

MIL-C-38999 Series 1, 2, 3 & 4

The D38999 Series of connectors were designed for both performance and mechanical robustness to meet many demanding applications in:

- Military Aerospace
- Ballistic Missiles and Weapon Systems
- Marine Equipment

Common features apply to the whole MIL-C-38999 family such as compact size and weight, common mounting cutouts, and standard insert arrangements. Contacts, crimp tools, insertion/removal tools, sealing plugs and assembly techniques are all standard across the whole MIL-C-38999 connector series.

Performance Characteristics

Specifications	Series 1	Series 2	Series 3	Series 4
EMI Shielding (Electroless Nickel)				
100 MHz	90 dB	65 dB	90 dB	90 dB
1,000 MHz	85 dB	45 dB	85 dB	85 dB
10,000 MHz	50 dB		65 dB	65 dB
Durability (cycles)	500	500	500	500
Shock 300 g	Yes	Yes	Yes	Yes
Humidity After Temp Life	No	No	Yes	No
Contact Engagement	0.034"	0.034"	0.050"	0.050"
External Bending	650 in/lb max	150 in/lb max	1000 in/lb max	650 inc/lb max
Sine Vibration	3 gs 12 Hrs ambient temperature with accessory load	NO accessory load with temp cycle	60 gs 36 Hrs ambient temperature with accessory load (-55 to 200°C)	30 gs 12 Hrs
Random Vibration Level J.44.1 Grms	with accessory load ambient temperature	No Load ambient temp	Max rated temp with accessory load	with accessory load ambient temperature
Firewall Option	No	No	Yes	No
Electrolytic Erosion	No	No	Yes	Yes
Scoop Proof Recessed Pin Contacts	Yes	No	Yes	Yes
Coupling Method	Bayonet	Bayonet	Screw / Threaded	Screw / Threaded
Applicable Standards	Mil-C-38999 Series 1 NFC 93422 HE308 DTAT-C-5935 GAM/T1 List	Mil-C-38999 Series2 NFC 934222 HE309 PAN 6433-1 BS 9522-N-003 VG 96912-2 GMA/T1 List	Mil-C-38999 Series 3	Mil-C-38999 Series 4
Common Features	Keyway Polarization - Master Keyways Rear removable crimp contacts, retained by the insulator using metal clips.			

D38999 Series 1 Connectors

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For further assistance, please call;

Rojone Pty. Limited

61 Aero Road
INGLEBURN NSW 2565 AUSTRALIA

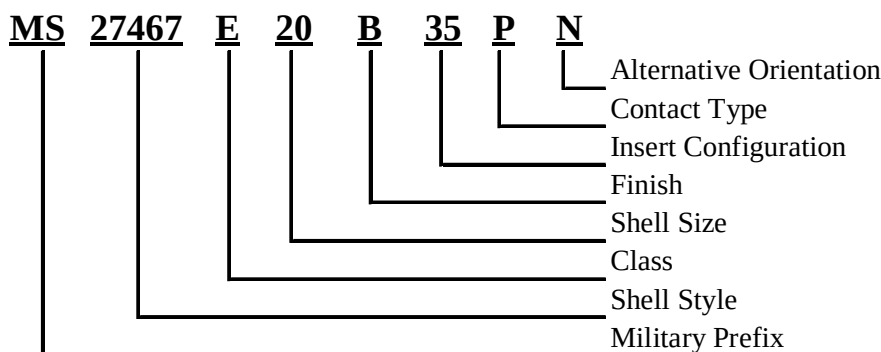
Phone 02 9829 1555
Fax 02 9605 8812
Email sales@rojone.com.au

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Perth 08 9592 9606 / 0407 426 233
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MIL-C-38999 - Series 1

PART NUMBER CONSTRUCTION



CODE SHELL STYLE

MS27466 •	Wall Mount Receptacle
MS27467 •	Straight Plug, EMI Grounding
MS27468 •	Jam Nut Receptacle
MS27469 •	Hermetic Wall Mount Receptacle
MS27470 •	Hermetic Jam Nut Receptacle
MS27471 •	Hermetic Solder Mount Receptacle
MS27496 •	Box Mount Receptacle
MS27498 *•	90° Plug
MS27505 •	Box Mount Receptacle, Rear Panel Mount
MS27515 *	Wall Mount Receptacle, Rear Panel Mount
MS27652 *	Wall Mount Receptacle
MS27653 *	Straight Plug, EMI Grounding
MS27654 *	Wall Mount Receptacle, Rear Panel Mount
MS27656 •	Wall Mount Receptacle, Rear Panel Mount
MS27661	Straight Plug, Lanyard Release
MS27662	Thru-bulkhead Receptacle

• MIL-STD 1353

* Inactive for new design

CODE CLASS

E •	Environmental, may or may not have teeth on rear of shell. Inactive for new designs, use Class T.
P	Potting, includes potting boot & short rear grommet.
T •	Environmental, with teeth on rear shell, less rear hardware
Y	Hermetic

CODE FINISH

A	Bright cadmium over nickel, 150°C Inactive for new design
B •	Olive drab cadmium over nickel, 500 hours salt spray, 175°C
C	Non-Conductive anodise, 200°C
D •	Steel, fused tin, 150°C (Hermetic)
E	Stainless steel, passivated 200°C
F •	Electroless nickel, 200°C
N	Stainless Steel, Electrodeposited nickel, 200°C

INSERT CONFIGURATION

See Page 35

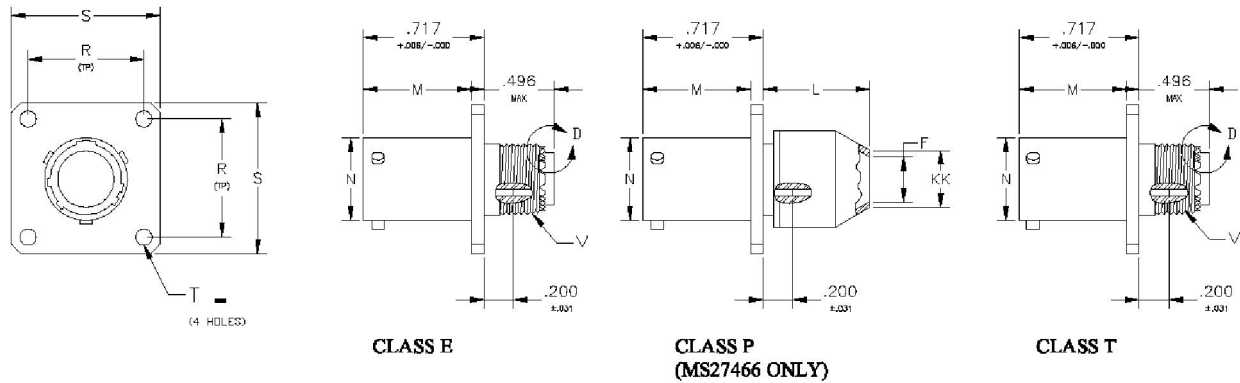
For Contact Sizes and Arrangement Codes

CODE CONTACT TYPE

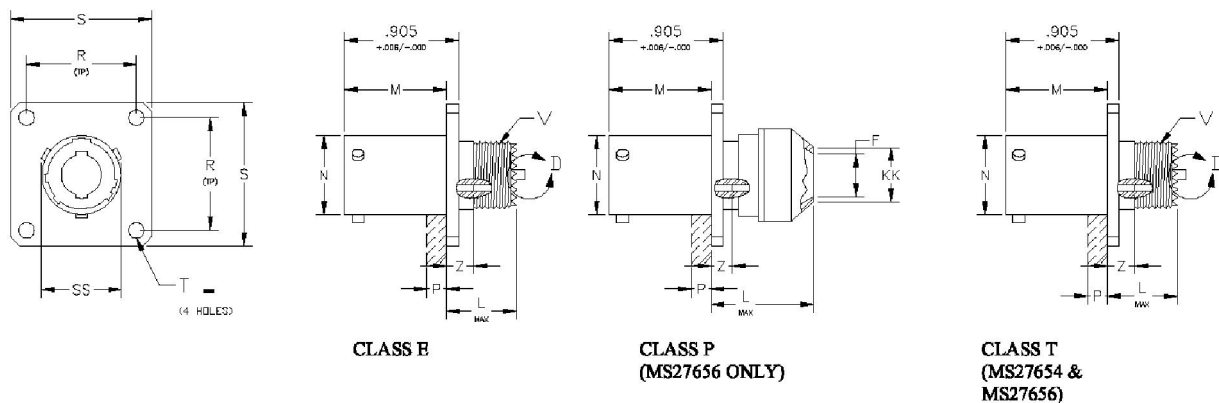
A	Connector, less pin contacts
B	Connector, less socket contacts
C	Feed-Thru contacts, Use on MS27662 Only
P	Pin contacts, including hermetic with solder pots
S	Socket contacts, including hermetic with solder pots
X	Pin with eyelet (Hermetic Only)
Z	Socket with eyelet (Hermetic Only)

CODE ALTERNATIVE ORIENTATION

N	Normal position
A,B,C or D	See Pages 37 & 38 for details



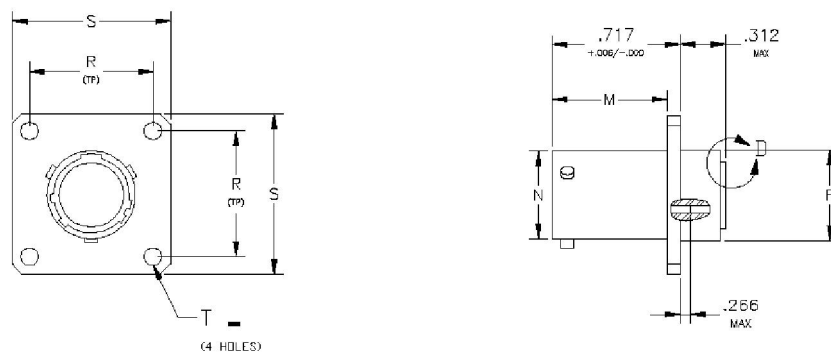
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9	0.632	.4375-28UNEF	0.572	0.938	0.719	0.128	0.327	0.608	0.813
11	0.632	.5625-24UNEF	0.700	1.031	0.812	0.128	0.444	0.734	0.813
13	0.632	.6875-24UNEF	0.850	1.125	0.906	0.128	0.558	0.858	0.813
15	0.632	.8125-20UNEF	0.975	1.219	0.969	0.128	0.683	0.984	0.813
17	0.632	.9375-20UNEF	1.100	1.312	1.062	0.128	0.808	1.110	0.813
19	0.632	1.0625-18UNEF	1.207	1.438	1.156	0.128	0.909	1.234	0.813
21	0.602	1.1875-18UNEF	1.332	1.562	1.25	0.128	1.034	1.36	0.906
23	0.602	1.3125-18UNEF	1.457	1.688	1.375	0.147	1.159	1.484	0.906
25	0.602	1.4375-18UNEF	1.582	1.812	1.500	0.147	1.284	1.61	0.906



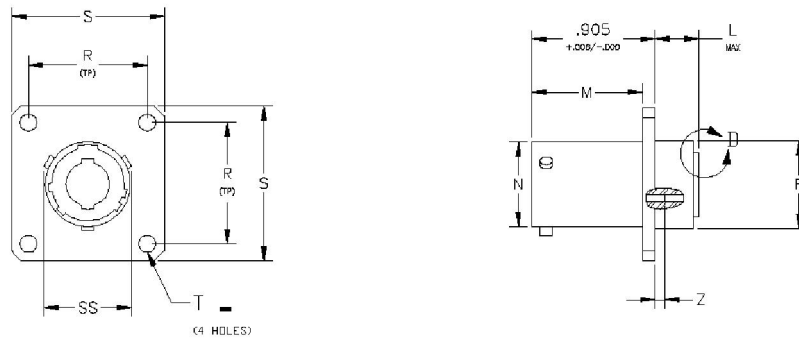
Shell Size	M -.000 +.005	V Thread Class 2A (Plated)	N +.001 -.005	S ±0.16	R (TP)	T Dia. .005	F Dia	KK Dia Max	L Max
9	0.632	.4375-28UNEF	0.572	0.938	0.719	0.128	0.327	0.608	0.813
11	0.632	.5625-24UNEF	0.700	1.031	0.812	0.128	0.444	0.734	0.813
13	0.632	.6875-24UNEF	0.850	1.125	0.906	0.128	0.558	0.858	0.813
15	0.632	.8125-20UNEF	0.975	1.219	0.969	0.128	0.683	0.984	0.813
17	0.632	.9375-20UNEF	1.100	1.312	1.062	0.128	0.808	1.110	0.813
19	0.632	1.0625-18UNEF	1.207	1.438	1.156	0.128	0.909	1.234	0.813
21	0.602	1.1875-18UNEF	1.332	1.562	1.25	0.128	1.034	1.36	0.906
23	0.602	1.3125-18UNEF	1.457	1.688	1.375	0.147	1.159	1.484	0.906
25	0.602	1.4375-18UNEF	1.582	1.812	1.500	0.147	1.284	1.61	0.906



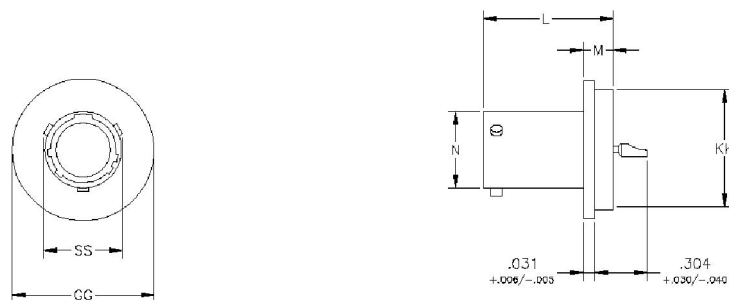
Shell Size	N Dia. +.001 -.005	R (TP)	S ±.016	RR Thread Class 2A	T Dia. ±.005
9	.572	.719	.938	.6875-24UNEF	.128
11	.700	.812	1.031	.8125-20UNEF	.128
13	.850	.906	1.125	.9375-20UNEF	.128
15	.975	.969	1.219	1.0625-18UNEF	.128
17	1.100	1.062	1.312	1.1875-18UNEF	.128
19	1.207	1.156	1.438	1.3125-18UNEF	.128
21	1.332	1.250	1.562	1.4375-18UNEF	.128
23	1.457	1.375	1.688	1.5625-18UNEF	.147
25	1.582	1.500	1.812	1.6875-18UNEF	.147



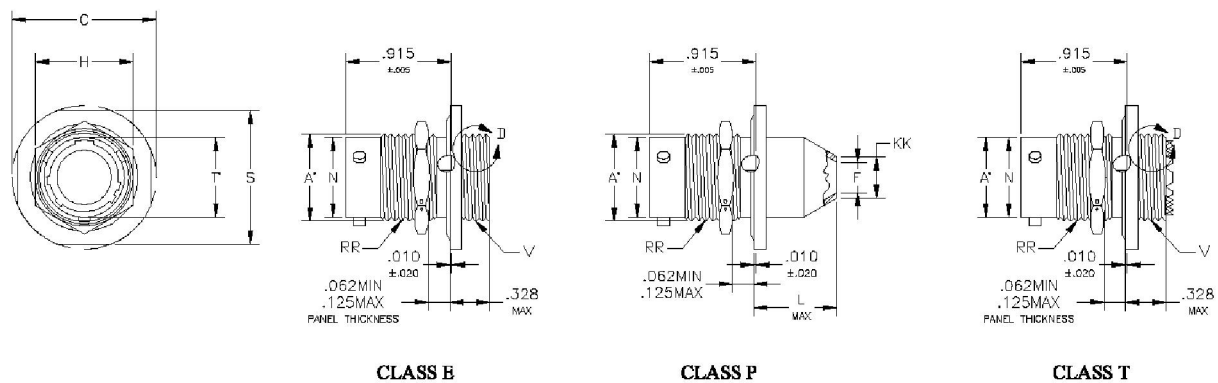
Shell Size	M +.000 -.005	N +.001 -.005	S ±.016	R (TP)	T Dia ±.005	F Dia Max
9	.632	.572	0.938	.719	0.128	0.469
11	.632	.700	1.031	.812	0.128	0.594
13	.632	.850	1.125	.906	0.128	0.719
15	.632	.975	1.219	.969	0.128	0.844
17	.632	1.100	1.312	1.062	0.128	0.969
19	.632	1.207	1.438	1.156	0.128	1.078
21	.602	1.332	1.562	1.250	0.128	1.203
23	.602	1.457	1.688	1.375	0.147	1.328
25	.602	1.582	1.812	1.500	0.147	1.453



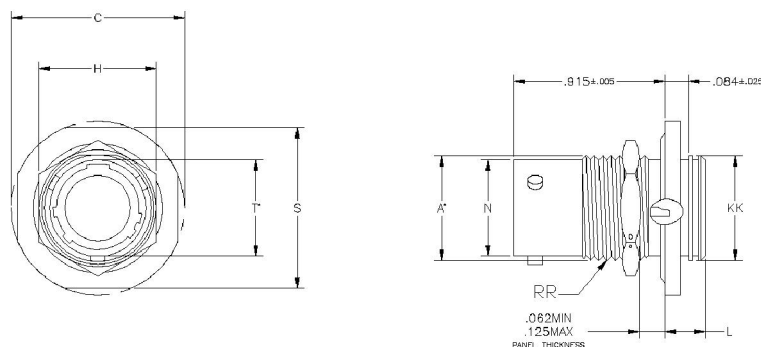
Shell Size	L Max.	M +.000 -.005	R (TP)	S +.011 -.010	T Dia. ±.005	Z ±.031	N Dia. +.001 -.005	SS Dia. +.000 -.016	F Dia. Max.
9	.219	.820	.719	.938	.128	.207	.572	.662	.547
11	.219	.820	.812	1.031	.128	.207	.700	.810	.656
13	.219	.820	.906	1.125	.128	.207	.850	.960	.828
15	.219	.820	.969	1.219	.128	.207	.975	1.085	.953
17	.219	.820	1.062	1.312	.128	.207	1.100	1.210	1.078
19	.219	.820	1.156	1.438	.128	.207	1.207	1.317	1.203
21	.250	.790	1.250	1.562	.128	.328	1.332	1.442	1.328
23	.250	.790	1.375	1.688	.147	.328	1.457	1.567	1.453
25	.250	.790	1.500	1.812	.147	.328	1.582	1.692	1.578



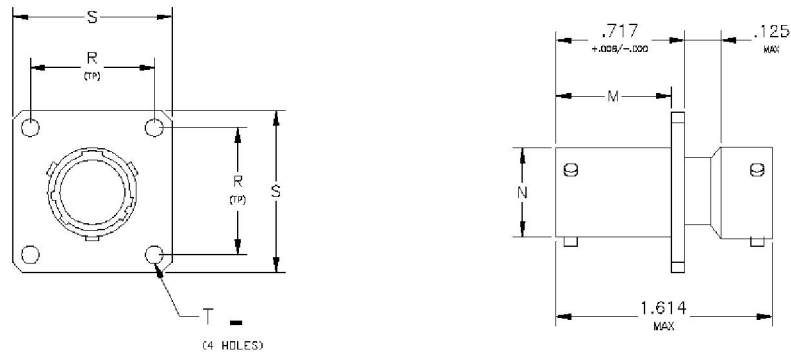
Shell Size	N Dia. +.001 -.005	SS Dia. +.000 -.016	L +.011 -.000	M +.006 -.005	GG Dia. +.011 -.010	KK Dia. +.001 -.005
9	.572	.662	.789	.125	.750	.672
11	.700	.810	.789	.125	.844	.781
13	.850	.960	.789	.125	.969	.906
15	.975	1.085	.789	.125	1.094	1.031
17	1.100	1.210	.789	.125	1.218	1.156
19	1.207	1.317	.789	.125	1.312	1.250
21	1.332	1.442	.789	.125	1.438	1.375
23	1.457	1.567	.821	.156	1.563	1.500
25	1.582	1.692	.821	.156	1.688	1.625



