RAINEON

南京睿宁电子科技有限公司

NANJING RAINEON ELECTRONIC TECHNOLOGY CO., LTD

PRODUCT CATALOGUE

Aviation Connectors | Interconnect Technology



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OVERVIEW

- Quick thread locking with anti-loosening mechanism
- 100% skew-proof; contacts protected during blind mating
- Ground fingers for enhanced EMI/RFI shielding
- Excellent shock and vibration resistance
- Excellent fluid immersion resistance
- Widely used in aviation, aerospace and military systems, especially suitable for severe vibration environments.
- Standards: MIL-DTL-38999, GJB599A-1993;
- Quality level: general military grade (J), per: Q/Lk20089-2006 Q/Lk30001-2004 Q/Lk.J (02) 514-2010



MATERIALS

- Shell: aluminum alloy / stainless steel / titanium alloy

Finish:

Olive drab cadmium (W) Electroless nickel (F)
Stainless steel passivated (K) St. steel Ni-plated (S)
Titanium alloy, unplated (TT)

- Insulating mounting plate: thermoplastic
- Sealing gaskets: silicone rubber elastomer
- Contacts: copper alloy

Finish: gold over nickel

MECHANICAL CHARACTERISTICS

- Sinusoidal vibration: 10~50 Hz, velocity 254 mm/s
50~140 Hz, double amplitude 1.5 mm
140~2000 Hz, acceleration 588 m/s^2
- Random vibration:
at high temperature 96 (m/s^2)^2/ Hz 408 m/s^2, 100 ~ 1000Hz
- Random vibration:
at ambient temperature 480 (m/s^2)^2/ Hz, 100 ~ 300Hz
- Shock: 2940 m/s^2 3ms
- Durability: 500 mating cycles
- Contact retention (min.): #22D: 44 N; #20: 67 N
#16: 111 N; #12: 111 N; #8 coaxial: 111 N; #8 triaxial: 111 N

ELECTRICAL CHARACTERISTICS

- Dielectric withstanding voltage (V r.m.s.) (mated)

Rated operating conditions	M	N	I	II
Sea level	1300	1000	1800	2300
21000m	800	600	1000	1000

- Contact resistance (with silver-plated wire) and rated current:

Contact size	Mating end mm	Contact resistance mΩ	Rated current A
#22D	φ0.762	14.6	5
#20	φ1.02	7.3	7.5
#16	φ1.588	3.8	13
#12	φ2.39	1.8	23
#10	φ3.18	1.0	33
#8	φ3.61	0.6	46
#6	φ4.52	0.5	60
#4	φ5.72	0.3	80

- Insulation resistance: >= 5000 MOhm (500 V DC)
- Shell-to-shell conductivity
Olive drab cadmium (W): 2.5 mV Electroless nickel: 1 mV
St. steel passivated (K): 10 mV St. steel Ni-plated (S): 1 mV
Titanium alloy, unplated (TT): 10 mV
- Shielding: 100 MHz: 90 dB (F, W, S) 80 dB (K, TT)
1GHz: 85dB(F、W、S) 65dB(K、TT)
10GHz: 65dB(F、S) 50dB(W) 45dB(K、TT)
- Coaxial contacts:
Operating frequency: 0~1 GHz Characteristic impedance: 50 Ohm
VSWR <= 1.3
- #8 triaxial contacts:
Bandwidth: 0~20 MHz
Rated voltage: max. 500 V AC
125 V AC at 21,000 m altitude
Voltage drop: inner & middle contacts: <= 55 mV at 1 A
Outer contact: <= 75 mV at 12 A

ENVIRONMENTAL CHARACTERISTICS

- Temperature range: olive drab cadmium (W): -65°C~+175°C electroless nickel (F, K, S, TT): -65°C~+200°C
- Salt spray: 500 h (W, K) 48 h (F, S) 1000 h (TT)
- Humidity: GJB1217 test 1002, procedure II, 24 h per cycle, 10 cycles
- Fluid immersion: resistant to 12 solvents incl. hydraulic fluid, coolant

