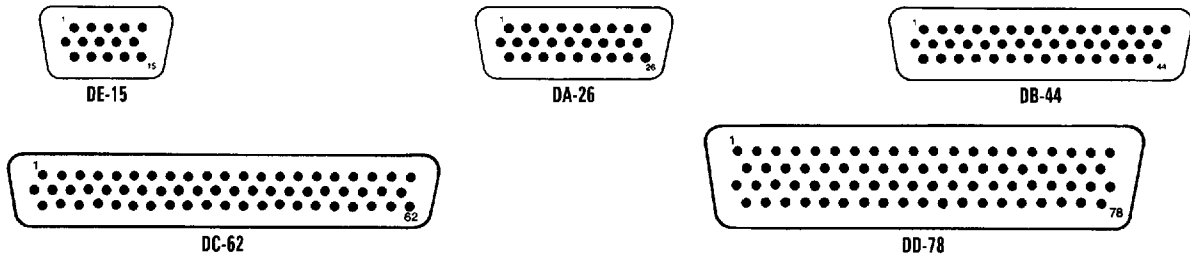


D
50
#20

Shell Size
Contact Arrangement
Contact Size

Shell Size
Contact Arrangement
Contact Size

Contact Arrangements – High Density



Panel Mounting

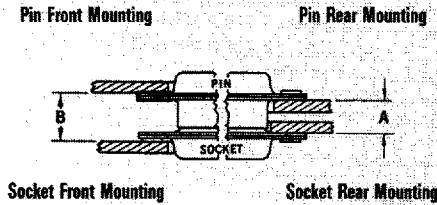


Figure 1A

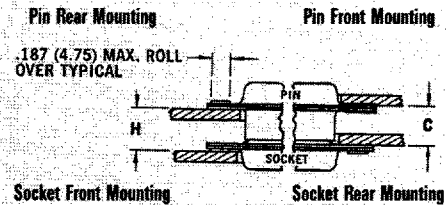


Figure 1B

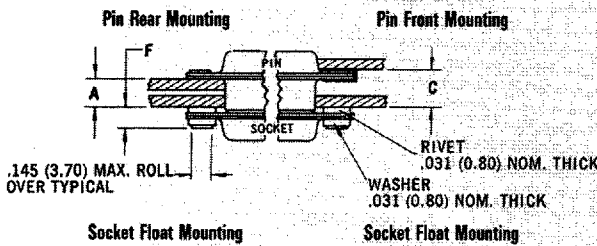


Figure 2

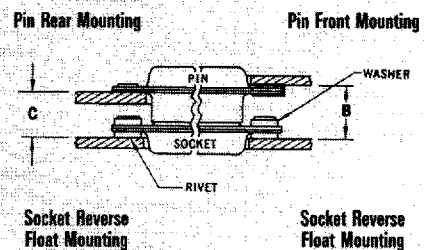


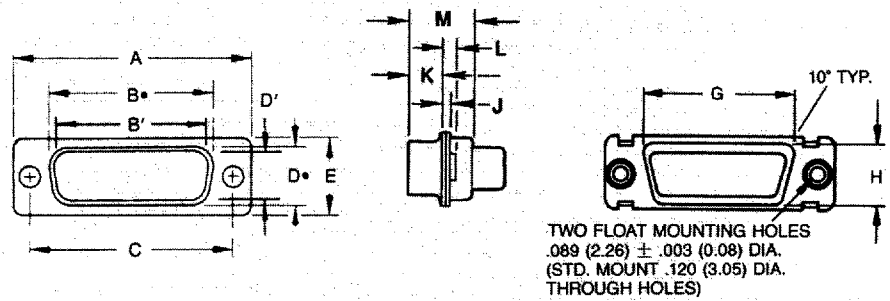
Figure 3

Fig. No.	Combination of Mated Connectors		A +.030 (+0.76) -.000 (-0)	B +.030 (+0.76) -.000 (-0)	C +.030 (+0.76) -.000 (-0)	F ±.010 (±0.25)	H +.030 (+0.76) -.000 (-0)
	Size	Pin (See Note Below)					
1	A, E	Standard	Standard	.250 (6.35)	.340 (8.63)	.295 (7.49)	-.295 (7.49)
1	B, C, D	Standard	Standard	.238 (6.04)	.343 (8.71)	.298 (7.56)	-.283 (7.18)
2	A, E	Standard	Float Mount	.218 (5.53)	-	.263 (6.68)	.120 (3.04)
2	B, C, D	Standard	Float Mount	.206 (5.23)	-	.266 (6.75)	.120 (3.04)
2	A, E	Float Mount	Standard	.218 (5.53)	-	.263 (6.68)	.120 (3.04)
2	B, C, D	Float Mount	Standard	.206 (5.23)	-	.251 (6.37)	.130 (3.30)
3	A, E	Standard	Rev. Float Mount	-	.358 (9.09)	.313 (7.95)	.120 (3.04)
3	B, C, D	Standard	Rev. Float Mount	-	.361 (9.16)	.301 (7.64)	.120 (3.04)
3	A, E	Rev. Float Mount	Standard	-	.358 (9.09)	.313 (7.95)	.120 (3.04)
3	B, C, D	Rev. Float Mount	Standard	-	.355 (9.01)	.310 (7.87)	.130 (3.30)