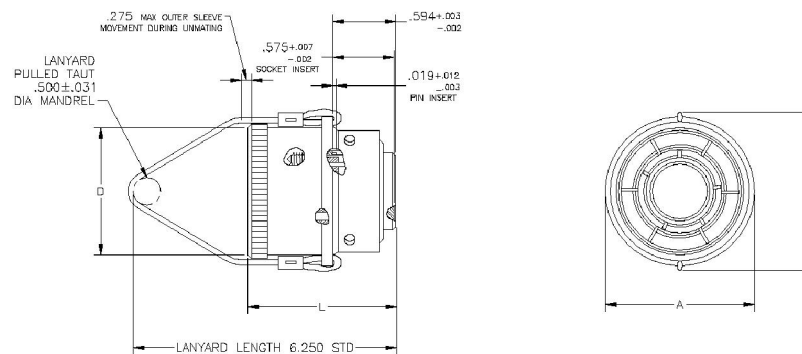
CLASS E					CLASS P			CLASS T			
SHELL SIZE	RR THREAD CLASS 2A (PLATED)	N +.001 -.005	A +.000 -.010 D Hole Dia	T +.010 -.000 D Hole Dia	C MAX.	H HEX +.017 -.016	S ±.016	V THREAD CLASS 2A (PLATED)	KK DIA. MAX.	F DIA.	L MAX.
9	.6875-24UNEF	0.572	0.669	0.697	1.199	0.875	1.062	.4375-28UNEF	0.608	0.327	0.625
11	.8125-20UNEF	0.700	0.769	0.822	1.386	1.000	1.250	.5625-24UNEF	0.734	0.444	0.625
13	1.0000-20UNEF	0.850	0.955	1.007	1.511	1.188	1.375	.6875-24UNEF	0.858	0.558	0.625
15	1.1250-18UNEF	0.975	1.084	1.134	1.636	1.312	1.500	.8125-20UNEF	0.984	0.683	0.625
17	1.2500-18UNEF	1.100	1.208	1.259	1.761	1.438	1.625	.9375-20UNEF	1.110	0.808	0.625
19	1.3750-18UNEF	1.207	1.333	1.384	1.949	1.562	1.812	1.0625-18UNEF	1.234	0.909	0.656
21	1.5000-18UNEF	1.332	1.459	1.507	2.073	1.688	1.938	1.1875-18UNEF	1.360	1.034	0.750
23	1.6250-18UNEF	1.457	1.575	1.634	2.199	1.812	2.063	1.3125-18UNEF	1.484	1.159	0.750
25	1.7500-18UNS	1.582	1.709	1.759	2.323	2.000	2.188	1.4375-18UNEF	1.610	1.284	0.750



SHELL SIZE	L MAX.	KK +.011 -.000	RR THREAD CLASS 2A (PLATED)	N +.000 -.005	A +.000 -.010 D Hole Dia	T +.010 -.000 D Hole Dia	C MAX.	H HEX +.017 -.016	S ±.016
9	0.297	0.642	.6875-24UNEF	0.572	0.669	0.697	1.199	0.875	1.062
11	0.297	0.766	.8125-20UNEF	0.700	0.769	0.822	1.386	1.000	1.250
13	0.297	0.892	1.0000-20UNEF	0.850	0.955	1.007	1.511	1.188	1.375
15	0.297	1.018	1.1250-18UNEF	0.975	1.084	1.134	1.636	1.312	1.500
17	0.297	1.142	1.2500-18UNEF	1.100	1.208	1.259	1.761	1.438	1.625
19	0.328	1.268	1.3750-18UNEF	1.207	1.333	1.384	1.949	1.562	1.812
21	0.328	1.392	1.5000-18UNEF	1.332	1.459	1.507	2.073	1.688	1.938
23	0.328	1.518	1.6250-18UNEF	1.457	1.580	1.634	2.199	1.812	2.062
25	0.328	1.642	1.7500-18UNS	1.582	1.709	1.759	2.328	2.000	2.188

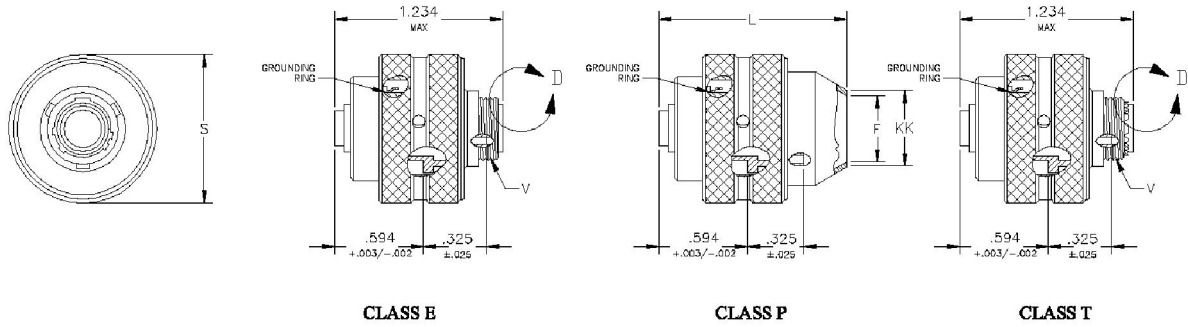


Shell Size	M +.000 -.005	N +.001 -.005	S ±.016	R (TP)	T Dia. ±.005
9	.632	.572	.938	.719	.128
11	.632	.700	1.031	.812	.128
13	.632	.850	1.125	.906	.128
15	.632	.975	1.219	.969	.128
17	.632	1.100	1.312	1.062	.128
19	.632	1.207	1.438	1.156	.128
21	.602	1.332	1.562	1.250	.128
23	.602	1.457	1.688	1.375	.147
25	.602	1.582	1.812	1.500	.147

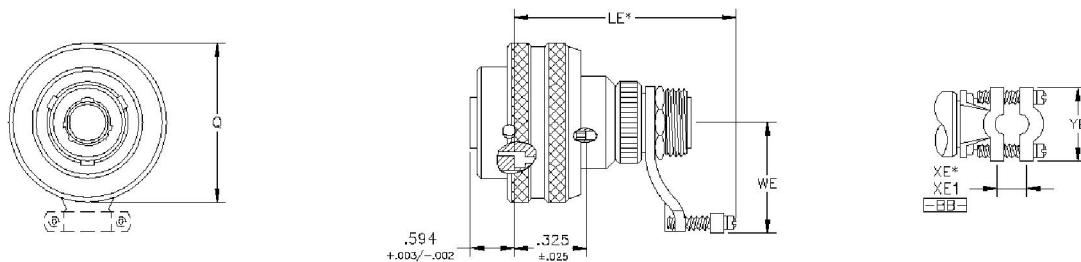


Shell Size	A Dia Max	B Max	D Max Accessory Dia	L Max	V Thread Class 2A UNEF (Plated)
11	1.393	1.797	.740	1.703	.5625-24
13	1.558	1.969	.926	1.703	.6875-24
15	1.669	2.078	1.051	1.703	.8125-20
17	1.797	2.203	1.176	1.703	.9375-20
19	1.926	2.323	1.300	1.703	1.0625-18
21	2.054	2.469	1.426	1.703	1.1875-18
23	2.183	2.594	1.551	1.703	1.3125-18
25	2.293	2.703	1.676	1.766	1.4375-18

Reference dimensions only – subject to specific manufacturers tolerances.



SHELL SIZE	L MAX.	V THREAD CLASS 2A (PLATED)	Q MAX.	F MAX	KK DIA. MAX
9	1.531	.4375-28UNEF	0.844	0.327	0.608
11	1.531	.5625-25UNEF	0.969	0.444	0.734
13	1.531	.6875-24UNEF	1.141	0.558	0.858
15	1.531	.8125-20UNEF	1.266	0.683	0.984
17	1.531	.9375-20UNEF	1.391	0.808	1.110
19	1.531	1.0625-18UNEF	1.500	0.909	1.234
21	1.625	1.1875-29UNEF	1.625	1.034	1.360
23	1.625	1.3125-18UNEF	1.750	1.159	1.484
25	1.625	1.4375-18UNEF	1.875	1.284	1.610

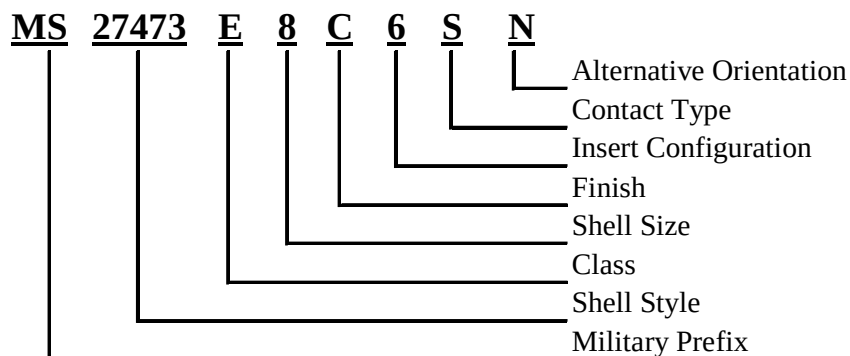


Dimension LE & XE1 apply when the end of the screw is flush with the BB surface

SHELL SIZE	LE MAX.	WE MAX.	XE MIN. CABLE	XE1 MAX. CABLE	YE MAX.	Q DIA.
9	2.344	1.000	0.082	0.234	0.828	0.875
11	2.344	1.032	0.082	0.234	0.891	0.984
13	2.406	1.094	0.114	0.328	1.016	1.156
15	2.594	1.291	0.176	0.457	1.141	1.250
17	2.641	1.281	0.238	0.634	1.255	1.406
19	2.766	1.344	0.208	0.614	1.469	1.500
21	2.844	1.375	0.302	0.698	1.550	1.625
23	3.000	1.438	0.302	0.823	1.675	1.750
25	3.291	1.719	0.332	0.853	1.800	1.875

MIL-C-38999 - Series 2

PART NUMBER CONSTRUCTION



CODE	SHELL STYLE
MS27472 •	Wall Mount Receptacle
MS27473 •	Straight Plug
MS27474 •	Jam Nut Receptacle
MS27475 •	Hermetic Wall Mount Receptacle
MS27476 •	Hermetic Box Mount Receptacle
MS27477 •	Hermetic Jam Nut Receptacle
MS27478 •	Hermetic Solder Mount Receptacle
MS27479 *	Wall Mount Receptacle
MS27480 *	Straight Plug
MS27481 *	Jam Nut Receptacle
MS27482 *	Hermetic Wall Mount Receptacle
MS27483 *	Hermetic Jam Nut Receptacle
MS27484 •	Straight Plug, EMI Grounding
MS27497 •	Wall Mount Receptacle, Back Panel Mtg
MS27499 •	Box Mount Receptacle
MS27500 *•	90° Plug
MS27503 *	Hermetic Solder Mount Receptacle
MS27504 *	Box Mount Receptacle
MS27508 •	Box Mount Receptacle, Back Panel Mtg
MS27513 •	Box Mount Receptacle, Long Grommet
MS27664 *	Wall Mount Receptacle, Back Panel Mtg

CODE	CLASS
E •	Environmental, may or may not have teeth on rear of shell. Inactive for new designs, use Class T.
P	Potting, includes potting boot & short rear grommet.
T •	Environmental, with teeth on rear shell, less rear hardware
Y	Hermetic

• MIL-STD 1353

* Inactive for new design

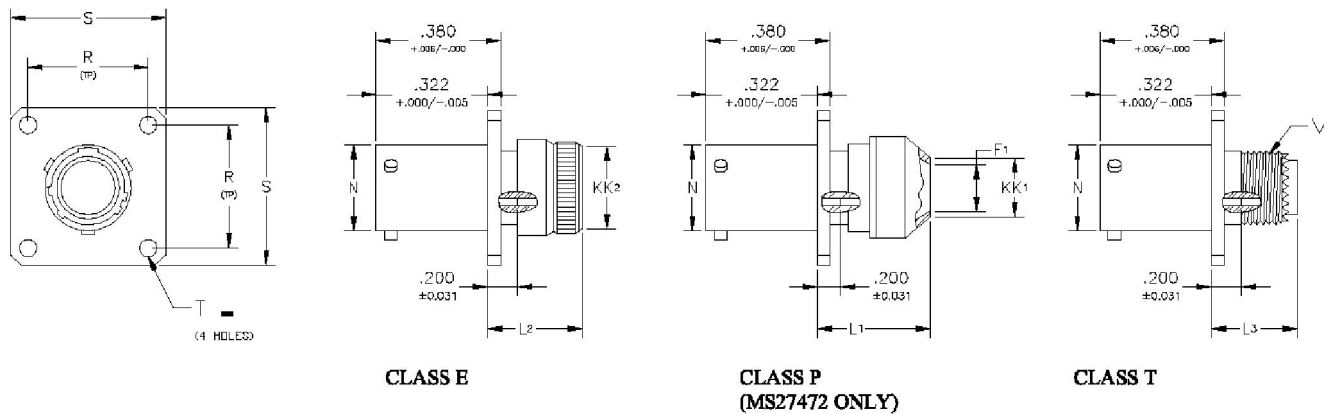
CODE	FINISH
A	Bright cadmium over nickel, 150°C Inactive for new design
B •	Olive drab cadmium over nickel, 500 hours salt spray, 175°C
C	Non-Conductive anodise, 200°C
D •	Steel, fused tin, 150°C (Hermetic)
E	Stainless steel, passivated 200°C
F •	Electroless nickel, 200°C
N	Stainless Steel, Electrodeposited nickel, 200°C

INSERT CONFIGURATION

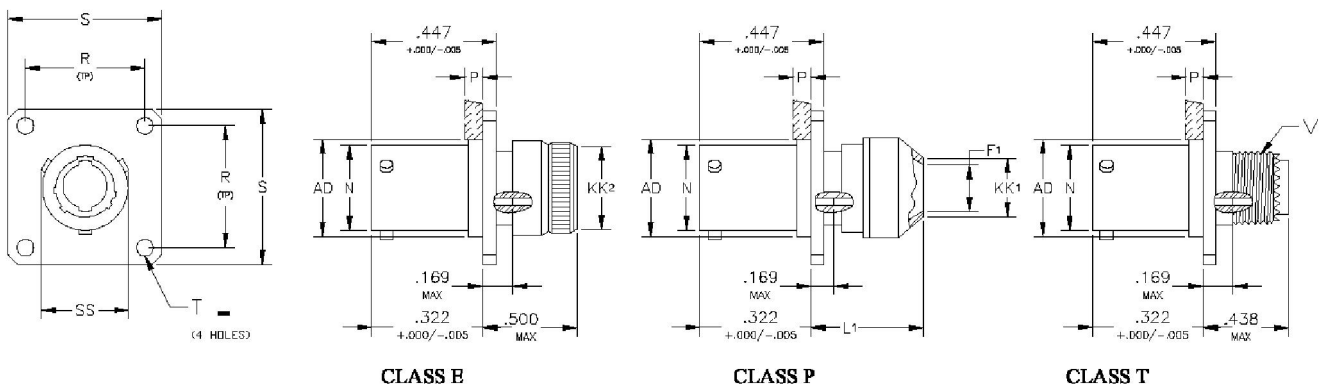
See Page 35

CODE	CONTACT TYPE
A	Connector, less pin contacts
B	Connector, less socket contacts
P	Pin contacts, including hermetic with solder pots
S	Socket contacts, including hermetic with solder pots
X	Pin with eyelet (Hermetic Only)
Z	Socket with eyelet (Hermetic Only)

CODE	ALTERNATIVE ORIENTATION
N	Normal position
A,B,C or D	See page 37 to 38

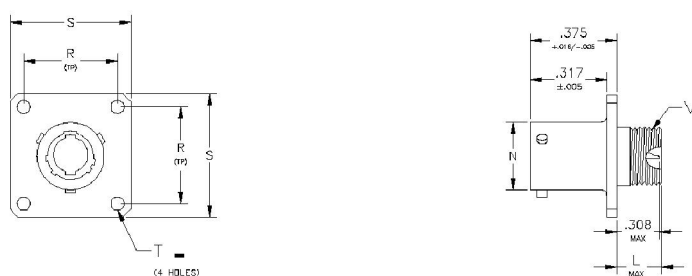


SHELL SIZE	F1 DIA. ±.010	KK1 DIA. MAX.	KK2 DIA. MAX.	L1 MAX.	L2 MAX.	L3 MAX.	R (TP)	S ±.016	T ±.005	N +.001 -.005	V THREAD MODIFIED	
											CLASS 2A	MODIFIED MAJOR DIA.
8	0.444	0.625	0.578	0.609	0.547	0.500	0.594	0.812	0.120	0.473	.4375-28UNEF	.421-.417
10	0.558	0.750	0.703	0.609	0.547	0.500	0.719	0.938	0.120	0.590	.5625-24UNEF	.542-.538
12	0.683	0.875	0.828	0.609	0.547	0.500	0.812	1.031	0.120	0.750	.6875-24UNEF	.667-.663
14	0.808	1.000	0.953	0.609	0.547	0.500	0.906	1.125	0.120	0.875	.8125-20UNEF	.791-.787
16	0.909	1.125	1.078	0.609	0.547	0.500	0.969	1.219	0.120	1.000	.9375-20UNEF	.916-.912
18	1.034	1.250	1.203	0.609	0.547	0.500	1.062	1.312	0.120	1.125	1.0625-18UNEF	1.034-1.030
20	1.159	1.375	1.328	0.609	0.547	0.500	1.156	1.438	0.120	1.250	1.1875-18UNEF	1.158-1.154
22	1.284	1.500	1.453	0.609	0.547	0.500	1.250	1.562	0.120	1.375	1.3125-18UNEF	1.283-1.279
24	1.409	1.625	1.578	0.688	0.547	0.500	1.375	1.688	0.147	1.500	1.4375-18UNEF	1.408-1.404



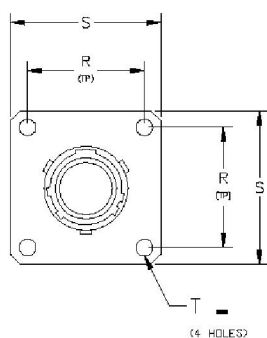
SHELL SIZE	F ¹ DIA. ±.010	L ¹ MAX.	N DIA. +.001 -.005	P MAX. PANEL THICKNESS	R (TP)	S ±.016	T DIA. ±.005	V THREAD UNEF CLASS 2A (PLATED)	AD DIA. ±.005	KK ¹ DIA. MAX.	KK ² DIA. MAX.	SS DIA. +.000 -.016
8	0.444	0.468	0.473	0.142	0.594	0.812	0.120	.4375-28	0.516	0.625	0.578	0.563
10	0.558	0.468	0.590	0.142	0.719	0.938	0.120	.5625-24	0.633	0.750	0.703	0.680
12	0.683	0.468	0.750	0.142	0.812	1.031	0.120	.6875-24	0.802	0.875	0.828	0.859
14	0.808	0.468	0.875	0.142	0.906	1.125	0.120	.8125-20	0.927	1.000	0.953	0.984
16	0.909	0.468	1.000	0.142	0.969	1.219	0.120	.9375-20	1.052	1.125	1.078	1.108
18	1.034	0.468	1.125	0.142	1.062	1.312	0.120	1.0625-18	1.177	1.250	1.203	1.233
20	1.159	0.468	1.250	0.142	1.156	1.438	0.120	1.875-18	1.302	1.375	1.328	1.358
22	1.284	0.468	1.375	0.142	1.250	1.562	0.120	1.3125-18	1.427	1.500	1.453	1.483
24	1.409	0.540	1.500	0.142	1.375	1.688	0.147	1.4375-18	1.552	1.625	1.578	1.610

Reference dimensions only. Please check with actual connector manufacturer.