PART NUMBERING

MIL basic series code:	D38999/	26	W	B	35	S	N	-U
Our basic series code:	J599/	26	W	B	35	S	N	-U
	①	②	③	④	⑤	⑥	⑦	⑧

1) Basic series code: D38999 = MIL basic code;
J599 = our basic code (J599I: hole pattern marked with digits)
2) Shell style: 20 - wall-mount square flange receptacle
24 - jam nut mount receptacle
26 - straight plug
3) Finish: W - olive drab cadmium, -65°C~+175°C
F - electroless nickel, -65°C~+200°C
K - stainless steel passivated, -65°C~+200°C
S - stainless steel nickel-plated, -65°C~+200°C
TT - titanium alloy unplated, -65°C~+200°C
4) Shell size: 09 11 13 15 17 19 21 23 25
Shell size code: A B C D E F G H J
5) Insert arrangement: see insert arrangement drawings
6) Contact type: P - standard crimp pin S - standard crimp socket
A - no pin or as specified by user B - no socket or as specified by user
PH - solder cup pin SH - solder cup socket
PC - short straight PCB terminal pin SC - short straight PCB terminal socket
PL - long straight PCB terminal pin SL - long straight PCB terminal socket
7) Key/keyway position: N - standard, A, B, C, D, E
8) Identification: U - left-hand plug; unmarked - (right-hand) plug; A17 - double flange receptacle (PCB products);

Note 1: In the part numbering of GJB599A and MIL-DTL-38999, except for the basic series code, everything else is identical.
Note 2: For PCB connectors, PCB cutout dimensions see the PCB hole-pattern drawing.
Note 3: If a backshell is ordered with the connector, write ·connector P/N + backshell P/N·; backshells may also be ordered separately.
Note 4: When contact type is PH or SH, position #8 is a solder contact by default; to replace the #8 solder contact with a #8 coaxial contact add ·/G· after the P/N; to replace it with a #8 triaxial contact add ·/G1· after the P/N, e.g. J599/20FF18PHN/G1.
Note 5: Hermetic feed-through receptacles accept pin contacts only; mating plugs must use socket contacts. Each feed-through receptacle requires two plugs: left-hand plug (marked U) and (right-hand) plug (unmarked).
Note 6: Gaskets are not supplied with receptacles by default; if required, select per the ·gasket outline dimensions· of the series; gaskets are available in standard and conductive types; specify gasket code and quantity when ordering.

■ Crimp contacts

Contact size	Pin dia. (mm)	Crimp barrel inner dia. (mm)	Crimp barrel outer dia. (mm)	Suitable wire cross-section (mm)	Equivalent AWG (AWG)	Wire insulation dia. (mm)	Insertion/removal tool code
#22D	φ0.76	0.85	1.2	0.125	26	0.76 ~ 1.37	M81969/14-01
				0.2	24		
				0.35	22		
#20	φ1.02	1.17	1.78	0.2	24	1.02 ~ 2.11	M81969/14-10
				0.35	22		
				0.5	20		
#16	φ1.59	1.68	2.62	0.5	20	1.65 ~ 2.77	M81969/14-03
				0.8			
				1.0	18		
				1.2	16		
#12	φ2.39	2.49	3.84	2.0	14	2.46 ~ 3.61	M81969/14-04
				3.0	12		

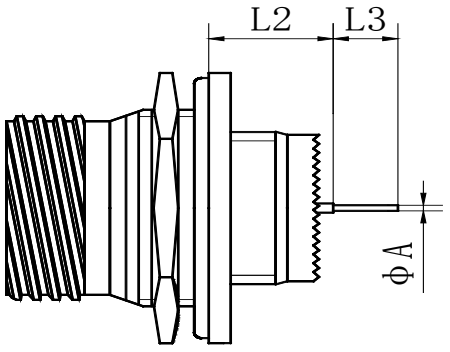
■ Solder contacts

Contact size	Solder cup inner dia. (mm)	Max. suitable wire gauge (AWG)
#22D	φ0.9	22
#20	φ1.3	20
#16	φ1.8	16
#12	φ2.85	12