NOTES:

1. A, B, C and H are dimensions between panels and represent the recommended limit to be used in the design of the connector mounting method.
2. It is recommended that only one assembly, either pin or socket, be float mounted.
3. Standard pin assemblies contained .015 (0.38) thick front shells on E and A sizes; .024 (0.61) thick front shells on B, C, and D sizes.
4. Standard connectors accommodate a #4 screw. Float mount connectors accommodate a #2 screw.

Standard D Shell Dimensions



Shell Size	A ±.015 (0.38)	B [•] ±.010 (0.25)	B' [•] ±.010 (0.25)	C ±.008 (0.2)	D [•] ±.010 (0.25)	D' [•] ±.010 (0.25)	E ±.016 (0.4)	G Max.	H Max.	J ±.010 (0.25)	K ±.010 (0.25)	L Max.	M Max.
DE-9P	1.213 (30.81)	—	.667 (16.94)	.984 (24.99)	—	.329 (8.36)	.494 (12.55)	.765 (19.41)	.430 (10.92)	.032 (0.81)	.236 (5.99)	.075 (1.90)	.438 (11.12)
DE-9S	1.213 (30.81)	.642 (16.31)	—	.984 (24.99)	.310 (7.87)	—	.494 (12.55)	.765 (19.41)	.430 (10.92)	.032 (0.81)	.242 (6.15)	.075 (1.90)	.438 (11.12)
DA-15P	1.539 (39.14)	—	.995 (25.27)	1.311 (33.32)	—	.329 (8.36)	.494 (12.55)	1.088 (27.64)	.430 (10.92)	.032 (0.81)	.236 (5.99)	.075 (1.90)	.438 (11.12)
DA-15S	1.539 (39.14)	.970 (24.64)	—	1.311 (33.32)	.310 (7.87)	—	.494 (12.55)	1.088 (27.64)	.430 (10.92)	.032 (0.81)	.242 (6.15)	.075 (1.90)	.438 (11.12)
DB-25P	2.087 (53.03)	—	1.535 (38.99)	1.850 (47.04)	—	.329 (8.36)	.494 (12.55)	1.630 (41.40)	.430 (10.92)	.036 (0.91)	.232 (5.99)	.075 (1.90)	.438 (11.12)
DB-25S	2.087 (53.03)	1.510 (38.35)	—	1.850 (47.04)	.310 (7.87)	—	.494 (12.55)	1.630 (41.40)	.430 (10.92)	.032 (0.81)	.242 (6.15)	.075 (1.90)	.438 (11.12)
DC-37P	2.728 (69.31)	—	2.183 (55.45)	2.500 (63.50)	—	.329 (8.36)	.494 (12.55)	2.278 (57.86)	.430 (10.92)	.036 (0.91)	.232 (5.99)	.075 (1.90)	.438 (11.12)
DC-37S	2.728 (69.31)	2.158 (54.81)	—	2.500 (63.50)	.310 (7.87)	—	.494 (12.55)	2.278 (57.86)	.430 (10.92)	.032 (0.81)	.242 (6.15)	.075 (1.90)	.438 (11.12)
DD-50P	2.634 (66.92)	—	2.080 (52.83)	2.406 (61.11)	—	.436 (11.07)	.605 (15.37)	2.183 (55.45)	.542 (13.77)	.036 (0.91)	.232 (5.99)	.075 (1.90)	.438 (11.12)
DD-50S	2.634 (66.92)	2.063 (52.40)	—	2.406 (61.11)	.422 (10.72)	—	.605 (15.37)	2.183 (55.45)	.542 (13.77)	.032 (0.81)	.242 (6.15)	.075 (1.90)	.438 (11.12)

NOTE: Dimensions B[•], D[•], G and H are measured as outside dimensions at the bottom of the draw. B[•] and D[•] are the O.D. dims. for socket side; B' and D' are the inside dims. for pin side.