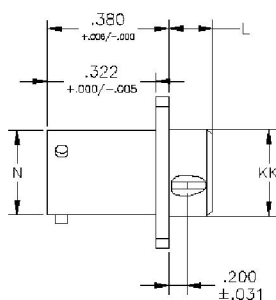


Shell Size	N +.001 -.005	S ±.016	R (TP)	T ±.005	V Thread	L Max.
					Size UNEF Class 2A	
8	.476	.812	.594	.120	.5625-24	.234
10	.590	.938	.719	.120	.6874-24	.234
12	.750	1.031	.812	.120	.8125-20	.234
14	.875	1.125	.906	.120	.9375-20	.234
16	1.000	1.219	.969	.120	1.0625-18	.234
18	1.125	1.312	1.062	.120	1.1875-18	.234
20	1.250	1.438	1.156	.120	1.3125-18	.234
22	1.375	1.562	1.250	.120	1.4375-18	.234
24	1.500	1.688	1.375	.120	1.5625-18	.313

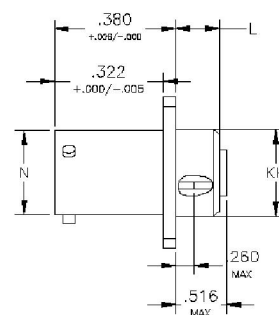
Box Mount Receptacle – Front Panel Mounting

MS27499E; MS27504E; MS27513E


⊕ .005 DIA ⊙

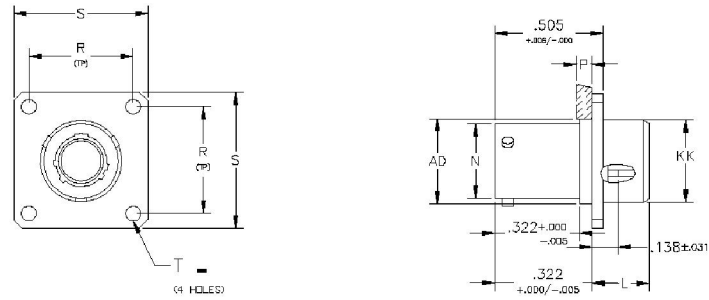


MS27499E
MS27504E

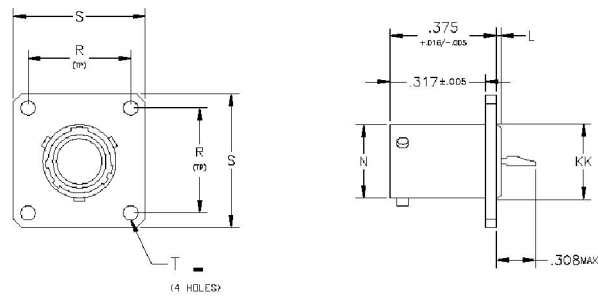


MS27513E

Shell Size	L Max.	KK Max.	N +.001 -.005	S ±.016	R (TP)	T ±.005
8	.286	.438	.473	.812	.594	.120
10	.286	.563	.590	.938	.719	.120
12	.286	.688	.750	1.031	.812	.120
14	.286	.813	.875	1.125	.906	.120
16	.286	.938	1.000	1.219	.969	.120
18	.286	1.047	1.125	1.312	1.062	.120
20	.286	1.172	1.250	1.438	1.156	.120
22	.286	1.297	1.375	1.562	1.250	.120
24	.286	1.422	1.500	1.688	1.375	.147

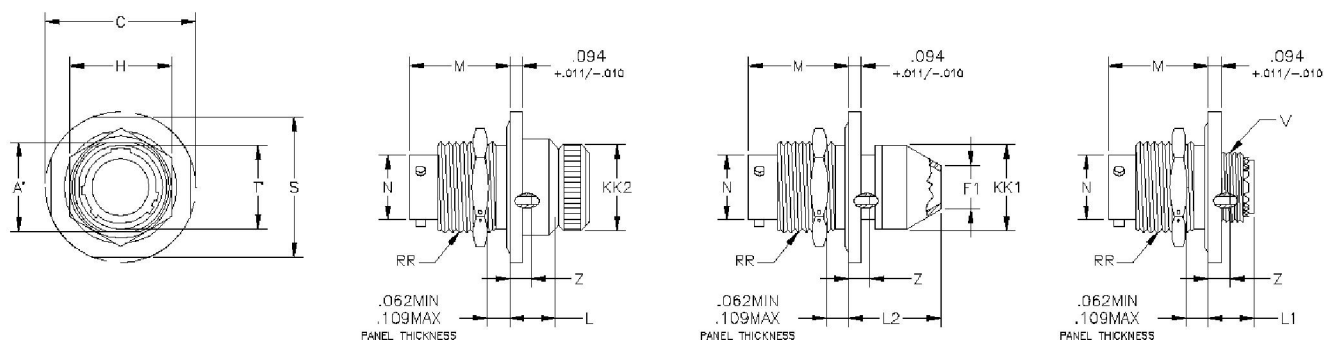


Shell Size	N Dia. +.001 -.005	R (TP)	S ±.016	L Max.	AD Dia. ±.005	T Dia. ±.005	P Max. Panel Thickness	KK Max.
8	.473	.594	.812	.225	.516	.120	.147	.531
10	.590	.719	.938	.225	.633	.120	.152	.656
12	.750	.812	1.031	.225	.802	.120	.152	.828
14	.875	.906	1.125	.225	.927	.120	.152	.953
16	1.000	.969	1.219	.225	1.052	.120	.152	1.078
18	1.125	1.067	1.312	.225	1.177	.120	.152	1.203
20	1.250	1.156	1.438	.225	1.302	.120	.179	1.328
22	1.375	1.250	1.562	.225	1.427	.120	.179	1.453
24	1.500	1.375	1.688	.225	1.552	.147	.169	1.578



Shell Size	L +.006 -.015	KK +.001 -.005	S ±.016	R (TP)	T ±.005	N +.001 -.005
8	.051	.562	.812	.594	.120	.473
10	.051	.672	.938	.719	.120	.590
12	.051	.781	1.031	.812	.120	.750
14	.051	.906	1.125	.906	.120	.875
16	.051	1.031	1.219	.969	.120	1.000
18	.051	1.156	1.312	1.062	.120	1.125
20	.051	1.250	1.438	1.156	.120	1.250
22	.080	1.375	1.562	1.250	.120	1.375
24	.080	1.500	1.688	1.375	.147	1.500

Shell Size	L +.011 -.010	KK +.001 -.005	GG +.011 -.010	N +.001 -.005
8	.078	.562	.687	.473
10	.078	.672	.797	.590
12	.078	.781	.906	.750
14	.078	.906	1.031	.875
16	.078	1.031	1.156	1.000
18	.078	1.156	1.281	1.125
20	.078	1.250	1.375	1.250
22	.107	1.375	1.500	1.375
24	.107	1.500	1.625	1.500



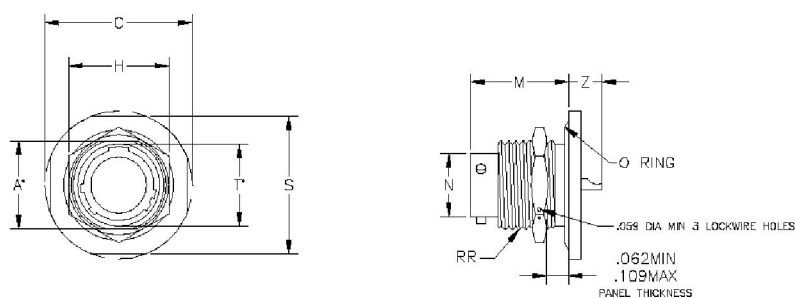
CLASS E

CLASS P
(MS27474 ONLY)

CLASS T

SHELL SIZE	A +000 -010 D Hole	KK ¹ DIA. MAX.	KK ² DIA. MAX.	L MAX.	L ¹ MAX.	F ¹ DIA.	M ±.005	H HEX +0.017 -0.016	S ±.016	Z ±.031	RR THREAD (PLATED) CLASS 2A UNEF	V THREAD MODIFIED		C MAX.	T +0.01 -0.00 D HOLE	N +0.01 -0.05
												CLASS 2A UNEF	MODIFIED MAJOR DIA.			
8	0.830	0.625	0.578	0.484	0.453	0.444	0.438	1.062	1.250	0.144	.8750-20	.4375-28	.421-.417	1.390	0.884	0.473
10	0.955	0.750	0.703	0.484	0.453	0.558	0.438	1.188	1.375	0.144	1.0000-20	.5625-24	.542-.538	1.515	1.007	0.590
12	1.084	0.875	0.828	0.484	0.453	0.683	0.438	1.312	1.500	0.144	1.1250-18	.6875-24	.667-.663	1.640	1.134	0.750
14	1.208	1.000	0.953	0.484	0.453	0.808	0.438	1.438	1.625	0.144	1.2500-18	.8125-20	.791-.787	1.765	1.259	0.875
16	1.333	1.125	1.078	0.484	0.453	0.909	0.438	1.562	1.781	0.144	1.3750-18	.9375-20	.916-.912	1.953	1.384	1.000
18	1.459	1.250	1.203	0.484	0.453	1.034	0.438	1.688	1.890	0.144	1.5000-18	1.0625-18	1.034-1.030	2.031	1.507	1.125
20	1.576	1.375	1.328	0.453	0.422	1.159	0.464	1.812	2.016	0.118	1.6250-18	1.1875-18	1.158-1.154	2.156	1.634	1.250
22	1.701	1.500	1.453	0.453	0.422	1.284	0.464	2.000	2.140	0.118	1.7500-18UNS	1.3125-18	1.283-1.279	2.280	1.759	1.375
24	1.826	1.625	1.578	0.375	0.422	1.409	0.464	2.125	2.265	0.118	1.8750-16UN	1.4375-18	1.408-1.404	2.405	1.884	1.500

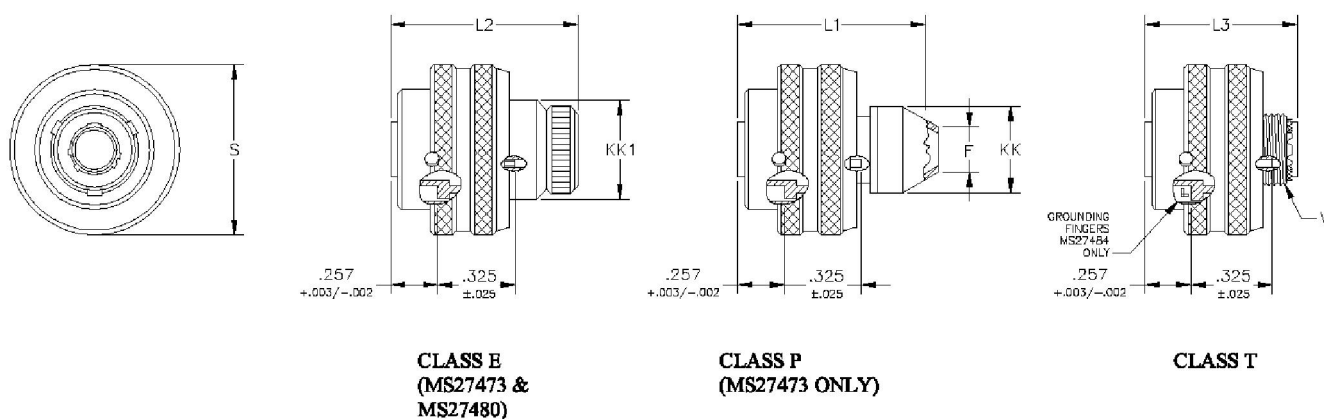
MIL STD – Coupling Nut has 3 lockwire holes 0.059 Min Dia.



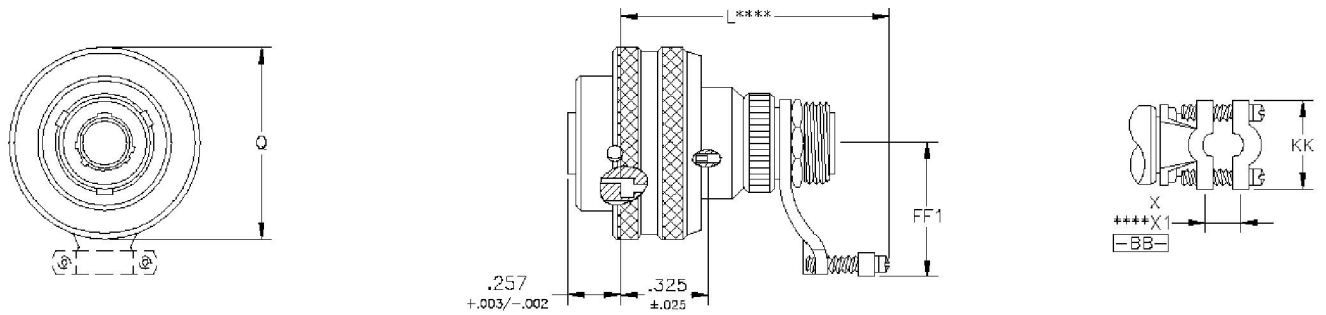
SHELL SIZE	M ±.005	Z MAX.	RR THREAD CLASS 2A	N +.001 -.005	C MAX.	S ±.016	H +.017 -.016	T +.010 -.000 D HOLE	A +.000 -.010 D HOLE
8	0.438	0.244	.8750-20UNEF	0.473	1.390	1.250	1.062	0.884	0.830
10	0.438	0.244	1.0000-20UNEF	0.590	1.515	1.375	1.188	1.007	0.955
12	0.438	0.244	1.1250-18UNEF	0.750	1.640	1.500	1.312	1.134	1.084
14	0.438	0.244	1.2500-18UNEF	0.875	1.765	1.625	1.438	1.259	1.208
16	0.438	0.244	1.3750-18UNEF	1.000	1.953	1.781	1.562	1.384	1.333
18	0.438	0.244	1.5000-18UNEF	1.125	2.031	1.890	1.688	1.507	1.459
20	0.464	0.218	1.6250-18UNEF	1.250	2.156	2.016	1.812	1.634	1.576
22	0.464	0.218	1.7500-18UNS	1.375	2.280	2.140	2.000	1.759	1.701
24	0.464	0.218	1.8750-16UN	1.500	2.405	2.265	2.125	1.884	1.826

MIL STD – Coupling Nut has 3 lockwire holes 0.059 Min Dia

Straight Plug

MS27473; MS27480; MS27484

SHELL SIZE	KK DIA. MAX.	KK ¹ MAX.	F DIA.	L ¹ MAX.	L ² MAX.	L ³ MAX.	Q DIA. MAX.	V THREAD MODIFIED	
								CLASS 2A	MODIFIED MAJOR DIA.
8	0.625	0.578	0.444	1.000	0.938	0.891	0.734	.4375-28UNEF	.421-.417
10	0.750	0.703	0.558	1.000	0.938	0.891	0.844	.5625-24UNEF	.542-.538
12	0.875	0.828	0.683	1.000	0.938	0.891	1.016	.6875-24UNEF	.667-.663
14	1.000	0.953	0.808	1.000	0.938	0.891	1.141	.8125-20UNEF	.791-.787
16	1.125	1.078	0.909	1.000	0.938	0.891	1.265	.9375-20UNEF	.916-.912
18	1.250	1.203	1.034	1.000	0.938	0.891	1.391	1.0625-18UNEF	1.034-1.030
20	1.375	1.328	1.159	1.000	0.938	0.891	1.500	1.1875-18UNEF	1.158-1.154
22	1.500	1.453	1.284	1.000	0.938	0.891	1.625	1.3125-18UNEF	1.283-1.279
24	1.625	1.578	1.409	1.062	0.938	0.891	1.750	1.4375-18UNEF	1.408-1.404

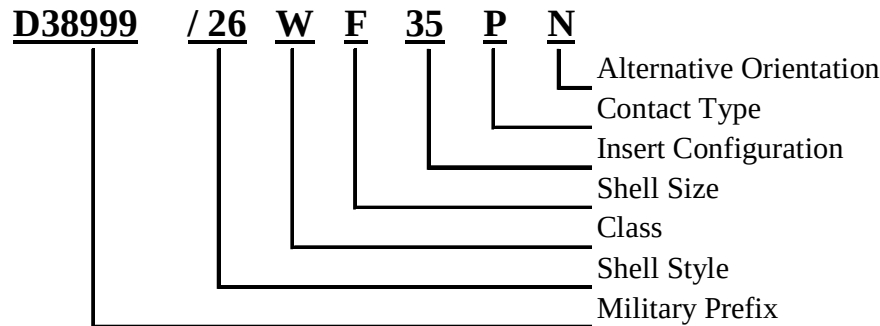


SHELL SIZE	KK MAX.	FF MAX.	FF ¹ MAX.	Q DIA. MAX.	X MIN. CABLE	X ¹ MAX. CABLE	H	K	L MAX.	L ¹ MAX.
8	0.755	0.438	0.984	0.734	0.082	0.234	0.547	0.156	1.578	1.125
10	0.755	0.516	1.016	0.844	0.082	0.234	0.709	0.188	1.578	1.156
12	0.817	0.594	1.078	1.016	0.114	0.328	0.829	0.281	1.656	1.250
14	0.943	0.656	1.203	1.141	0.176	0.457	1.000	0.438	1.844	1.406
16	1.067	0.719	1.265	1.265	0.238	0.634	1.021	0.500	2.000	1.469
18	1.149	0.781	1.328	1.391	0.208	0.614	1.145	0.562	2.046	1.531
20	1.399	0.844	1.359	1.500	0.302	0.608	1.270	0.625	2.125	1.594
22	1.399	0.906	1.421	1.625	0.302	0.823	1.395	0.688	2.250	1.656
24	1.587	0.969	1.703	1.750	0.332	0.823	1.520	0.750	2.422	1.797

Dimension L & X¹ apply when the end of the screw is flush with the BB surface

MIL-C-38999 - Series 3

PART NUMBER CONSTRUCTION



CODE	SHELL STYLE
/ 20	Wall Mount Receptacle
/ 21	Hermetic Box Mount Receptacle
/ 23	Hermetic Jam Nut Receptacle
/ 24	Jam Nut Receptacle
/ 25	Hermetic Solder Mount Receptacle
/ 26	Straight Plug
/ 27	Hermetic Weld Mount Receptacle
/ 29	Lanyard Release Plug, Pin Contact
/ 30	Lanyard Release Plug, Socket Contact
/ 31	Lanyard release plug, MIL-STD-1760 Pin Contact