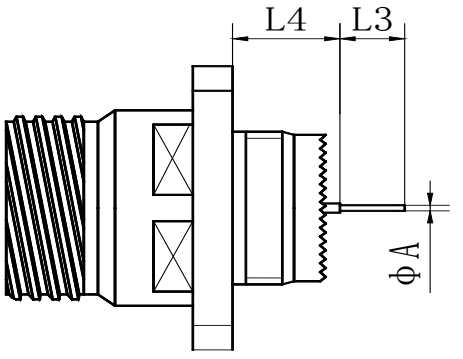
Terminal end dimensions

Straight PCB-terminal receptacle and terminal end dimensions

J599/24 receptacle



J599/20 receptacle



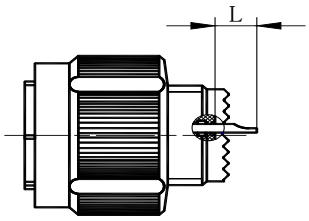
Straight PCB terminal contact sizes		L3	A
#22D	Long straight PCB terminal contacts PL SL	8.50	0.70
	Short straight PCB terminal contacts PC SC	4.00	
#20	Long straight PCB terminal contacts PL SL	8.50	0.70
	Short straight PCB terminal contacts PC SC	5.10	
#16	Long straight PCB terminal contacts PL SL	8.50	1.15
	Short straight PCB terminal contacts PC SC	5.10	

Lengths with different contact sizes			Shell size 09、11	Shell size 13、15、17、19	Shell size 21、23、25
	Contacts fitted				
L2	#22D pin	min.	10.52	10.34	
		max.	11.46	11.28	
	#22D socket	min.	10.19	10.01	
		max.	11.46	11.28	
	#20 or #16 pin, socket	min.	10.69	10.51	
		max.	11.63	11.45	
L4	#22D pin	min.	9.48		9.59
		max.	10.58		10.69
	#22D socket	min.	9.15		9.26
		max.	10.58		10.69
	#20 or #16 pin, socket	min.	9.65		9.76
		max.	10.75		10.86

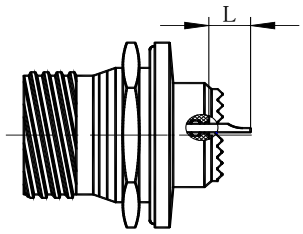
Note: PCB cutout dimensions of GJB599 Series III see the PCB hole-pattern drawing.

Solder terminal end dimensions:

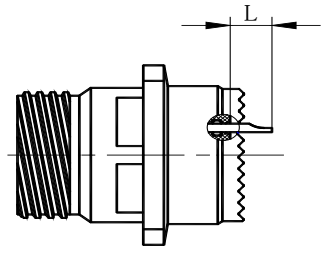
Type 26 plug



Type 24 receptacle



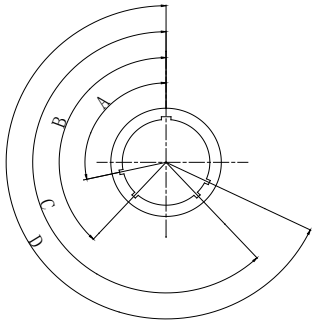
Type 20 receptacle



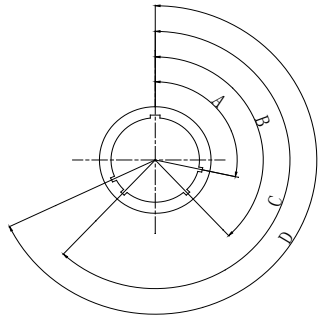
Contact size	Contact type	L
#22D	pin / socket	3.5
# 20	pin / socket	3.5
# 16	pin / socket	4.0
# 12	pin / socket	4.0
# 8	pin / socket	9.0

Note: L is the distance between the solder cup end of the contact and the front face of the sealing insert

GJB599 Series III key/keyway positions:



Receptacle mating-face view

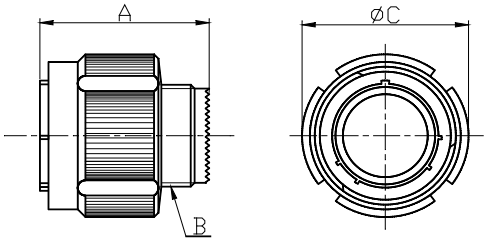


Plug mating-face view

Shell size	Shell size code	Key position / Angle	N	A	B	C	D	E
09	A	A^0	105	102	80	35	64	91
		B^0	140	132	118	140	155	131
		C^0	215	248	230	205	234	197
		D^0	265	320	312	275	304	240
11, 13, 15	B, C, D	A^0	95	113	90	53	119	51
		B^0	141	156	145	156	146	141
		C^0	208	182	195	220	176	184
		D^0	236	292	252	255	298	242
17, 19, 21, 23, 25	E, F, G, H, J	A^0	80	135	49	66	62	79
		B^0	142	170	169	140	145	153
		C^0	196	200	200	200	180	197
		D^0	293	310	244	257	280	272

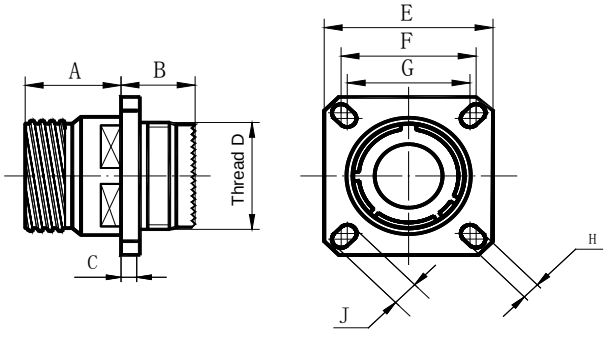
J599/26 plug outline dimensions

J	5	9	9	/	2	6	W						

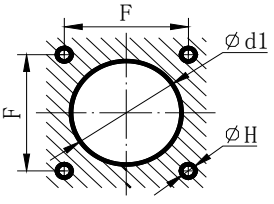


Shell size	Shell size code	A max		Thread B	C max
09	A	31.00	A	M12 × 1-6g	21.80
11	B	31.00	B	M15 × 1-6g	25.00
13	C	31.00	C	M18 × 1-6g	29.40
15	D	31.00	D	M22 × 1-6g	32.50
17	E	31.00	E	M25 × 1-6g	35.70
19	F	31.00	F	M28 × 1-6g	38.50
21	G	31.00	G	M31 × 1-6g	41.70
23	H	31.00	H	M34 × 1-6g	44.90
25	J	31.00	J	M37 × 1-6g	48.00