Performance and Material Specifications

MATERIALS AND FINISHES

	Material	Finish
Shell	Steel	Tin or yellow chromate over zinc or cadmium
Insulator	Thermoplastic-UL 94V-0	
Contacts	Pin: Brass Socket: Phosphor Bronze	Gold Over nickel

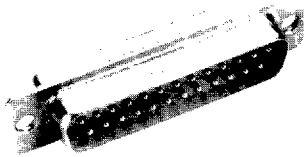
MECHANICAL FEATURES

Coupling — Friction and lock accessories
Polarization — Keystone-shaped shells

PERFORMANCE SPECIFICATIONS

Temperature Rating — -55°C to +105°C
Dielectric Withstanding Voltage — 1000 VAC sea level
Wire/Contact Size — #20 AWG
Current Rating — #20 contact 5 Amps

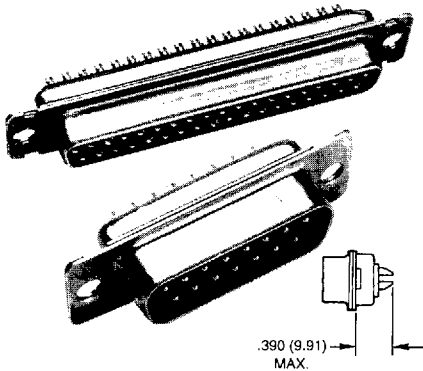
Dimensions/Part Numbers—Stamped Contacts



Number of Contacts (Shell Size)	Yellow Chromate Part Number	Tin Part Number
9(E)	DE9P	DE9PK87
	DE9S	DE9SA197
15(A)	DA15P	DA15PK87
	DA15S	DA15SA197
25(B)	DB25P	DB25PK87
	DB25S	DB25SA197
37(C)	DC37P	DC37PK87
	DC37S	DC37SA197
50(D)	DD50P	DD50PK87
	DD50S	DD50SA197

Dimensions/Part Numbers – Machined Contacts (Non-Removable)

With .120" Through-Mounting Holes



Layout	Tin/ Gold Over Nickel	Yellow Chromate/ Gold Over Nickel	Tin/ 30µ in. Gold
DE-9S	DEM9SA197	DEM9S	DEM9SK126
DE-9P	DEM9PK87	DEM9P	DEM9PK127
DA-15S	DAM15SA197	DAM15S	DAM15SK126
DA-15P	DAM15PK87	DAM15P	DAM15PK127
DB-25S	DBM25SA197	DBM25S	DBM25SK126
DB-25P	DBM25PK87	DBM25P	DBM25PK127
DC-37S	DCM37SA197	DCM37S	DCM37SK126
DC-37P	DCM37PK87	DCM37P	DCM37PK127
DD-50S	DDM50SA197	DDM50S	DDM50SK126
DD-50P	DDM50PK87	DDM50P	DDM50PK127

Mounting Options Available:

- 4-40 Clinch Nut – Add "E" to Part Number After "M".
- Float Mount – Add "Y" to Part Number After "M".

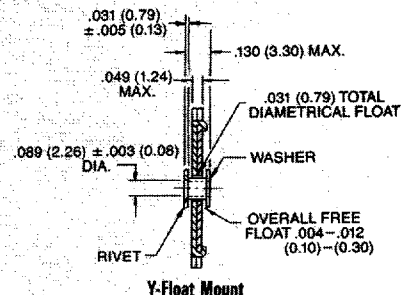
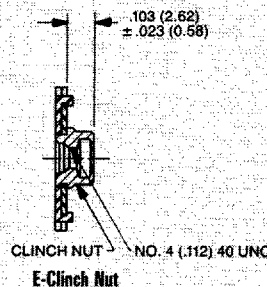
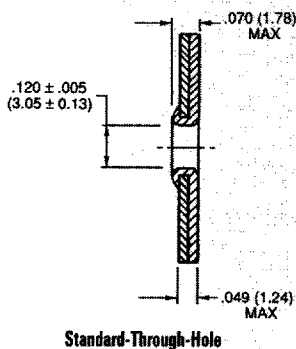
(Can be used in front or rear panel mount applications)

Example: DBME25SA197 DEMY9PK87

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Standard Shell Dimensions – Page 73
Mounting Method Detail – Page 6

Highlighted part numbers indicate standard product; usually available with shorter lead times.

Mounting Option Dimensions – Solder Cup Connectors



It is recommended that only one assembly, either pin or socket, be float mounted.