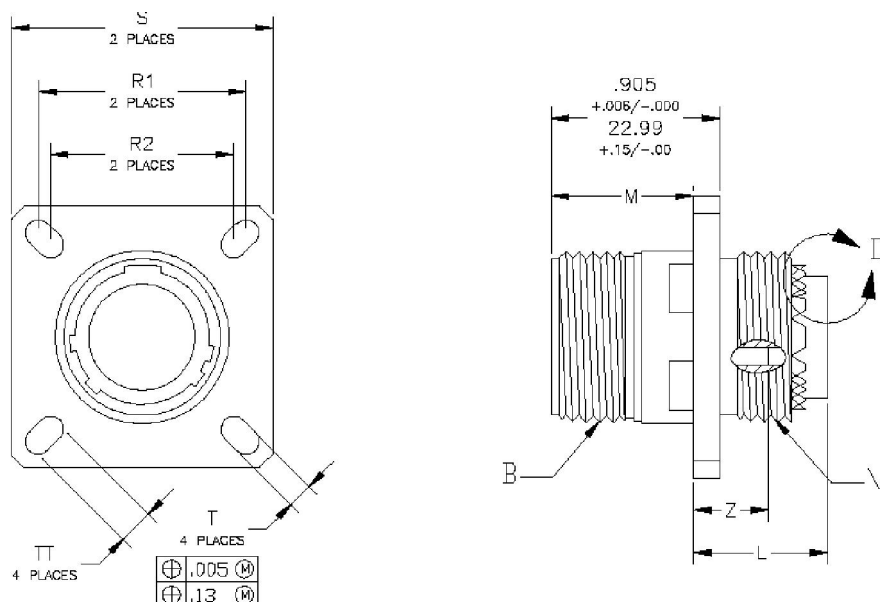
CODE	SHELL SIZE
A	9
B	11
C	13
D	15
E	17
F	19
G	21
H	23
J	25

CODE	CLASS
C	Environmental, non-conductive andodize, 500 hour salt spray, 200°C
F	Environmental, electroless nickel, 200°C
K	Environmental, firewall, passivated CRES, 200°C
N	Hermetic, electrodeposited Stainless Steel nickel (CRES)200°C
S	Environmental, firewall, CRES, electrodeposited nickel, 200°C
W	Environmental, olive drab cadmium, 500 hours salt spray 175°C
Y	Hermetic, Passivated Stainless Steel (CRES) 200°C

INSERT CONFIGURATION
See Page 35
For Contact Sizes and Arrangement Codes

CODE	CONTACT TYPE
A	Connector, less pin contacts
B	Connector, less socket contacts
P	Pin Contacts, including hermetic with solder pots
S	Socket Contacts, including hermetic with solder pots
X	Pin with eyelet (hermetic only)
Z	Socket with eyelet (hermetic only)

CODE	ALTERNATIVE ORIENTATION
N	Normal position
A,B,C or D	See Pages 37 & 38 for details

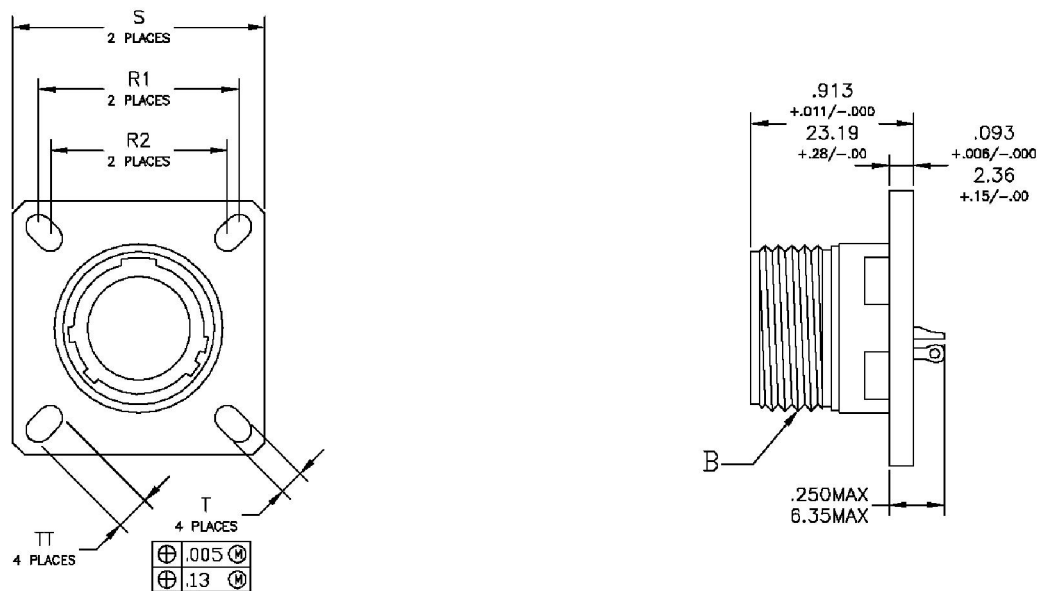


Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L Max	M +.000 - .005	R1	R2	S ±.010	T ±.005	Z Max	TT ±.005
9	A	.6250	.469	.820	.719	.594	.938	.128	.153	.216
11	B	.7500	.469	.820	.812	.719	1.031	.128	.153	.194
13	C	.8750	.469	.820	.906	.812	1.125	.128	.153	.194
15	D	1.0000	.469	.820	.969	.906	1.219	.128	.153	.173
17	E	1.1875	.469	.820	1.062	.969	1.312	.128	.153	.194
19	F	1.2500	.469	.820	1.156	1.062	1.438	.128	.153	.194
21	G	1.3750	.500	.790	1.250	1.156	1.562	.128	.183	.194
23	H	1.5000	.500	.790	1.375	1.250	1.688	.154	.183	.242
25	J	1.6250	.500	.790	1.500	1.375	1.812	.154	.183	.242

Inches

Shell Size	MS Shell Size Code	L Max.	M +.00 - .13	R1	R2	S ±.25	T ±.13	Z Max.	TT ±.13	V Thread Metric
9	A	11.91	20.83	18.26	15.09	23.83	3.25	3.89	5.49	M12X1-6g
11	B	11.91	20.83	20.62	18.26	26.19	3.25	3.89	4.93	M15X1-6g
13	C	11.91	20.83	23.01	20.62	28.50	3.25	3.89	4.93	M18X1-6g
15	D	11.91	20.83	24.61	23.01	30.96	3.25	3.89	4.93	M22X1-6g
17	E	11.91	20.83	26.97	24.61	33.32	3.25	3.89	4.93	M25X1-6g
19	F	11.91	20.83	29.36	26.97	36.53	3.25	3.89	4.93	M28X1-6g
21	G	12.70	20.07	31.75	29.36	29.67	3.25	4.65	4.93	M31X1-6g
23	H	12.70	20.07	34.93	31.75	42.88	3.91	4.65	6.15	M34X1-6g
25	J	12.70	20.07	38.10	34.93	46.02	3.91	4.65	6.15	M37X1-6g

Millimeters

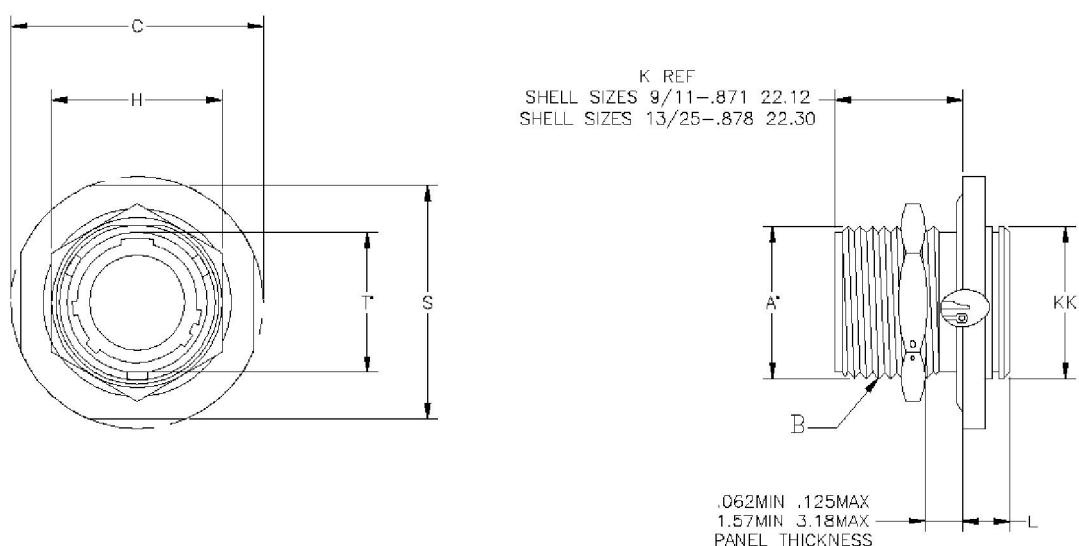


Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	R1	R2	S ±.010	T ±.005	TT ±.005
9	A	.6250	.719	.594	.938	.128	.216
11	B	.7500	.812	.719	1.031	.128	.194
13	C	.8750	.906	.812	1.125	.128	.194
15	D	1.0000	.969	.906	1.219	.128	.173
17	E	1.1875	1.062	.969	1.312	.128	.194
19	F	1.2500	1.156	1.062	1.438	.128	.194
21	G	1.3750	1.250	1.156	1.562	.128	.194
23	H	1.5000	1.375	1.250	1.688	.154	.242
25	J	1.6250	1.500	1.375	1.812	.154	.242

Inches

Shell Size	MS Shell Size Code	R1	R2	S ±.25	T ±.13	TT ±.13
9	A	18.26	15.09	23.83	3.25	5.49
11	B	20.62	18.26	26.19	3.25	4.93
13	C	23.01	20.62	28.58	3.25	4.93
15	D	24.61	23.01	30.96	3.25	4.39
17	E	26.97	24.61	33.32	3.25	4.93
19	F	29.36	26.97	36.53	3.25	4.93
21	G	31.75	29.36	39.67	3.25	4.93
23	H	34.93	31.75	42.88	3.91	6.15
25	J	38.10	34.93	46.02	3.91	6.15

Millimeters

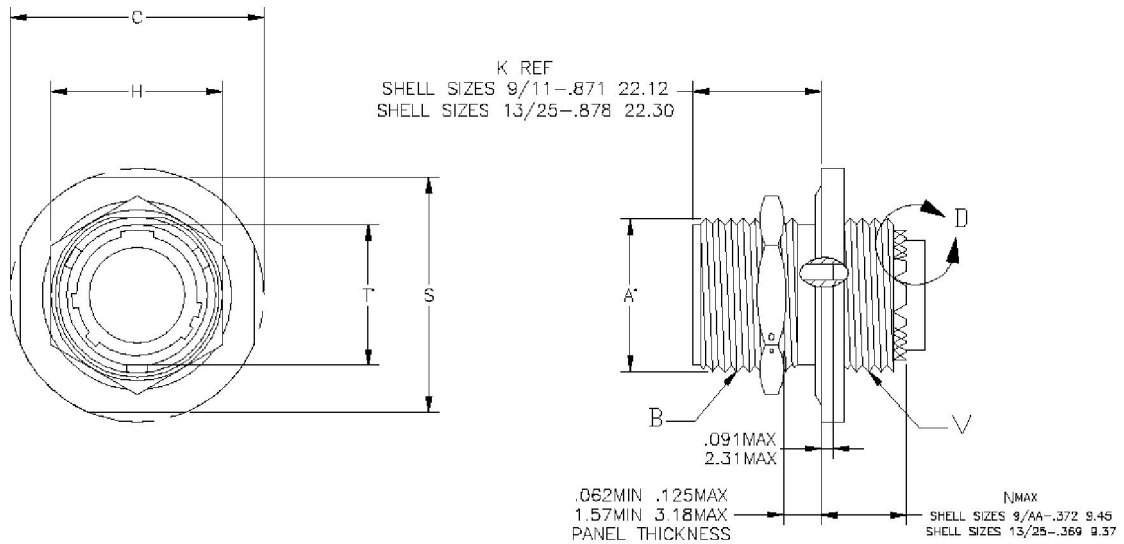


Shell Size	MS Shell Size Code	A +.000 -.010 D Hole	B Thread Class 2A 0.1P-0.3L-TP (Plated)	C Max.	H Hex +.017 -.016	L Max .	S ±.010	T +.01 -.00 D Hole	KK +.28 -.00
9	A	.669	.6250	1.199	.875	.357	1.062	.697	.642
11	B	.769	.7500	1.386	1.000	.357	1.250	.822	.766
13	C	.955	.8750	1.511	1.188	.357	1.375	1.007	.892
15	D	1.084	1.0000	1.636	1.312	.357	1.500	1.134	1.018
17	E	1.208	1.1875	1.761	1.438	.357	1.625	1.259	1.142
19	F	1.333	1.2500	1.949	1.562	.381	1.812	1.384	1.268
21	G	1.459	1.3750	2.073	1.688	.381	1.938	1.507	1.392
23	H	1.575	1.5000	2.199	1.812	.381	2.062	1.634	1.518
25	J	1.709	1.6250	2.323	2.000	.381	2.188	1.759	1.642

Inches

Shell Size	MS Shell Size Code	A +.00 -.25 D Hole	C Max	H Hex +.43 -.41	L Max.	S ±.25	T +.25 -.00 D Hole	KK +.28 -.00
9	A	16.99	30.45	22.23	9.07	26.97	17.70	16.31
11	B	19.53	35.20	25.40	9.07	31.75	20.88	19.46
13	C	24.26	38.38	30.18	9.07	34.93	25.58	22.66
15	D	27.53	41.55	33.32	9.07	38.10	28.80	25.86
17	E	30.68	44.73	36.53	9.07	41.28	31.98	29.01
19	F	33.86	49.50	39.67	9.68	46.02	35.15	32.21
21	G	37.06	52.65	42.80	9.68	49.23	38.28	35.36
23	H	40.01	55.85	46.02	9.68	52.37	41.50	38.56
25	J	43.41	59.00	50.80	9.68	55.58	44.68	41.71

Millimeters

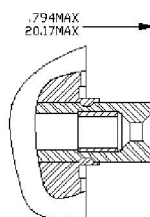


Shell Size	MS Shell Size Code	A +.000 -.010 D Hole	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max.	H Hex +.017 -.016	S ±.010	T +.010 -.000 D Hole
9	A	.669	.6250	1.199	.875	1.062	.697
11	B	.769	.7500	1.386	1.000	1.250	.822
13	C	.955	.8750	1.511	1.188	1.375	1.007
15	D	1.084	1.0000	1.636	1.312	1.500	1.134
17	E	1.208	1.1875	1.761	1.438	1.625	1.259
19	F	1.333	1.2500	1.949	1.562	1.812	1.384
21	G	1.459	1.3750	2.073	1.688	1.938	1.507
23	H	1.575	1.5000	2.199	1.812	2.062	1.634
25	J	1.709	1.6250	2.323	2.000	2.188	1.759

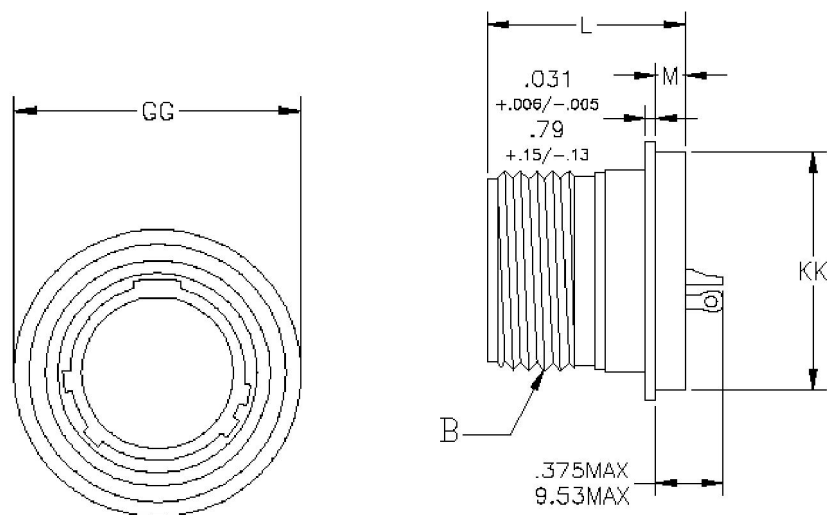
Inches

Shell Size	MS Shell Size Code	A +.00 -.25 D Hole	C Max	H Hex +.43 -.41	S ±.25	T +.25 -.00 D Hole	V Thread Metric
9	A	16.99	30.45	22.23	26.97	17.70	M12X1-6g
11	B	19.53	35.20	25.40	31.75	20.88	M15X1-6g
13	C	24.26	38.38	30.18	34.93	25.58	M18X1-6g
15	D	27.53	41.55	33.32	38.10	28.80	M22X1-6g
17	E	30.68	44.73	36.53	41.28	31.98	M25X1-6g
19	F	33.86	49.50	39.67	46.02	35.15	M28X1-6g
21	G	37.06	52.65	42.88	49.23	38.28	M31X1-6g
23	H	40.01	55.85	46.02	52.37	41.50	M34X1-6g
25	J	43.41	59.00	50.80	55.58	44.68	M37X1-6g

Millimetres



VIEW D ENLARGED
FOR SIZE 9 COAXIAL
USE ONLY

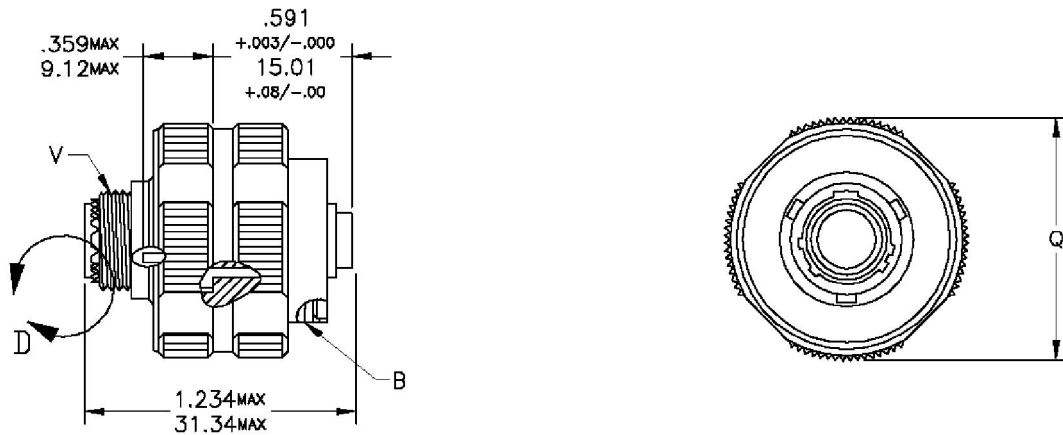


Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L +.011 -.000	M +.006 -.005	GG Dia. +.011 -.010	KK Dia. +.001 -.005
9	A	.6250	.806	.125	.750	.672
11	B	.7500	.806	.125	.844	.781
13	C	.8750	.806	.125	.969	.906
15	D	1.0000	.806	.125	1.094	1.031
17	E	1.1875	.806	.125	1.218	1.156
19	F	1.2500	.806	.125	1.312	1.250
21	G	1.3750	.806	.125	1.438	1.375
23	H	1.5000	.838	.156	1.563	1.500
25	J	1.6250	.838	.156	1.688	1.625

Inches

Shell Size	MS Shell Size Code	L +.28 -.00	M +.15 -.13	GG Dia. +.28 -.25	KK Dia. +.03 -.13
9	A	20.47	3.18	19.05	17.07
11	B	20.47	3.18	21.44	19.84
13	C	20.47	3.18	24.61	23.01
15	D	20.47	3.18	27.79	26.19
17	E	20.47	3.18	30.94	29.36
19	F	20.47	3.18	33.32	31.75
21	G	20.47	3.18	36.53	34.93
23	H	21.29	3.96	39.70	38.10
25	J	21.29	3.96	42.88	41.28

Millimeters

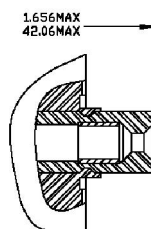


Shell Size	Ms Shell Size Code	B Thread 0.1P-0.3L-TS-2B (Plated)	Q Max
9	A	.6250	.859
11	B	.7500	.969
13	C	.8750	1.141
15	D	1.000	1.266
17	E	1.1875	1.391
19	F	1.2500	1.500
21	G	1.3750	1.625
23	H	1.5000	1.750
25	J	1.6250	1.875