J599/20 square flange receptacle

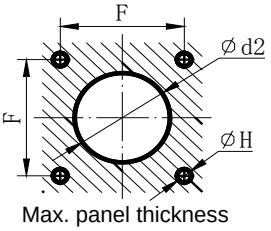


Rear-mount panel cutout dimensions



Max. panel thickness 2.5 mm

Front-mount panel cutout dimensions

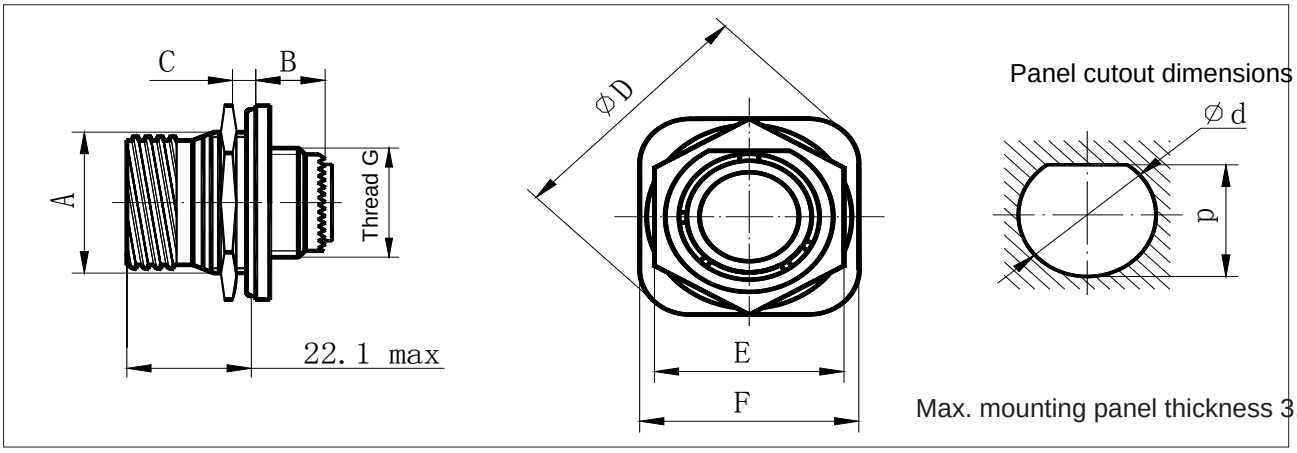


Max. panel thickness 3.2 mm

J	5	9	9	/	2	0	W						

Shell size	Shell size code	A max	B max	C max	Thread D	E		F	G	H	J	d1 min	d2 min
09	A	20.80	10.90	2.50	M12 × 1-6g	23.80	A	18.26	15.09	3.25	5.49	16.66	13.11
11	B	20.80	10.90	2.50	M15 × 1-6g	26.20	B	20.62	18.26	3.25	4.93	20.22	15.88
13	C	20.80	10.90	2.50	M18 × 1-6g	28.60	C	23.01	20.62	3.25	4.93	23.42	19.05
15	D	20.80	10.90	2.50	M22 × 1-6g	31.00	D	24.61	23.01	3.25	4.39	26.59	23.01
17	E	20.80	10.90	2.50	M25 × 1-6g	33.30	E	26.97	24.61	3.25	4.93	30.96	25.81
19	F	20.80	10.90	2.50	M28 × 1-6g	36.50	F	29.36	26.97	3.25	4.93	32.94	28.98
21	G	20.10	11.60	3.20	M31 × 1-6g	39.70	G	31.75	29.36	3.25	4.93	36.12	32.16
23	H	20.10	11.60	3.20	M34 × 1-6g	42.90	H	34.93	31.75	3.91	6.15	39.29	34.93
25	J	20.10	11.60	3.20	M37 × 1-6g	46.00	J	38.10	34.93	3.91	6.15	42.47	37.69

J599/24 jam nut mount receptacle

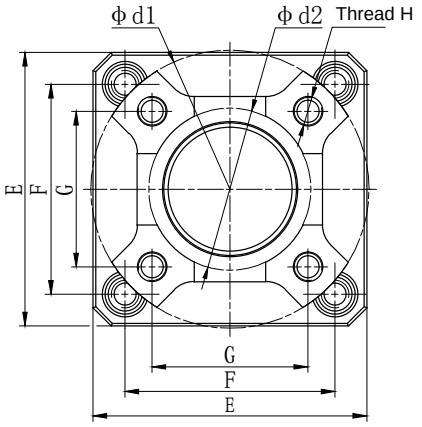


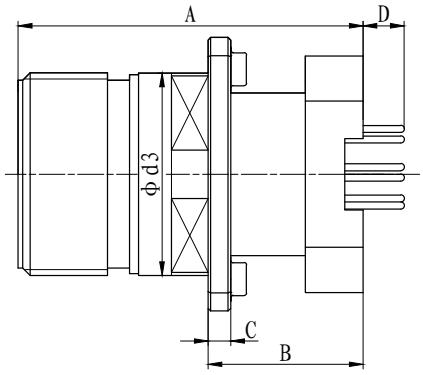
J	5	9	9	/	2	4	W						

Shell size	Shell size code	A	B max	C max	D max		E max	F	Thread G	d	p
09	A	16.53	10.1	3.20	30.50	A	24.00	27.00	M12×1-6g	17.78	17.02
11	B	19.07	10.1	3.20	35.20	B	27.00	31.80	M15×1-6g	20.96	19.59
13	C	23.82	10.1	3.20	38.40	C	32.00	34.90	M18×1-6g	25.65	24.26
15	D	26.97	10.1	3.20	41.60	D	36.00	38.10	M22×1-6g	28.83	27.56
17	E	30.15	10.1	3.20	44.80	E	37.00	41.30	M25×1-6g	32.01	30.73
19	F	33.32	10.6	3.20	49.50	F	41.00	46.00	M28×1-6g	35.18	33.91
21	G	36.50	10.6	3.20	52.70	G	46.00	49.20	M31×1-6g	38.35	37.08
23	H	39.67	10.6	3.20	55.90	H	50.00	52.40	M34×1-6g	41.53	40.26
25	J	42.85	10.6	3.20	59.00	J	51.23	55.60	M37×1-6g	44.70	43.43

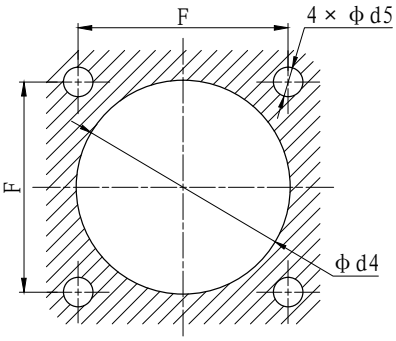
J599/20xx-A17 square double-flange receptacle

Outline & mounting dimensions





Mounting panel cutout dimensions

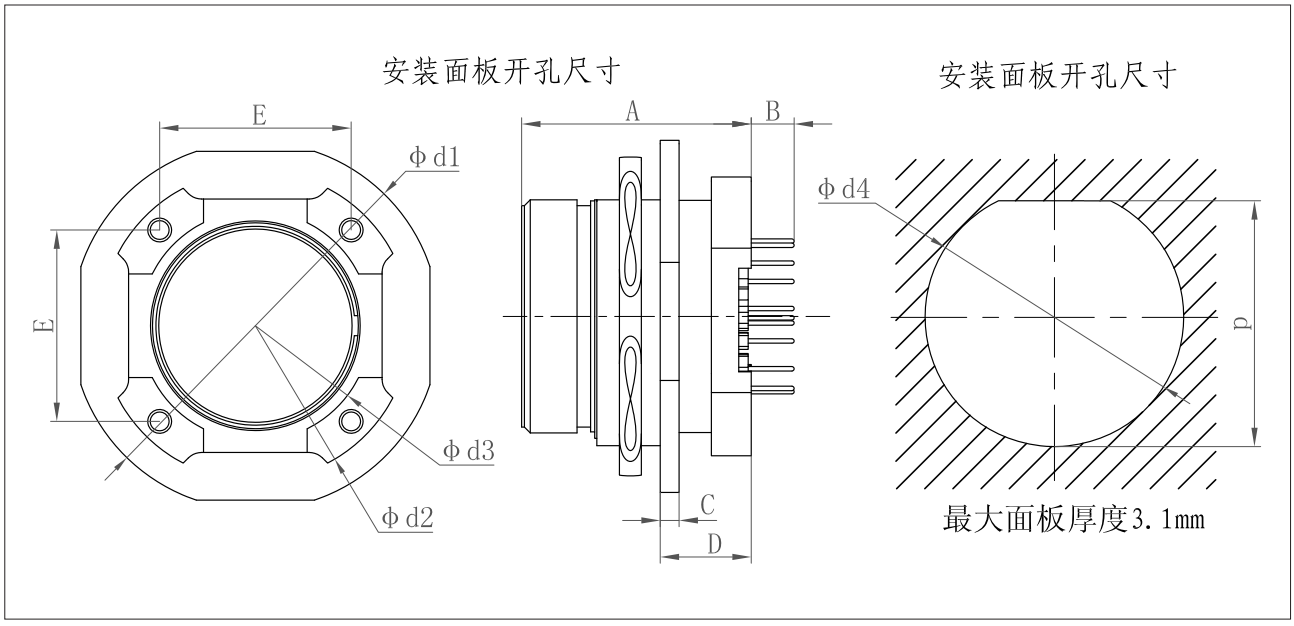


Max. panel thickness 2.5 mm

J	5	9	9	/	2	0	M	W						

Shell size	Shell code	A max	B max	Cmax	Dmax	E	F	G		Thread H	d1	d2	d3 max	d4 min	d5
13	C	37.80	17.00	2.50	4.50	30.00	23.01	17.07	C	M3×1-6g	30.48	17.78	22.20	23.42	3.25
15	D	37.80	17.00	2.50	4.50	31.00	24.61	19.89	D	M3×1-6g	34.48	21.74	25.40	26.59	3.25
17	E	37.80	17.00	2.50	4.50	33.30	26.97	22.05	E	M3×1-6g	37.60	24.84	30.10	30.96	3.25
19	F	37.80	17.00	2.50	4.50	36.50	29.36	24.13	F	M3×1-6g	40.48	27.78	31.70	32.94	3.25
21	G	37.80	17.00	2.50	4.50	39.70	31.75	26.26	G	M3×1-6g	43.48	30.78	34.90	36.12	3.25
23	H	37.80	17.00	2.50	4.50	42.90	34.93	28.37	H	M3×1-6g	46.48	33.78	38.10	39.29	3.25
25	J	37.80	17.00	2.50	4.50	46.00	38.10	30.51	J	M3×1-6g	49.48	36.78	41.20	42.47	3.25

J599/24xx-A17 double-flange jam nut mount receptacle



J	5	9	9	/	2	4	M	W						

Shell size	Shell code	A max	B max	C max	D max	E		p	d1 max	d2	d3	d4 min