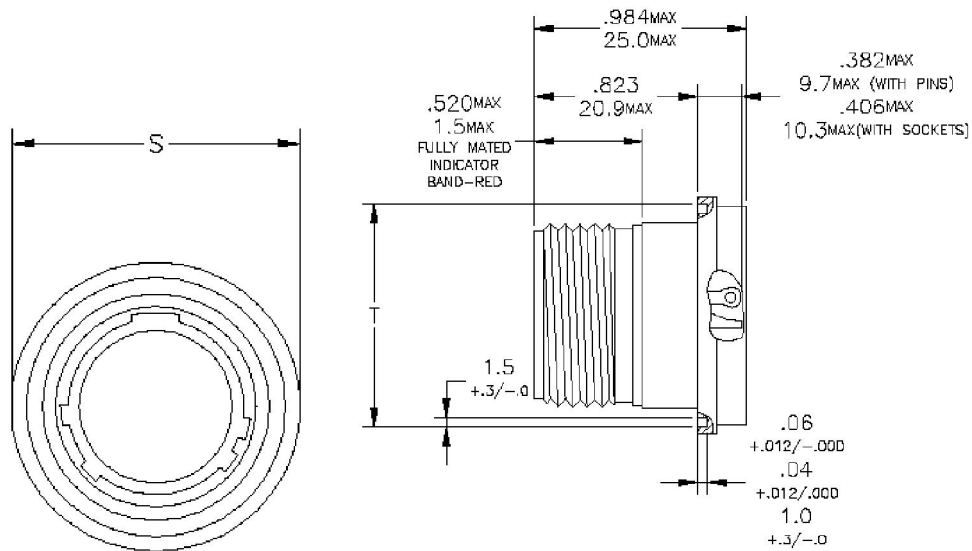
Inches

Shell Size	MS Shell Size Code	Q Max.	V Thread Metric
9	A	21.82	M12X1-6g
11	B	24.62	M15X1-6g
13	C	28.98	M18X1-6g
15	D	32.16	M22X1-6g
17	E	35.33	M25X1-6g
19	F	38.10	M28X1-6g
21	G	41.28	M31X1-6g
23	H	44.45	M34X1-6g
25	J	47.63	M37X1-6g

Millimeters



VIEW D ENLARGED
FOR SIZE 8
COAXIAL USE ONLY



Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	S Dia. ±.012 -.000	T Dia. ±.000 -.012
9	A	.6250	.973	.941
11	B	.7500	1.094	1.063
13	C	.8750	1.220	1.189
15	D	1.0000	1.346	1.314
17	E	1.1875	1.433	1.402
19	F	1.2500	1.579	1.547
21	G	1.3750	1.720	1.689
23	H	1.5000	1.886	1.854
25	J	1.6250	1.972	1.941

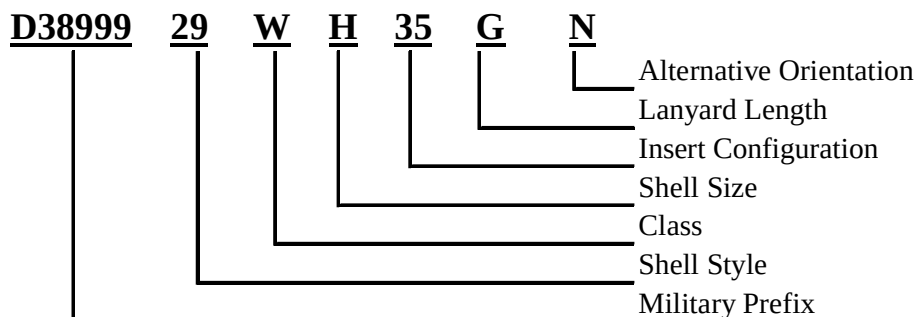
Inches

Shell Size	Ms Shell Size Code	S Dia. ±.3 -.0	T Dia. ±.0 -.3
9	A	24.7	23.9
11	B	27.8	27.0
13	C	31.0	30.2
15	D	34.2	33.4
17	E	36.4	35.6
19	F	40.1	39.3
21	G	43.7	42.9
23	H	47.9	47.1
25	J	50.1	49.3

Millimeters

MIL-C-38999 - Series 3 - LANYARD PLUGS

PART NUMBER CONSTRUCTION



CODE	SHELL STYLE
/ 29	Lanyard Release Plug, Pin contact
/ 30	Lanyard Release Plug, Socket contact
/ 31	Lanyard Release Plug, MIL-STD-1760 Pin contact

CODE	CLASS
C *	Environmental, non-conductive-anodic, 500 hour salt spray, 200°C
F *	Environmental, electroless nickel, 200°C
K *	Environmental, firewall, passivated CRES, 200°C
S *	Environmental, firewall, CRES, electrodeposited nickel, 200°C
W *	Environmental, olive drab cadmium, 500 hours salt spray 175°C
* Not available on shell style / 31	

CODE	SHELL SIZE
A	9
B	11
C	13
D	15
E	17
F	19
G	21
H	23
J	25

INSERT CONFIGURATION

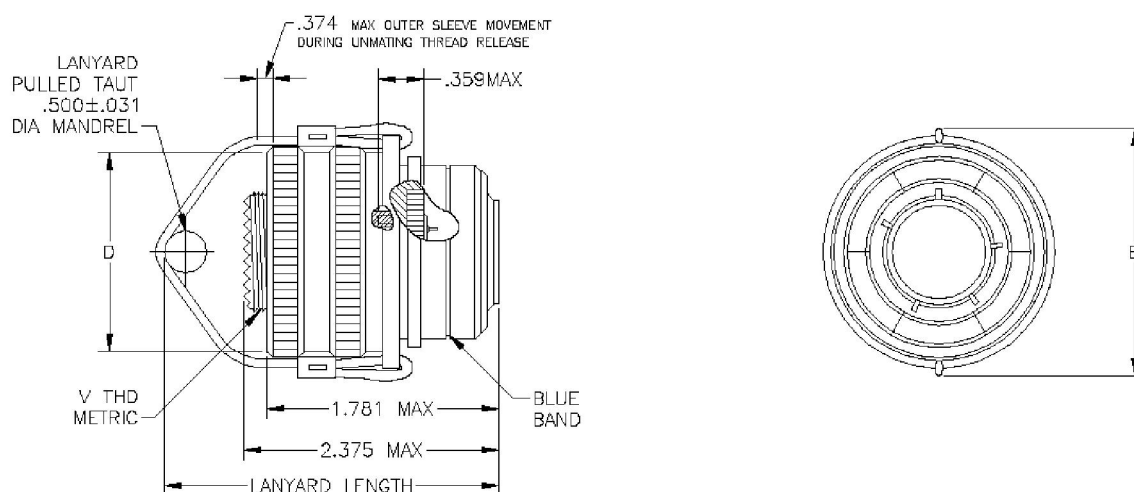
See Page 35

For Contact Sizes and Arrangement Codes

LANYARD LENGTH +/- 6mm or 0.236"					
CODE	MM	INCES	CODE	MM	INCES
A	102	4.016	M	254	10.000
B	115	4.528	N	267	10.512
C	127	5.000	P	280	11.024
D	140	5.512	R	293	11.535
E	153	6.024	S	305	12.008
F	166	6.535	T	318	12.520
G	178	7.008	U	331	13.031
H	191	7.520	V	356	14.016
I	203	7.992	W	381	15.000
J	216	8.503	X	407	16.024
K	229	9.016	Y	432	17.008
L	242	9.528	Z	458	18.031

ALTERNATIVE ORIENTATION

N Normal position only available

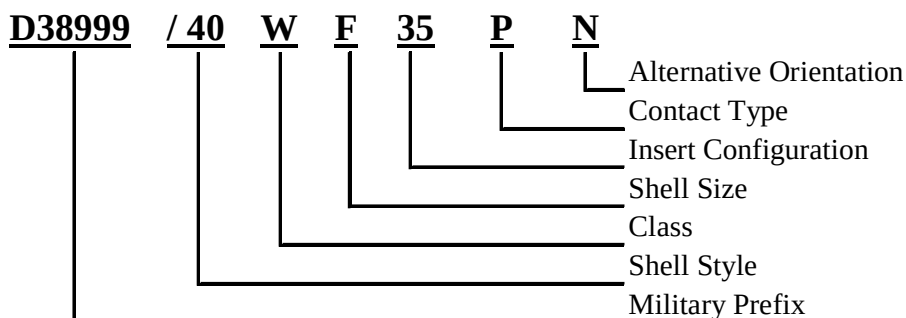


Shell Size	MS Shell Size Code	B Max	D Max Accessory Dia	V Thread Metric
11	B	1.846	1.109	M15X1.0-6g 0.100R
13	C	1.972	1.250	M18X1.0-6g 0.100R
15	D	2.079	1.375	M22X1.0-6g 0.100R
17	E	2.205	1.500	M25X1.0-6g 0.100R
19	F	2.301	1.625	M28X1.0-6g 0.100R
21	G	2.472	1.750	M31X1.0-6g 0.100R
23	H	2.594	1.875	M34X1.0-6g 0.100R
25	J	2.705	2.000	M37X1.0-6g 0.100R

Mechanical outline data available on request only.

MIL-C-38999 - Series 4

PART NUMBER CONSTRUCTION



CODE	SHELL STYLE
/ 40	Wall Mount Receptacle
/ 41	Hermetic Seal Box Mount Receptacle
/ 42	Box Mount Receptacle
/ 43	Hermetic Seal Jam Nut Receptacle
/ 44	Jam Nut Receptacle
/ 45	Hermetic Seal Solder Mount Receptacle
/ 46	EMI Straight Plug
/ 47	Straight Plug
/ 48	Hermetic Weld Mount Receptacle
/ 49	In-Line Receptacle

CODE	SHELL SIZE
A	9
B	11
C	13
D	15
E	17
F	19
G	21
H	23
J	25

CODE	CLASS
C	Environmental, non-conductive andodize, 500 hour salt spray, 200°C
F	Environmental, electroless nickel, 200°C
K	Environmental, firewall, passivated CRES, 200°C
N	Hermetic, CRES, electrodeposited nickel, 200°C
S	Environmental, firewall, CRES, electrodeposited nickel, 200°C
W	Environmental, olive drab cadmium, 500 hours salt spray 175°C
Y	Hermetic, Passivated CRES, 200°C

INSERT CONFIGURATION
See Page 35
For Contact Sizes and Arrangement Codes

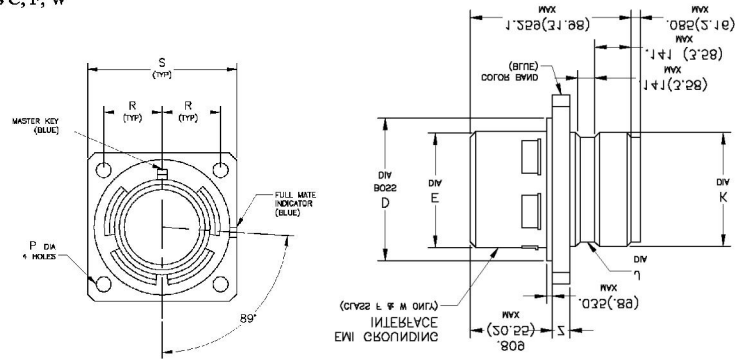
CODE	ALTERNATIVE ORIENTATION
N	Normal position
A,B,C or D	See Pages 37 & 38 for details

CODE	CONTACT TYPE
A	Connector, less pin contacts
B	Connector, less socket contacts
P	Pin Contacts, including hermetic with solder pots
S	Socket Contacts, including hermetic with solder pots
X	Pin with eyelet (hermetic only)
Z	Socket with eyelet (hermetic only)

Shell Size	D Boss Dia. Max		E Dia. Max.		P Dia. Min.		R Bsc.		S Max.		V Thread Metric	W Max.	
	In.	mm	In.	mm	mm	In.	In.	mm	In.	mm		In.	mm
11	.793	20.14	.509	12.93	.122	3.10	.406	10.31	1.051	26.70	M15X1.0-6-0.1R	.102	2.59
13	.919	23.34	.634	16.10			.453	11.51	1.145	29.08	M18X1.0-6-0.1R		
15	1.044	26.52	.759	19.28			.484	12.31	1.240	31.50	M22X1.0-6-0.1R		
17	1.170	29.72	.885	22.48			.531	13.49	1.334	33.88	M25X1.0-6-0.1R		
19	1.294	32.87	1.009	25.63			.578	14.68	1.460	37.08	M28X1.0-6-0.1R		
21	1.419	36.04	1.134	28.80			.625	15.88	1.582	40.18	M31X1.0-6-0.1R		
23	1.544	39.22	1.259	31.98	.142	3.61	.687	17.46	1.708	43.38	M34X1.0-6-0.1R	.133	3.38
25	1.669	42.39	1.384	35.15			.750	19.05	1.834	46.58	M37X1.0-6-0.1R		

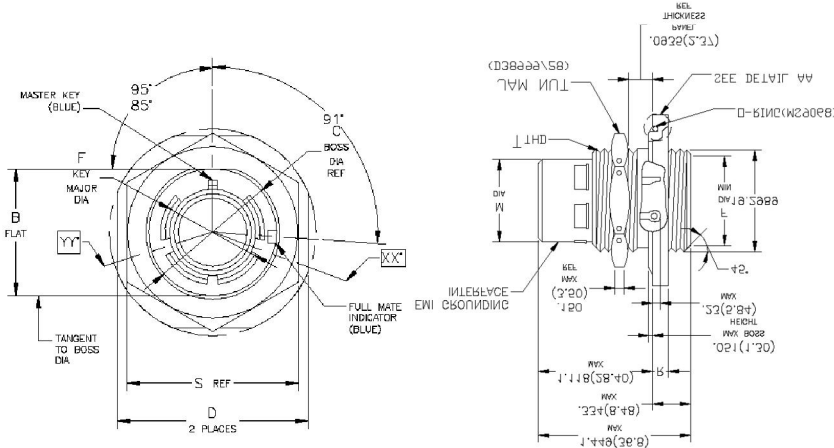
D38999/41

Shell Size	D Boss Dia. Max.		E Dia. Max.		P Dia. Min.		R Bsc.		S Max.		T Dia. Max	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
11	.793	20.14	.509	12.93	.122	3.10	.406	10.31	1.051	26.70	.625	15.88
13	.919	23.34	.634	16.10			.453	11.51	1.145	29.08	.750	19.05
15	1.044	26.52	.759	19.28			.484	12.31	1.240	31.50	.906	23.01
17	1.170	29.72	.885	22.48			.531	13.49	1.334	33.88	1.016	25.81
19	1.294	32.87	1.009	25.68			.578	14.68	1.480	37.08	1.141	28.98
21	1.419	36.04	1.134	28.80			.625	15.88	1.582	40.18	1.266	32.16
23	1.544	39.22	1.259	31.90	.142	3.61	.687	17.46	1.708	43.38	1.375	34.93
25	1.669	42.39	1.384	35.15			.750	19.05	1.834	46.58	1.484	37.69

BOX MOUNT RECEPTACLE
CLASS C; F; W

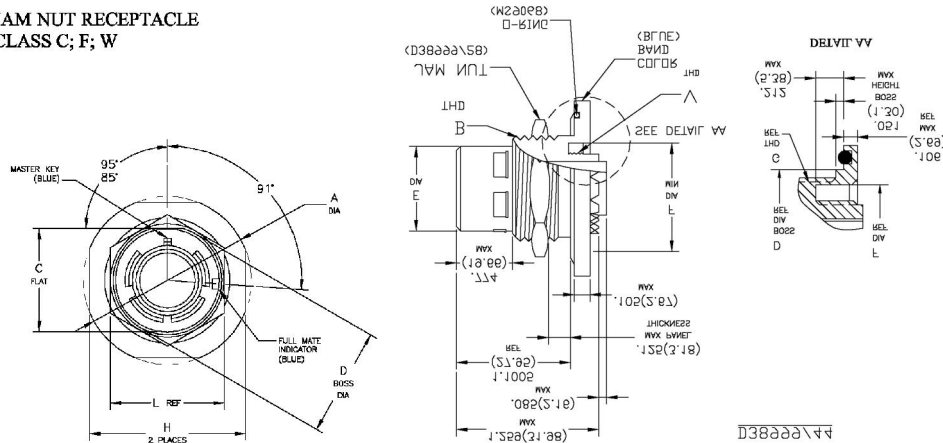
Shell Size	D Boss Dia. Max.		E Dia. Max.		J Dia. Max.		K Dia. Max.		P Dia. Min.		R Bsc.		S Max.		Z Max. Ref.	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
11	.793	20.14	.509	12.93	.535	13.59	.578	14.68	.122	3.10	.406	10.31	1.051	26.70	.102	2.59
13	.919	23.34	.634	16.10	.649	16.48	.692	17.58			.453	11.51	1.145	29.08		
15	1.044	26.52	.759	19.28	.771	19.58	.818	20.78			.484	12.31	1.240	31.50		
17	1.170	29.72	.885	22.48	.897	22.78	.944	23.98			.531	13.49	1.334	33.88		
19	1.294	32.87	1.009	25.63	1.003	25.48	1.051	26.70			.578	14.68	1.460	37.08		
21	1.419	36.04	1.134	28.80	1.129	28.68	1.173	29.79	.142	3.61	.626	15.88	1.582	40.18	.133	3.38
23	1.544	39.22	1.259	31.90	1.255	31.88	1.299	32.99			.687	17.46	1.708	43.38		
25	1.669	42.39	1.384	35.15	1.377	34.98	1.425	36.20			.750	19.05	1.834	46.58		

Hermetic Jam Nut Receptacle - Class N; Y



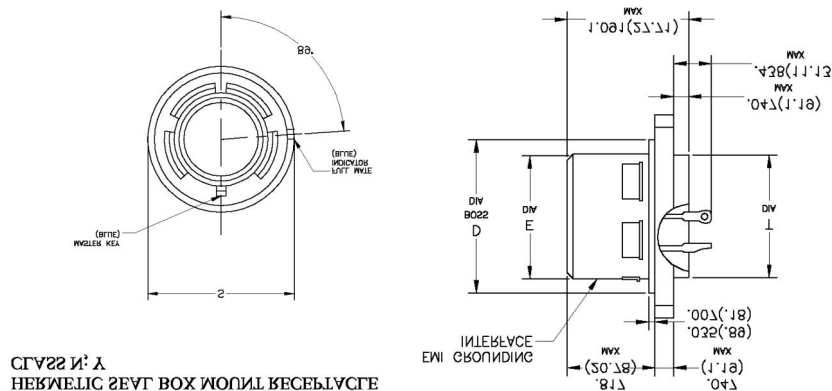
Shell Size	A Dia. Max.		B Flat Max.		C Boss Dia. Max.		D Max.		F Dia. Ref.		M Dia. Max.		N Dia. Max.		P Dia. Max.	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
11	1.386	35.20	.755	19.18	.815	20.70	1.268	32.21	.589	14.96	.509	12.93	.732	18.59	.779	19.79
13	1.512	38.40	.942	23.93	1.004	25.50	1.394	35.41	.720	18.29	.634	16.10	.858	21.79	.909	23.09
15	1.638	41.61	1.066	27.08	1.126	28.60	1.520	38.61	.844	21.44	.759	19.28	.984	24.99	1.035	26.29
17	1.764	44.81	1.191	30.25	1.259	31.95	1.642	41.71	.969	24.61	.885	22.48	1.110	28.19	1.157	29.39
19	1.949	49.50	1.316	33.43	1.384	35.15	1.831	46.51	1.088	27.64	1.009	25.68	1.236	31.39	1.283	32.59
21	2.075	52.71	1.442	36.63	1.507	38.28	1.957	49.71	1.213	30.81	1.134	28.80	1.358	34.49	1.409	35.79
23	2.201	55.91	1.565	39.75	1.626	41.30	2.079	52.81	1.342	34.09	1.259	31.90	1.484	37.69	1.535	38.99
25	2.327	59.11	1.692	42.98	1.752	44.50	2.205	56.01	1.489	37.31	1.384	35.15	1.610	40.89	1.657	42.99