13	C	37.80	4.50	2.3	15.70	17.07	C	24.26	38.10	30.48	17.78	25.65
15	D	37.80	4.50	2.3	15.70	19.89	D	27.56	41.30	34.48	21.74	28.83
17	E	37.80	4.50	2.3	15.70	22.05	E	30.73	44.50	37.59	24.84	32.01
19	F	37.80	4.50	3.1	15.70	24.13	F	33.91	49.20	40.48	27.78	35.18
21	G	37.80	4.50	3.1	15.70	26.26	G	37.08	52.40	43.48	30.78	38.35
23	H	37.80	4.50	3.1	15.70	28.37	H	40.26	55.60	46.48	33.78	41.53
25	J	37.80	4.50	3.1	15.70	30.51	J	43.43	58.70	49.48	36.78	44.70

GJB599 Series III Electrical Connectors

GJB599 Series III Environment-Resistant High-Density Miniature Circular Hermetic Electrical Connectors

MATERIALS

■ Shell: stainless steel

Finish: stainless steel passivated (Y)
stainless steel nickel-plated (N)

■ Hermetic seal insulant: glass

ENVIRONMENTAL CHARACTERISTICS

■ Temperature range: stainless steel passivated (Y): -65°C~+200°C

stainless steel nickel-plated (N): -65°C~+200°C

■ Salt spray: 500 h (Y) 48 h (N)

■ Hermeticity: $1\times10^{-3}Pa\cdot cm^3/s$

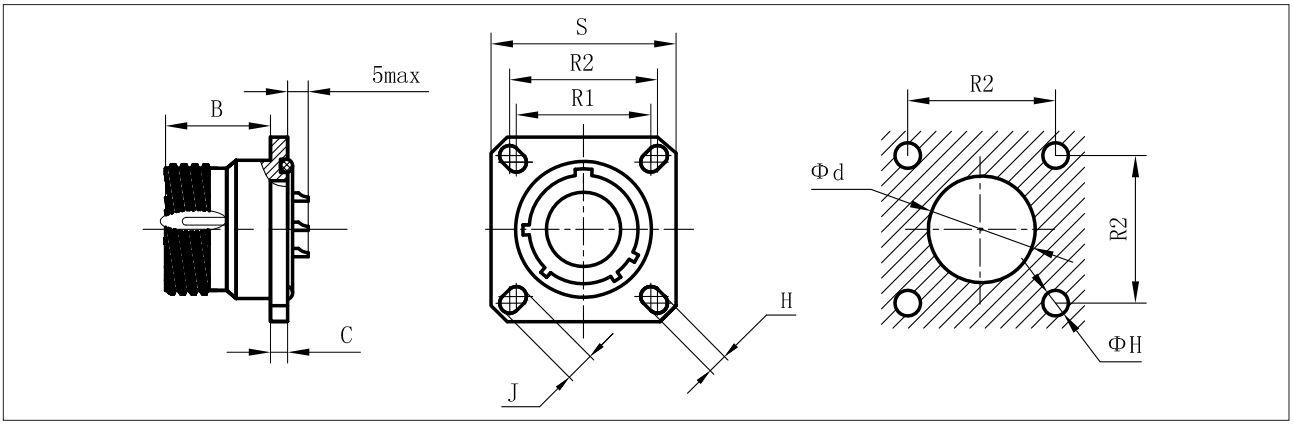
■ Other characteristics same as GJB599 Series III environment-resistant high-density miniature circular connectors