Shell Size	R Max.		S Ref.		T Thread Metric	Recommended Packing (O Ring)
	In.	mm	In.	mm		
11	.118	3.00	1.036	26.31	M20X1.0-6g-0.1R	MS9068-022
13			1.230	31.24	M25X1.0-6g-0.1R	MS9068-024
15			1.387	35.23	M28X1.0-6g-0.1R	MS9068-026
17			1.429	36.30	M32X1.0-6g-0.1R	MS9068-028
19			1.586	40.28	M35X1.0-6g-0.1R	MS9068-128
21	.150	3.81	1.783	45.29	M38X1.0-6g-0.1R	MS9068-130
23			1.941	49.30	M41X1.0-6g-0.1R	MS9068-132
25			1.941	49.30	M44X1.0-6g-0.1R	MS9068-134

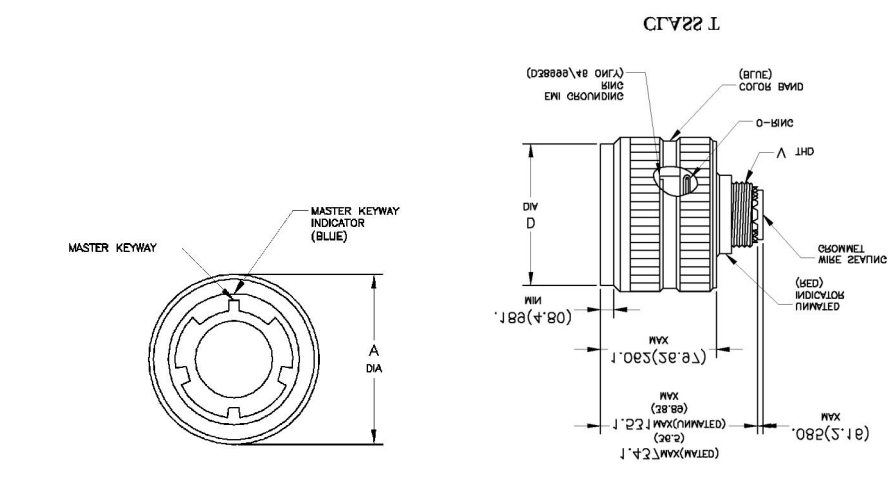
JAM NUT RECEPTACLE
CLASS C; F; W

Shell Size	A Dia. Max.		C Flat Max		D Dia. Max.		E Dia. Max.		F Dia. Min.		G Thread Metric	H Fla Max.	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		In.	mm
11	1.520	38.61	.942	23.93	1.000	25.40	.509	12.93	.794	20.17	M25X1.0-6g-0.1R	1.394	35.41
13	1.642	41.71	1.066	27.08	1.125	28.76	.634	16.10	.918	23.32	M28X1.0-6g-0.1R	1.520	38.61
15	1.768	44.91	1.191	30.25	1.250	31.75	.759	19.28	1.036	26.31	M31X1.0-6g-0.1R	1.642	41.71
17	1.957	49.71	1.321	33.55	1.375	34.93	.885	22.48	1.172	29.77	M34X1.0-6g-0.1R	1.799	45.69
19	2.035	51.69	1.441	36.60	1.500	38.10	1.009	25.68	1.286	32.66	M38X1.0-6g-0.1R	1.909	48.49
21	2.157	54.79	1.566	39.78	1.625	41.28	1.134	28.80	1.412	35.86	M41X1.0-6g-0.1R	2.035	51.69
23	2.283	57.99	1.691	42.95	1.750	44.45	1.259	31.90	1.536	39.01	M44X1.0-6g-0.1R	2.283	57.99
25	2.409	61.19	1.816	46.13	1.875	47.63	1.384	35.15	1.662	42.21	M47X1.0-6g-0.1R	2.409	61.19

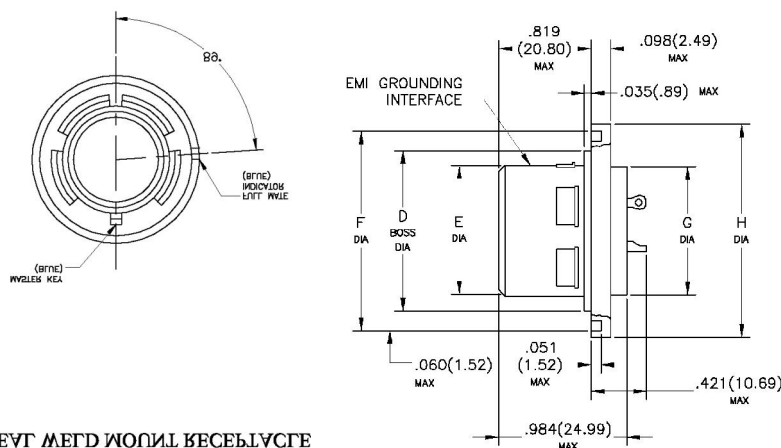
Shell Size	L Ref.		V Thread Metric	Recommended Packing (O Ring)
	In.	mm		
11	1.260	32.0	M15X1.0-6g-0.1R	MS9068-24
13	1.417	36.0	M18X1.0-6g-0.1R	MS9068-26
15	1.614	41.0	M22X1.0-6g-0.1R	MS9068-28
17	1.614	41.0	M25X1.0-6g-0.1R	MS9068-29
19	1.811	46.0	M28X1.0-6g-0.1R	MS9068-30
21	1.968	50.0	M31X1.0-6g-0.1R	MS9068-31
23	1.968	50.0	M34X1.0-6g-0.1R	MS9068-32
25	2.165	55.0	M37X1.0-6g-0.1R	MS9068-33

CLASS N; Y
HERMETIC SOLDER MOUNT RECEPTACLE

Shell Size	D Boss Dia. Max.		E Dia. Max.		S Dia. Max.		T Dia. Max.	
	In.	mm	In.	mm	In.	mm	In.	mm
11	.793	20.14	.509	12.93	.862	21.89	.783	19.89
13	.919	23.34	.634	16.10	.988	25.10	.909	23.09
15	1.044	26.52	.759	19.28	1.110	28.19	1.035	26.29
17	1.170	29.72	.885	22.48	1.236	31.39	1.157	29.39
19	1.294	32.87	1.009	25.63	1.330	33.78	1.251	31.78
21	1.419	36.04	1.134	28.80	1.456	36.98	1.377	34.98
23	1.544	39.22	1.259	31.90	1.582	40.18	1.503	38.18
25	1.669	42.39	1.384	35.15	1.704	43.28	1.629	41.38



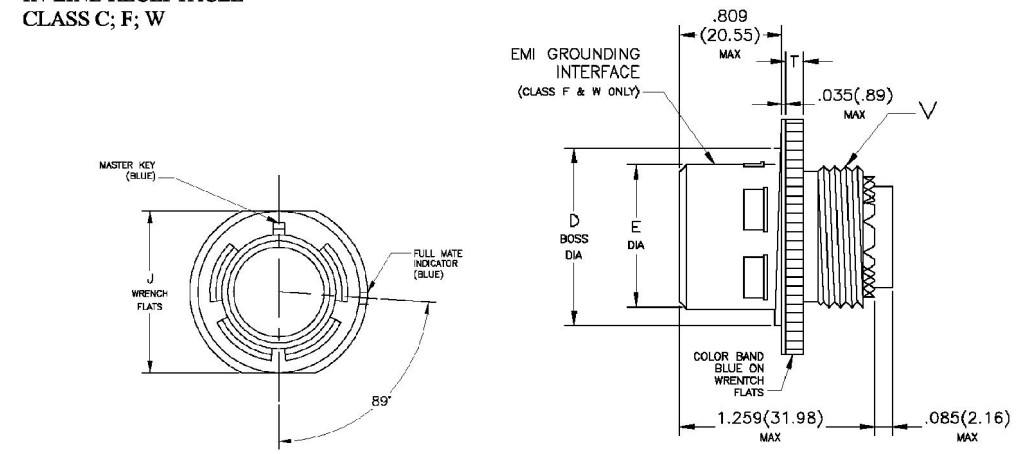
Shell Size	A Dia. Max.		D Dia. Max.		V Thread Metric
	In.	mm	In.	mm	
11	1.054	26.77	.775	19.69	M15X-1.0-6g-0.1R
13	1.226	31.14	.901	22.89	M18X-1.0-6g-0.1R
15	1.351	34.32	1.039	26.39	M22X-1.0-6g-0.1R
17	1.476	37.49	1.149	29.18	M25X-1.0-6g-0.1R
19	1.586	40.28	1.275	32.39	M28X-1.0-6g-0.1R
21	1.711	43.46	1.401	35.59	M31X-1.0-6g-0.1R
23	1.836	46.63	1.527	38.79	M34X-1.0-6g-0.1R
25	1.964	48.61	1.649	41.88	M37X-1.0-6g-0.1R



CLASS N° 1
HELMETIC SEAT WELD MOUNT RESEALING

Shell Size	D Boss		E		F		G		H	
	Dia. Max.		Dia. Max.		Dia. Max.		Dia. Max.		Dia. Max.	
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
11	.793	20.14	.509	12.93	1.035	26.29	.625	15.88	1.106	28.09
13	.919	23.34	.634	16.10	1.161	29.49	.750	19.05	1.232	31.29
15	1.044	26.52	.759	19.28	1.297	32.69	.906	23.01	1.358	34.49
17	1.170	29.72	.885	22.48	1.374	34.90	1.016	25.81	1.445	36.70
19	1.294	32.87	1.009	25.63	1.520	38.60	1.141	28.98	1.590	40.39
21	1.419	36.04	1.134	28.80	1.661	42.19	1.266	32.16	1.732	43.99
23	1.544	39.22	1.259	31.90	1.827	46.41	1.375	34.93	1.898	48.21
25	1.669	42.39	1.384	35.15	1.913	48.59	1.483	37.69	1.984	50.39

IN-LINE RECEPTACLE
CLASS C; F; W



Shell Size	D Boss Dia. Max		E Dia. Max.		J Max.		S Dia. Max.		T Max.		V Thread Metric
	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
11	.793	20.14	.509	12.93	.793	20.14	1.054	26.27	.102	2.59	M15X1.0-6g-0.1R
13	.919	23.34	.634	16.19	.919	23.34	1.226	31.14	.102	2.59	M18X1.0-6g-0.1R
15	1.044	26.52	.759	19.28	1.044	26.52	1.351	34.32	.102	2.59	M22X1.0-6g-0.1R
17	1.170	29.72	.885	22.48	1.170	29.72	1.476	37.49	.102	2.59	M25X1.0-6g-0.1R
19	1.294	32.87	1.009	25.63	1.294	32.87	1.586	40.28	.102	2.59	M28X1.0-6g-0.1R
21	1.419	36.04	1.134	28.80	1.419	36.04	1.711	43.46	.133	3.38	M31X1.0-6g-0.1R
23	1.544	39.22	1.259	31.98	1.544	39.22	1.836	46.63	.133	3.38	M34X1.0-6g-0.1R
25	1.699	42.39	1.384	35.15	1.669	42.39	1.964	49.89	.133	3.38	M37X1.0-6g-0.1R

MIL-C-38999 - INSERT CONFIGURATIONS

Shell Size – Insert Configuration				Service Rating	Total Contacts	Contact Size (Note 1)							
Series 1	Series 2	Series 3	Series 4			22D	22M	22	20	16	12	10	8
9-3	8-3	-	-	M	3				3				
9-6	8-6	-	-	M	6		6						
9-35	8-35	A35	-	M	6	6							
9-44	8-44	-	-	M	4			4					
9-98	8-98	A98	-	I	3				3				
11-2	10-2	-	-	I	2					2C			
11-4	10-4	-	-	I	4				4				
11-5	10-5	B5	B5	I	5				5				
11-6	-	-	-	I	6				6				
11-13	10-13	-	-	M	13		13						
11-35	10-35	B35	B35	M	13	13							
11-98	10-98	B98	-	I	6				6				
11-99	10-99	B99	B99	I	7				7				
13-3	12-3	-	-	II	3					3C			
13-4	12-4	C4	C4	I	4					4C			
13-8	12-8	C8	-	I	8				8				
13-22	12-22	-	-	M	22		22						
13-35	12-35	C35	C35	M	22	22							
13-98	12-98	C98	C98	I	10				10				
15-4	14-4	-	-		4					4C			
15-5	14-5	C5	D5	II	5					5C			
15-15	14-15	C15	-	I	15				14	1C			
15-18	14-19	D19	-	I	18				18				
15-19	14-19	D19	-	I	19				19				
15-35	14-35	D35	D35	M	37	37							
15-37	14-35	-	-	M	37		37						
15-68	14-68	-	-	I	8					8C			
15-97	14-97	D97	D97	I	12				8	4C			
17-6	16-6	E6	E5	I	6					6C			
17-8	16-8	E8	E8	II	8					8C			
	16-13	-	-	I	13					13C			
17-26	16-26	E26	E26	I	26				26				
17-35	16-35	E35	E35	M	55	55							
17-42	16-42	-	-	M	42			42					
17-55	16-55	-	-	M	55		55						
17-99	16-99	E99	-	I	23				21	2C			
19-11	18-11	F11	F11	II	11					11C			
19-18	-	-	-	M	18	14							4
19-28	18-28	-	-	I	28				26	2C			
19-30	18-30	-	-	I	30				29	1C			
19-32	18-32	F32	F32	I	32				32				
19-35	18-35	F35	F35	M	66	66							
19-45	18-45	-	-	M	67	67							
19-53	18-53	-	-	M	53			53					
19-66	18-66	-	-	M	66		66						
19-67	18-67	-	-	M	67		67						
21-1	20-1	-	-	M	79		79						
21-2	20-2	-	-	M	65			65					
21-11	20-11	G11	G11	I	11						11C		
21-16	2-16	G16	G16	II	16					16C			
21-24	20-24	-	-	I	24				24				
21-25	20-25	-	-	I	25				25				
21-37	20-27	-	-	I	27				27				
21-35	20-35	G35	G35	M	79	79							
21-39	20-39	G39	-	I	39				37	2C			
21-41	20-41	G41	G41	I	41				41				
21-75	20-75	G75	-	M	4								4C
21-79	20-79	-	-		19					17C			2C
23-1	22-1	-	-	M	100		100						
23-2	22-2	-	-	M	85			85					
23-14	22-14	-	-		14						14C		
23-21	22-21	H21	H21	II	21					21C			
23-32	22-32	-	-	I	32				32				
23-34	22-34	-	-	I	34				34				
23-35	22-35	H35	H35	M	100	100							
23-36	22-36	-	-	I	16				36				
23-53	22-53	H53	H53	I	53				53				
23-55	22-55	H55	H55	I	55				55				
23-97	22-97	-	-	I	16					16			
23-66	22-99	-	-	II	11					11			

- C Available as coax or standard contacts
- F 2 size 16 contacts dedicated to fibre optics
- T Triax contacts

MIL-C-38999 family connectors are supplied with crimp style contact
 Hermetic MIL-C-38999 connectors are supplied with solder pot contact only.

Note: All above insert configurations conform to MIL-STD-1560

Contact Ratings

Contact Size	Test Current		Maximum Mili Volt Drop		
	Standard	Hermetic	Crimp	Solder	
				Standard	Hermetic
22M	3	2	30	20	60
22D	5		40		
22	5	3	40	20	85
20	7.5	5	35	20	60
16	13	10	25	20	85
12	23	17	25		85

Service Ratings

Service Rating	Suggested Operating Voltage (Sea Level)		Test Voltage			
	AC (rms)	DC	Sea Level	50.000 FT.	70.000 FT.	110.000 FT
M	400	550	1300 VRMS	550 VRMS	350 VRMS	200 VRMS
I	600	850	1800 VRMS	600 VRMS	400 VRMS	200 VRMS
M	900	1250	2300 VRMS	800 VRMS	500 VRMS	200 VRMS

CONTACT IDENTIFICATION

MIL-C-39029 BIN CODES

Example -463 Wide Yellow / Blue / Orange
 First Number "4" Wide Colour band at Wire End

Code Nbr	Colour
0	Black
1	Brown
2	Red
3	Orange
4	Yellow

Code Nbr	Colour
5	Green
6	Blue
7	Violet
8	Grey

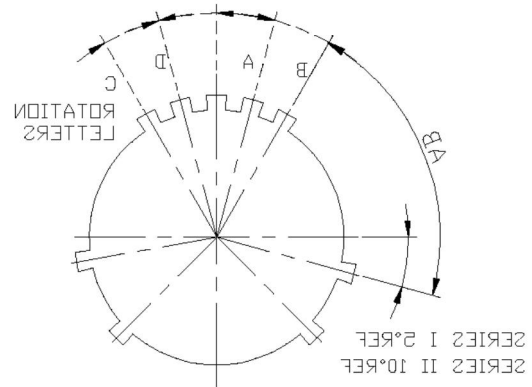
BIN Numbers are read from the Wire attachment end towards the contact. The first band is wider than the other two for easy identification.

MIL-C-38999

Alternative Keyway Positions

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angle for a give connector is the same whether the connector contains either Pin or Socket contacts. Inserts are not rotated in conjunction with the master key or keyway.

The diagrams below show the view from the front face of the connector. You will find that the keyway angle for the plug and the receptacle are exactly the same with the exception that the direction of the rotation is opposite to allow the connectors to mate.



RECEPTACLE
(Front Face Shown)

MIL-C-38999 SERIES 1 Master Keyway Positions

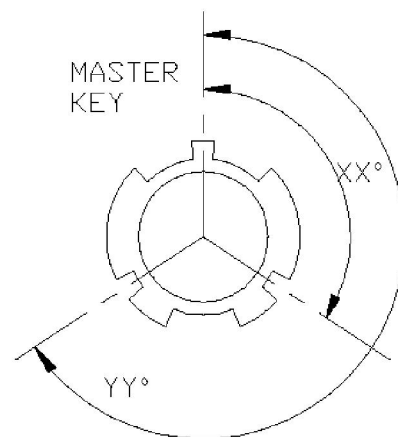
ANGLE OF ROTATION (Degrees)					
Shell Size	Normal	A	B	C	D
9	95°	77°			113°
11	95°	81°	67°	123°	109°
13	95°	75°	63°	127°	115°
15	95°	74°	61°	129°	116°
17	95°	77°	65°	125°	113°
19	95°	77°	65°	125°	113°
21	95°	77°	65°	125°	113°
23	95°	80°	69°	121°	110°
25	95°	80°	69°	121°	110°

MIL-C-38999 SERIES 2 Master Keyway Positions

ANGLE OF ROTATION (Degrees)					
Shell Size	Normal	A	B	C	D
8	100°	82°			118°
10	100°	86°	72°	128°	114°
12	100°	80°	68°	132°	120°
14	100°	79°	66°	134°	121°
16	100°	82°	70°	130°	118°
18	100°	82°	70°	130°	118°
20	100°	82°	70°	130°	118°
22	100°	85°	74°	126°	115°
24	100°	85°	74°	126°	110°

MIL-C-38999 SERIES 4 Master Keyway Positions

Keyway Positions	XX°	YY°
N	110°	250°
A	100°	260°
B	90°	270°
C	80°	280°
D	70°	290°



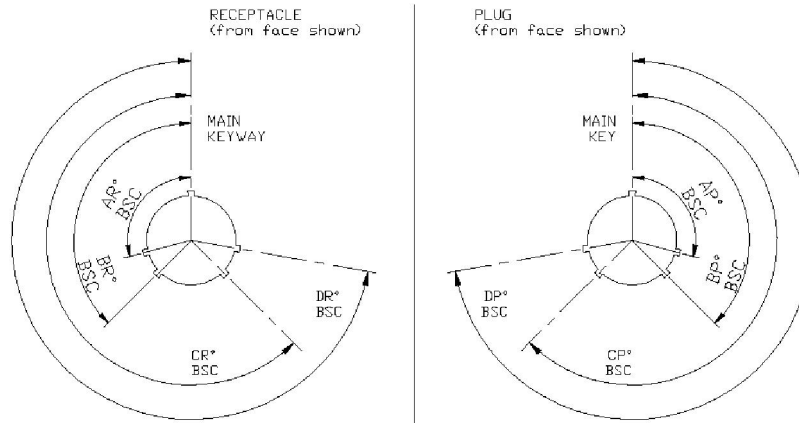
RECEPTACLE
(Front Face Shown)

MIL-C-38999

Alternative Keyway Positions

MIL-C-38999 SERIES 3

Master Keyway Positions



Shell Size	Keyway Arrangement Letter Reference	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
9	N	105°	140°	215°	265°
	A	102°	132°	248°	320°
	B	80°	118°	230°	312°
	C	35°	140°	205°	275°
	D	64°	155°	234°	304°
	E	91°	131°	197°	240°
11 13 & 15	N	95°	141°	208°	236°
	A	113°	156°	182°	292°
	B	90°	145°	195°	252°
	C	53°	156°	220°	255°
	D	119°	146°	179°	298°
	E	51°	141°	184°	242°
17 & 19	N	80°	142°	196°	293°
	A	135°	170°	200°	310°
	B	49°	169°	200°	244°
	C	66°	140°	200°	257°
	D	62°	145°	180°	280°
	E	79°	153°	197°	272°
21 23 & 25	N	80°	142°	196°	293°
	A	135°	170°	200°	310°
	B	49°	169°	200°	244°
	C	66°	140°	200°	257°
	D	62°	145°	180°	280°
	E	79°	153°	197°	272°

MIL-C-38999 Pins, Sockets & Tooling

D38999 Series 1

Contact Size	Wire Range	Socket Contact	Pin Contact	Crimp Tool	Die/ Positioner	Extraction Tool	Insertion Tool
22D	22-28	M39029/56-348 Orange/Yellow/Grey	M39029/58-360 Orange/Blue/Black	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/14-01 or M81969/8-02	M81969/14-01 or M81969/8-01
22M	24-28	M39029/56-349 Orange/Yellow/White	M39029/58-361 Orange/Blue/Brown	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/14-01 or M81969/8-02	M81969/14-01 or M81969/8-01
22	22-26	M39029/56-350 Orange/Green/Black	M39029/58-362 Orange/Blue/Red	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/8-04	M81969/8-03
20	20-24	M39029/56-351 Orange/Green/Brown	M39029/58-363 Orange/Blue/Orange	M22520/1-01 or M22520/2-01	M22520/1-04 Red M22520/2-10	M81969/14-02 or M81969/8-06	M81969/14-02 or M81969/8-05
16	16-20	M39029/56-352 Orange/Green/Red	M39029/58-364 Orange/Blue/Yellow	M22520/1-01 or M22520/7-01	M22520/1-04 Blue M22520/7-04	M81969/14-03 or M81969/8-08	M81969/14-03 or M81969/8-07
12	12-14	M39029/56-353 Orange/Green/Orange	M39029/58-365 Orange/Blue/Green	M22520/1-01	M22520/1-04 Yellow	M81969/14-04 or M81969/8-10	M81969/14-04 or M81969/8-09

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D38999 Series 2

Contact Size	Wire Range	Socket Contact	Pin Contact	Crimp Tool	Die/ Positioner	Extraction Tool	Insertion Tool
22D	22-28	M39029/57-354 Orange/Green/Yellow	M39029/58-360 Orange/Blue/Black	M22520/2-01 or M22520/7-01	M22520/2-06 or M22520/7-06	Not available	Not available
22M	24-28	M39029/57-355 Orange/Green/Green	M39029/58-361 Orange/Blue/Brown	M22520/2-01 or M22520/7-01	M22520/2-06 or M22520/7-06	Not available	Not available
22	22-26	M39029/57-356 Orange/Green/Blue	M39029/58-362 Orange/Blue/Red	M22520/2-01 or M22520/7-01	M22520/2-06 or M22520/7-06	M81969/14-01 Plastic	M81969/14-01 Plastic
20	20-24	M39029/57-357 Orange/Green/Violet	M39029/58-363 Orange/Blue/Orange	M22520/1-01 or M22520/2-01	M22520/1-04 Red M22520/2-10	M81969/14-02 Plastic	M81969/14-02 Plastic
16	16-20	M39029/57-358 Orange/Green/Gray	M39029/58-364 Orange/Blue/Yellow	M22520/1-01 or M22520/7-01	M22520/1-04 Blue M22520/7-04	M81969/14-03 Plastic	M81969/14-03 Plastic
12	12-14	M39029/57-359 Orange/Green/White	M39029/58-365 Orange/Blue/Green	M22520/1-01	M22520/1-04 Yellow	M81969/14-04 or M81969/8-10	M81969/14-04 or M81969/8-09

05/03

D38999 Series 3 & 4

Other contact types are available such as coaxial, shielded and wire wrap posts
Please contact us for further information

Contact Size	Wire Range	Socket Contact	Pin Contact	Crimp Tool	Die/ Positioner	Extraction Tool	Insertion Tool
22D	22-28	M39029/56-348 Orange/Yellow/Grey	M39029/58-360 Orange/Blue/Black	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/14-01 or M81969/8-02	M81969/14-01 or M81969/8-01
22M	24-28	M39029/56-349 Orange/Yellow/White	M39029/58-361 Orange/Blue/Brown	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/14-01 or M81969/8-02	M81969/14-01 or M81969/8-01
22	22-26	M39029/56-350 Orange/Green/Black	M39029/58-362 Orange/Blue/Red	M22520/2-01 or M22520/7-01	M22520/2-07 or M22520/7-05	M81969/8-04	M81969/8-03
20	20-24	M39029/56-351 Orange/Green/Brown	M39029/58-363 Orange/Blue/Orange	M22520/1-01 or M22520/2-01	M22520/1-04 Red M22520/2-10	M81969/14-02 or M81969/8-06	M81969/14-02 or M81969/8-05
16	16-20	M39029/56-352 Orange/Green/Red	M39029/58-364 Orange/Blue/Yellow	M22520/1-01 or M22520/7-01	M22520/1-04 Blue M22520/7-04	M81969/14-03 or M81969/8-08	M81969/14-03 or M81969/8-07
12	12-14	M39029/56-353 Orange/Green/Orange	M39029/58-365 Orange/Blue/Green	M22520/1-01	M22520/1-04 Yellow	M81969/14-04 or M81969/8-10	M81969/14-04 or M81969/8-09

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Accessory Quick Reference Guide

D38999 Series 1 & 2 Backshells & Caps

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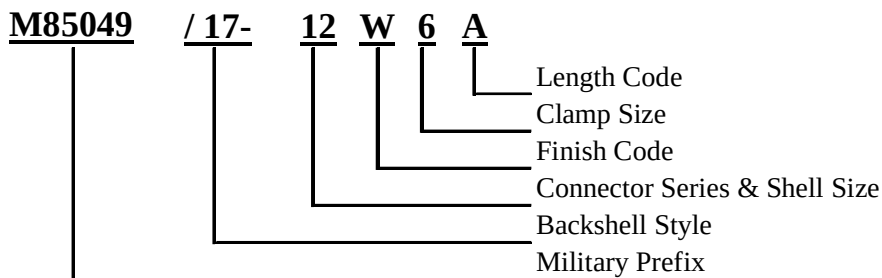
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STRAIGHT BACKSHELLS

MIL-C-38999 Series 1 & 2



CODE	BACKSHELL STYLE
/ 17	Straight Cable Clamp Backshell
/ 29	Straight Non-Environmental Backshell
/ 36	Straight EMI/RFI Non Environmental Backshell

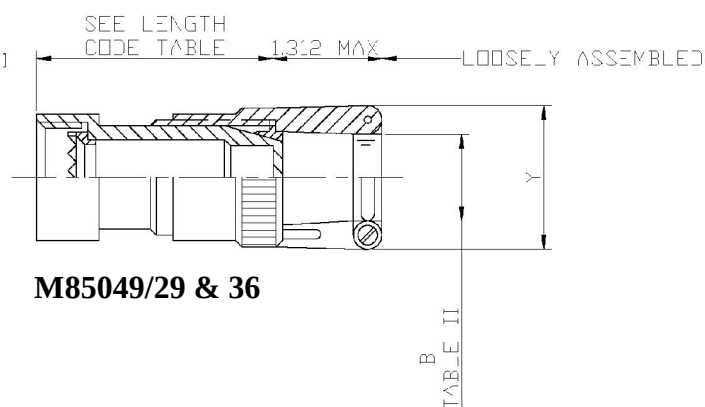
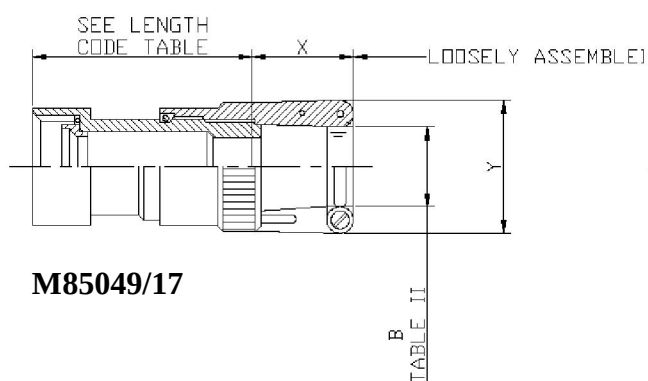
CODE	FINISH
N	Electroless Nickel
W	Olive Drab Cadmium, 500 hrs salt spray

CODE	LENGTH +/- .032"			SHELL SIZES
	/17	/29	/36	
Blank	1.50	1.00	1.50	8 to 24
A	2.50	2.00	2.50	8 to 24
B	3.50	3.00	3.50	14 to 24
C	4.50	4.00	4.50	20 to 24

SHELL CODE	CONNECTOR		CLAMP RANGE	
	SERIES 1	SERIES 2	MIN	MAX
-08	9	8	01	02
-10	11	10	01	03
-12	13	12	02	04
-14	15	14	02	05
-16	17	16	02	06
-18	19	18	03	07
-20	21	20	03	08
-22	23	22	03	09
-24	25	24	04	10

B CABLE RANGE						
CLAMP CODE	/17		/29 & /36		Y	X
	MIN	MAX	MIN	MAX		
01	.062	.125	.062	.125	.781	1.25
02	.125	.250	.125	.250	.969	1.250
03	.250	.375	.250	.375	1.062	1.250
04	.375	.500	.312	.500	1.156	1.250
05	.500	.625	.437	.625	1.250	1.312
06	.625	.750	.562	.750	1.375	1.375
07	.750	.875	.687	.875	1.500	1.500
08	.875	1.000	.812	1.00	1.625	1.625
09	1.000	1.125	.937	1.125	1.750	1.625
10	1.125	1.250	1.062	1.250	1.875	1.625
11	1.250	1.375	1.187	1.375	2.187	1.625
12	1.375	1.500	1.312	1.500	2.312	1.875

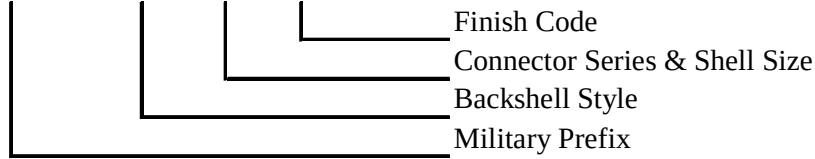
Note : Dimensions are imperial = inches



STRAIN RELIEF BACKSHELLS

MIL-C-38999 Series 1 & 2

M85049 / 49-2 12 W



CODE BACKSHELL STYLE

/ 49-2 Strain Relief Backshell

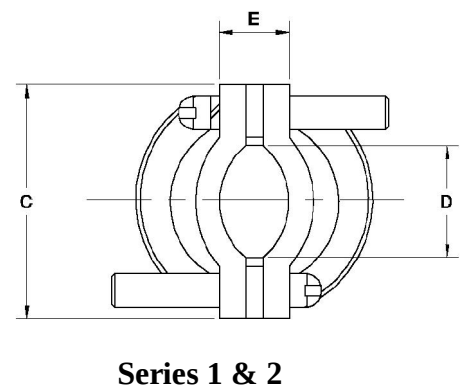
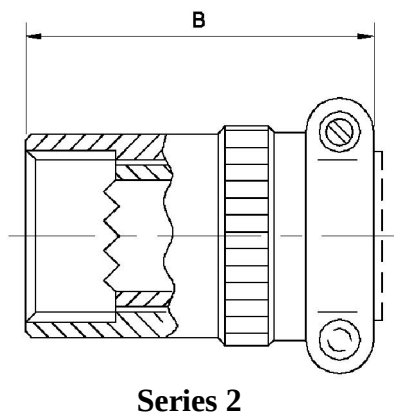
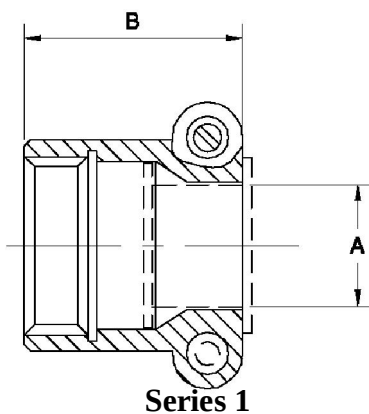
CODE FINISH

A Black Anodise
N Electroless Nickel
W Olive Drab Cadmium, 500 hrs salt spray

SHELL CODE	CONNECTOR SERIES		B MAX		A *		C	D	E
	SERIES 1	SERIES 2	SERIES 1	SERIES 2	+.010" -.025"		MAX	MIN	MAX
-08	9	8	0.875	1.078	0.125		0.828	0.234	0.234
-10	11	10	0.875	1.078	0.188		0.891	0.297	0.297
-12	13	12	0.875	1.078	0.312		1.016	0.422	0.422
-14	15	14	1.125	1.312	0.375		1.141	0.547	0.547
-16	17	16	1.125	1.312	0.500		1.203	0.609	0.609
-18	19	18	1.125	1.312	0.625		1.469	0.734	0.734
-20	21	20	1.125	1.312	0.625		1.469	0.734	0.734
-22	23	22	1.250	1.453	0.750		1.656	0.922	0.922
-24	25	24	1.250	1.375	0.800		1.750	0.984	0.984

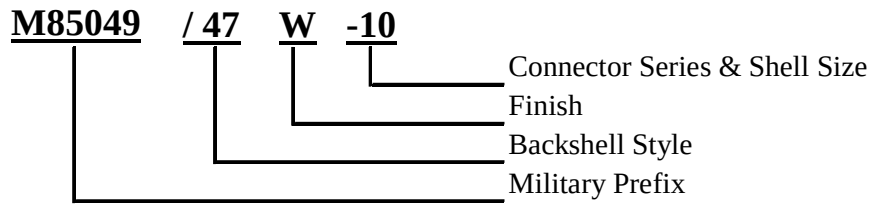
* when resilient bushing is used

Note : Dimensions are imperial = inches



90° STRAIN RELIEF BACKSHELL

MIL-C-38999 Series 1 & 2



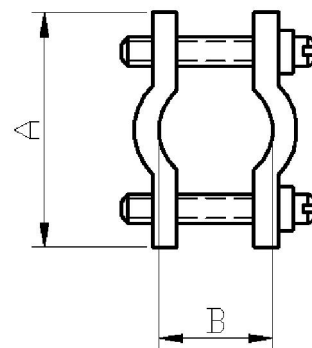
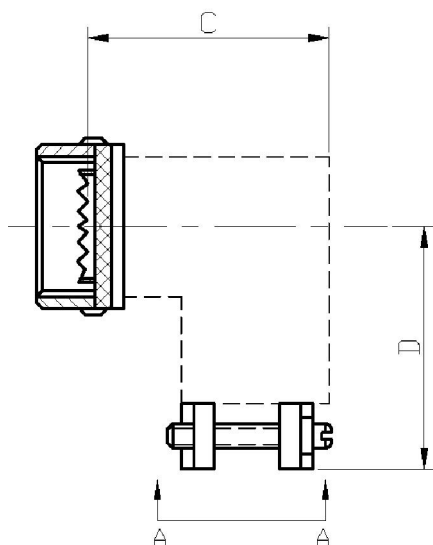
Note : Dimensions are imperial = inches

CODE	BACKSHELL STYLE
/ 47	90° Strain Relief Backshell

CODE	FINISH
N	Electroless Nickel
W	Olive Drab Cadmium, 500 hrs salt spray

SHELL CODE	CONNECTOR SERIES 1	SERIES 2
-08	9	8
-10	11	10
-12	13	12
-14	15	14
-16	17	16
-18	19	18
-20	21	20
-22	23	22
-24	25	24

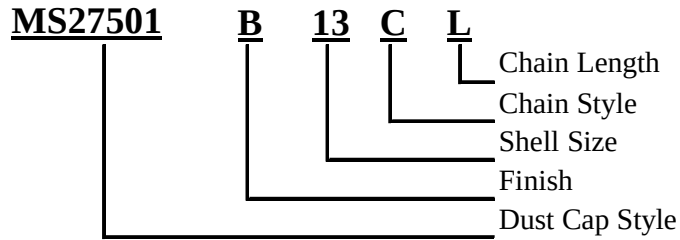
A MAX	B CABLE ENTRY MIN	C MAX	D MAX
0.828	0.082	0.234	1.156
0.891	0.082	0.234	1.156
1.016	0.114	0.328	1.234
1.141	0.176	0.457	1.406
1.255	0.238	0.634	1.578
1.469	0.208	0.614	1.594
1.550	0.302	0.698	1.672
1.675	0.302	0.823	1.812
1.800	0.332	0.969	1.922



VIEW A-A

DUST CAPS FOR PLUGS & RECEPTACLES

MIL-C-38999 Series 1 & 2



Material

Cap - Aluminium Alloy

Chain - Stainless Steel

Gasket - Silicone Rubber

Note : Dimensions are imperial = inches

CODE DUST CAP STYLE

MS27501 Dust Cap for D38999 Series 1 PLUG
 MS27502 Dust Cap for D38999 Series 1 RECEPTACLE
 MS27510 Dust Cap for D38999 Series 2 PLUG
 MS27511 Dust Cap for D38999 Series 2 RECEPTACLE

CODE FINISH

A Cadmium, bright
 B Cadmium, Olive Drab MIL-STD1353
 F Electroless nickel, MIL-STD1353

CODE CHAIN STYLE

A Without Chain or Rope
 C With Chain
 N Chain and Ring (MS27502 & MS27511 Only)
 R Wire Rope (MS27511 Only)

CODE CHAIN LENGTH

Blank Standard Length - Table L NOM below
 L 5.00" Chain
 M 6.00" Chain (MS27501 Only)
 N 7.00" Chain (MS27501 Only)

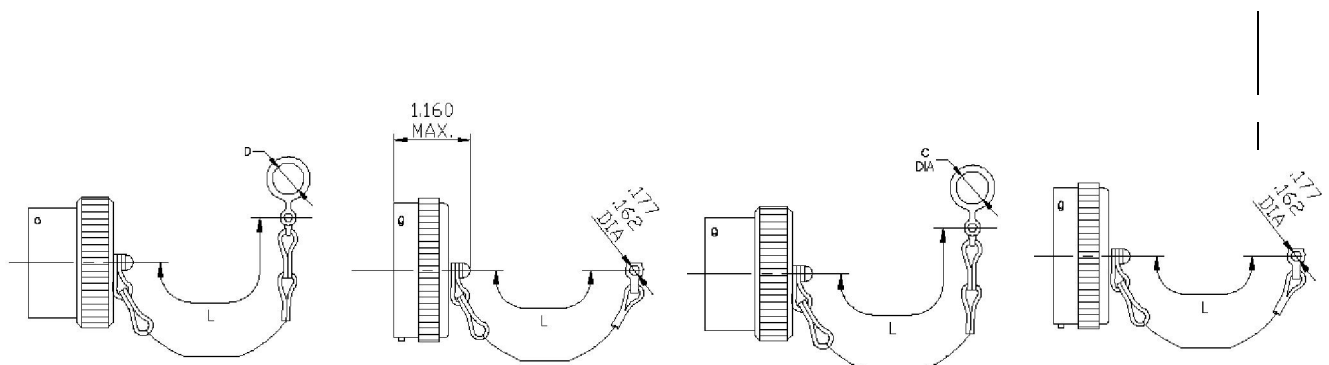
SHELL D38999 SERIES 1

CODE	D Min	L Nom
-09	0.70	3.00
-11	0.84	3.00
-13	1.01	3.50
-15	1.14	3.50
-17	1.26	3.50
-19	1.39	3.50
-21	1.51	4.00
-23	1.64	4.00
-25	1.76	4.00

SHELL D38999 SERIES 2

CODE	C MIN	L NOM
-08	0.89	3.00
-10	1.01	3.00
-12	1.14	3.50
-14	1.26	3.50
-16	1.39	3.50
-18	1.51	3.50
-20	1.64	4.00
-22	1.76	4.00
-24	1.89	4.00

MS27501*A 0.947" Without Chain
 MS27501*C 1.160" With Chain
 MS27502*A 0.914" Without Chain
 MS27502*C 1.100" With Chain
 MS27510*A 0.617" Without Chain
 MS27510*C 1.160" With Chain
 MS27511*A 0.664" Without Chain
 MS27511*C 0.820" With Chain



MS27501

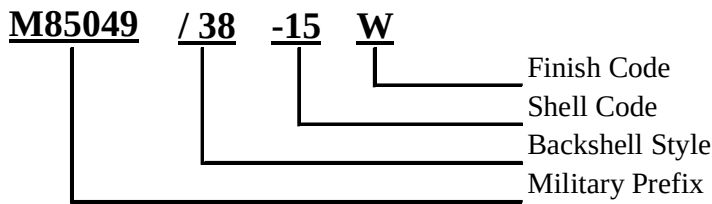
MS27502

MS27510

MS27511

STRAIN RELIEF BACKSHELLS

MIL-C-38999 Series 3 & 4

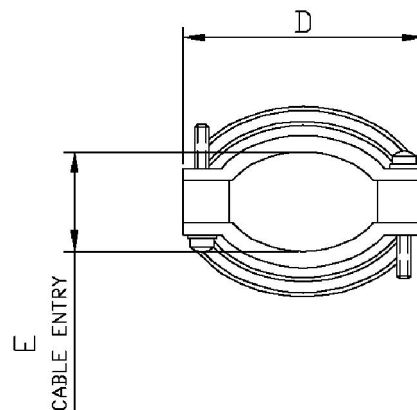
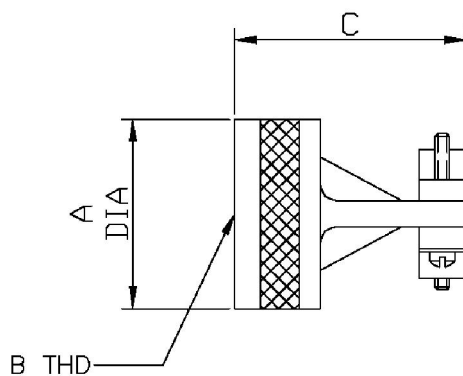


CODE	BACKSHELL STYLE
/ 38	Strain Relief Backshell

CODE	FINISH
A	Black Anodise

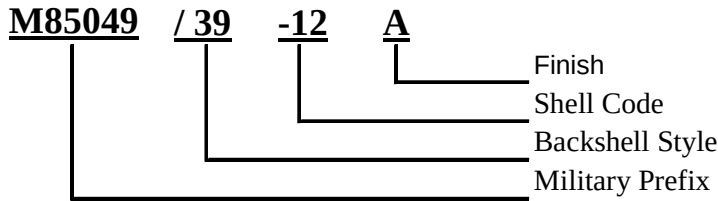
SHELL CODE	SHELL REF	A MAX	B METRIC THREAD RH CLASS 6 H	C MAX	D MAX	E CABLE ENTRY	
						MIN	MAX
-09	A	0.75	M12X1.00.100R	1.10	0.85	0.234	0.082
-11	B	0.85	M15X1.00.100R	1.10	0.90	0.234	0.082
-13	C	1.00	M18X1.00.100R	1.20	1.10	0.328	0.114
-15	D	1.10	M22X1.00.100R	1.25	1.15	0.457	0.176
-17	E	1.25	M25X1.00.100R	1.35	1.30	0.634	0.238
-19	F	1.40	M28X1.00.100R	1.60	1.50	0.614	0.208
-21	G	1.50	M31X1.00.100R	1.70	1.60	0.698	0.302
-23	H	1.65	M34X1.00.100R	1.85	1.70	0.823	0.302
-25	J	1.75	M37X1.00.100R	1.95	1.80	0.853	0.332

Note : Thread is a metric measurement all other dimensions are imperial = inches



90° STRAIN RELIEF BACKSHELL

MIL-C-38999 Series 3 & 4

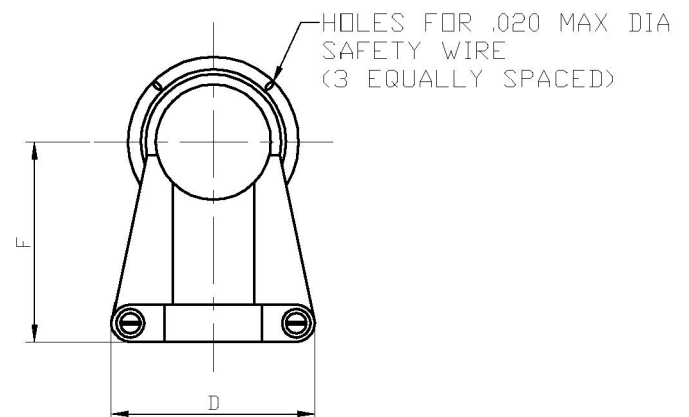
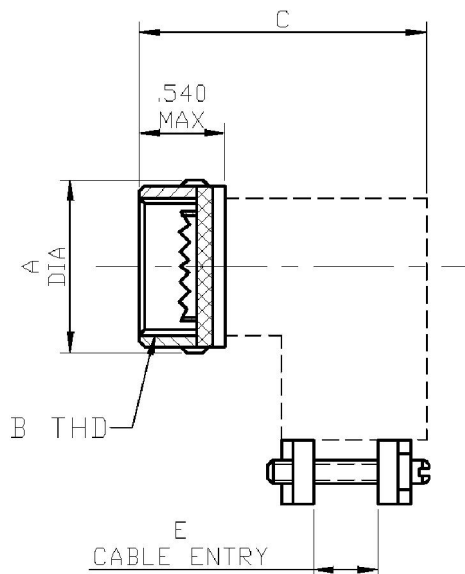


CODE	BACKSHELL STYLE
/ 39	90° Strain Relief Backshell

CODE	FINISH
A	Black Anodise

SHELL CODE	SHELL REF	A MAX	B METRIC THREAD CLASS 6 H	C MAX	D MAX	E CABLE ENTRY MIN	E CABLE ENTRY MAX	F MAX
-09	A	0.75	M12X1.00.100R	1.20	0.85	0.234	0.082	1.00
-11	B	0.85	M15X1.00.100R	1.20	0.90	0.234	0.082	1.10
-13	C	1.00	M18X1.00.100R	1.40	1.10	0.328	0.114	1.10
-15	D	1.10	M22X1.00.100R	1.45	1.15	0.457	0.176	1.25
-17	E	1.25	M25X1.00.100R	1.60	1.30	0.634	0.238	1.30
-19	F	1.40	M28X1.00.100R	1.70	1.50	0.614	0.208	1.35
-21	G	1.50	M31X1.00.100R	1.85	1.60	0.698	0.302	1.60
-23	H	1.65	M34X1.00.100R	1.95	1.70	0.823	0.302	1.75
-25	J	1.75	M37X1.00.100R	2.10	1.80	0.853	0.332	1.85

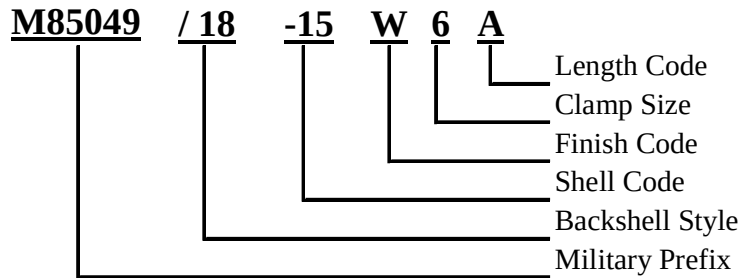
Note : Thread is a metric measurement all other dimensions are imperial = inches



STRAIGHT BACKSHELLS

EMI/RFI Environmental

MIL-C-38999 Series 3 & 4



CODE	BACKSHELL STYLE
/ 18	Straight EMI/RFI Environmental Backshell

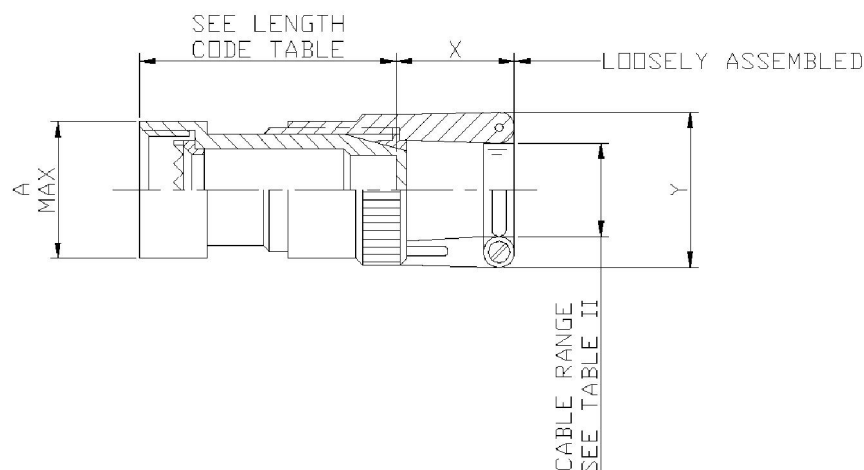
CODE	FINISH
N	Electroless Nickel
S	Passivated Stainless Steel
W	Olive Drab Cadmium, 500 hrs salt spray

CODE	LENGTH +/-0.032"	SUITABLE FOR SHELL SIZES
Blank	1.50	09 TO 25
A	2.50	09 TO 25
B	3.50	15 TO 25
C	4.50	21 TO 25

CLAMP SIZE	Cable Range		TABLE II	
	MIN	MAX	X	Y
01	.062	.125	1.250	0.781
02	.125	.250	1.250	0.969
03	.250	.375	1.250	1.062
04	.375	.500	1.250	1.156
05	.500	.625	1.312	1.250
06	.625	.750	1.375	1.375
07	.750	.875	1.500	1.500
08	.875	1.000	1.625	1.625
09	1.000	1.125	1.625	1.750
10	1.125	1.250	1.625	1.875

SHELL CODE	A MAX	SUITABLE FOR CLAMP SIZES
-09	0.734	01 TO 02
-11	0.840	01 TO 03
-13	0.959	02 TO 04
-15	1.091	02 TO 05
-17	1.230	02 TO 06
-19	1.368	03 TO 07
-21	1.484	03 TO 08
-23	1.602	03 TO 09
-25	1.720	04 TO 10

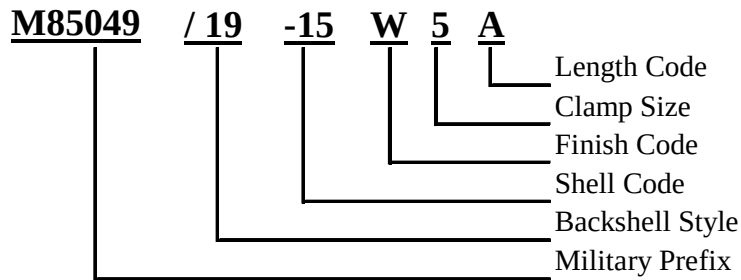
Note : Dimensions are imperial = inches



STRAIGHT BACKSHELLS

EMI/RFI & Non-Environmental

MIL-C-38999 Series 3 & 4



CODE	BACKSHELL STYLE
/ 19	Straight EMI/RFI Non-Environmental Backshell
/ 21	Straight Non-Environmental Backshell

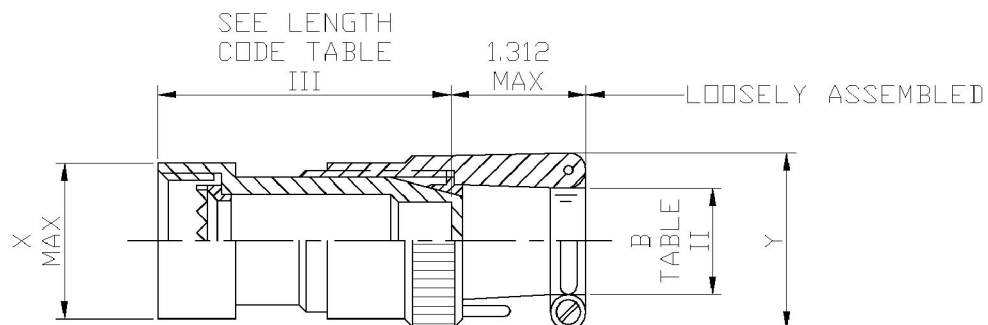
CODE	FINISH
N	Electroless Nickel
S	Passivated Stainless Steel
W	Olive Drab Cadmium, 500 hrs salt spray

CODE	TABLE III LENGTH +/- .032	SUITABLE FOR SHELL SIZES
Blank	1.50	09 TO 25
A	2.50	09 TO 25
B	3.50	15 TO 25
C	4.50	21 TO 25

CLAMP SIZE	B	CABLE RANGE TABLE I	Y
	MIN	MAX	MAX
01	0.062	0.125	0.781
02	0.125	0.250	0.969
03	0.250	0.375	1.062
04	0.375	0.500	1.156
05	0.500	0.625	1.250
06	0.625	0.750	1.375
07	0.750	0.875	1.500
08	0.875	1.000	1.625
09	1.000	1.125	1.750
10	1.125	1.250	1.875

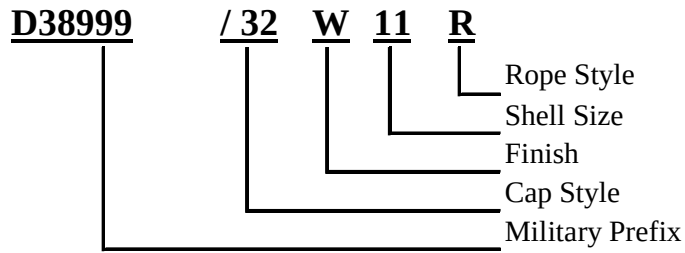
SHELL CODE	X MAX	SUITABLE FOR CLAMP SIZES
-09	0.75	01 TO 02
-11	0.85	01 TO 03
-13	1.00	02 TO 04
-15	1.10	02 TO 05
-17	1.25	02 TO 06
-19	1.40	03 TO 07
-21	1.50	03 TO 08
-23	1.65	03 TO 09
-25	1.75	04 TO 10

Note : Dimensions are imperial = inches



DUST CAPS FOR PLUGS & RECEPTACLES

MIL-C-38999 Series 3 & 4



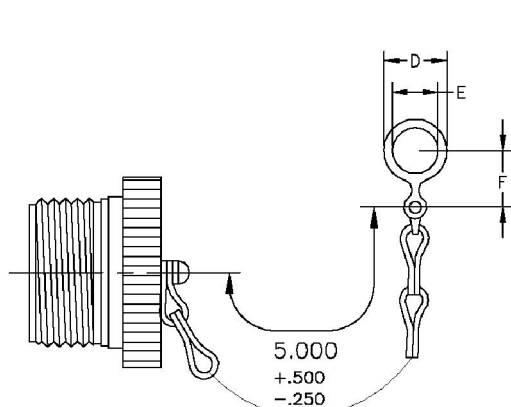
Material
 Cap - Aluminium Alloy
 Rope - Stainless Steel
 Gasket - Silicone Rubber

CODE	DUST CAP STYLE
/ 32	Dust Cap for D38999 Series 3 PLUG
/ 33	Dust Cap for D38999 Series 3 RECEPTACLE
/ 51	Dust Caps for D38999 Series 4 Consult factory

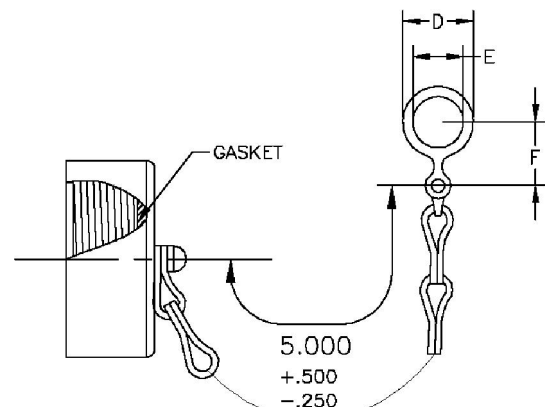
CODE	FINISH
W	Olive Drab Cadmium, 500 hrs salt spray

CODE	ROPE STYLE
N	Insulated Stainless Steel Rope with ring fitting for attachment between coupling nut & backshell
R	Insulated Stainless Steel Rope with fitting for screw

SHELL CODE	MILITARY SHELL SIZE CODE	D38999/32				D38999/33			
		B MAX	D MAX	E MIN	F +/- .25	B MAX	C MAX	D MIN	E +/- .25
09	A	0.900	0.850	0.509	0.620	0.900	1.050	0.700	0.720
11	B	1.000	1.050	0.700	0.720	1.101	1.250	0.840	0.750
13	C	1.200	1.100	0.759	0.809	1.200	1.400	1.009	0.940
15	D	1.300	1.200	0.890	0.870	1.250	1.550	1.140	1.000
17	E	1.450	1.400	1.009	0.940	1.450	1.700	1.259	1.059
19	F	1.550	1.550	1.140	1.000	1.500	1.800	1.390	1.120
21	G	1.700	1.700	1.259	1.059	1.650	1.900	1.509	1.190
23	H	1.800	1.750	1.340	1.100	1.750	2.100	1.640	1.250
25	J	1.950	1.900	1.509	1.190	1.900	2.200	1.750	1.309



D38999/32



D38999/33

Notes

Notes

Notes