PART NUMBERING

MIL basic series code:	D38999/	21	Y	B	35	P	N
Our basic series code:	J599/	21	Y	B	35	P	N
	①	②	③	④	⑤	⑥	⑦

1) Basic series code: D38999 = MIL basic code; J599 = our basic code.
2) Shell style: 21 - square flange mount hermetic receptacle
23 - jam nut mount hermetic receptacle
25 - weld mount hermetic receptacle
27 - solder mount hermetic receptacle
3) Finish: Y - stainless steel passivated
N - stainless steel nickel-plated
4) Shell size: 09 11 13 15 17 19 21 23 25
Shell size code: A B C D E F G H J
5) Insert arrangement: see page 87;
6) Contact type: P - solder pin
X - pin contact with solder eye (hermetic type)
7) Key/keyway position: N - standard A, B, C, D, E
Note: In the part numbering of GJB599A and MIL-DTL-38999, except for the basic series code, everything else is identical.

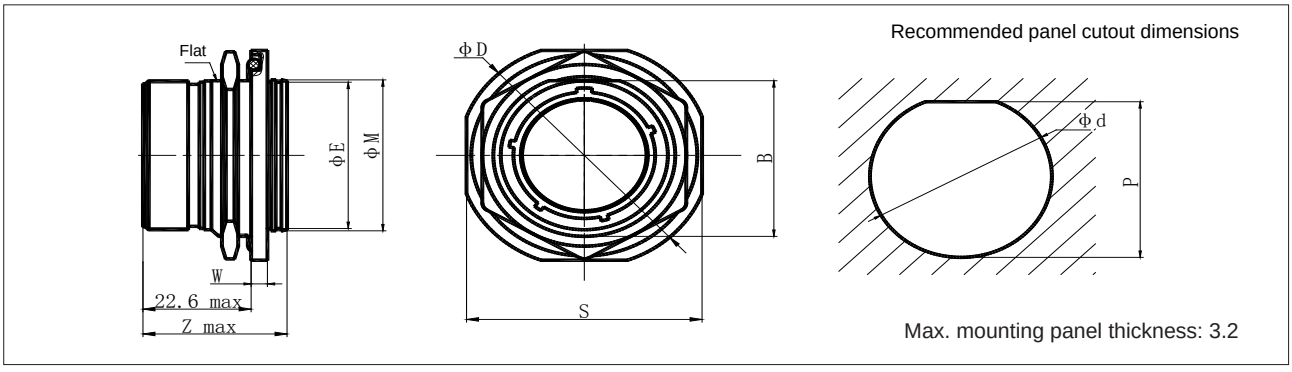
J599/21 square flange hermetic receptacle



J	5	9	9	/	2	1	Y						

Shell size	B max	C	J	H		R1	R2	S	d $^{+0.2}_{0}$
09	21.4	2.50	5.49	3.25	A	15.09	18.26	23.8	8.0
11	21.4	2.50	4.93	3.25	B	18.26	20.62	26.2	11.3
13	21.4	2.50	4.93	3.25	C	20.62	23.01	28.6	14.2
15	21.4	2.50	4.39	3.25	D	23.01	24.61	31.0	17.3
17	21.4	2.50	4.93	3.25	E	24.61	26.97	33.3	20.5
19	21.4	2.50	4.93	3.25	F	26.97	29.36	36.5	22.8
21	21.4	2.50	4.93	3.25	G	29.36	31.75	39.7	25.9
23	21.4	2.50	6.15	3.91	H	31.75	34.93	42.9	29.1
25	21.4	2.50	6.15	3.91	J	34.93	38.10	46.0	32.3

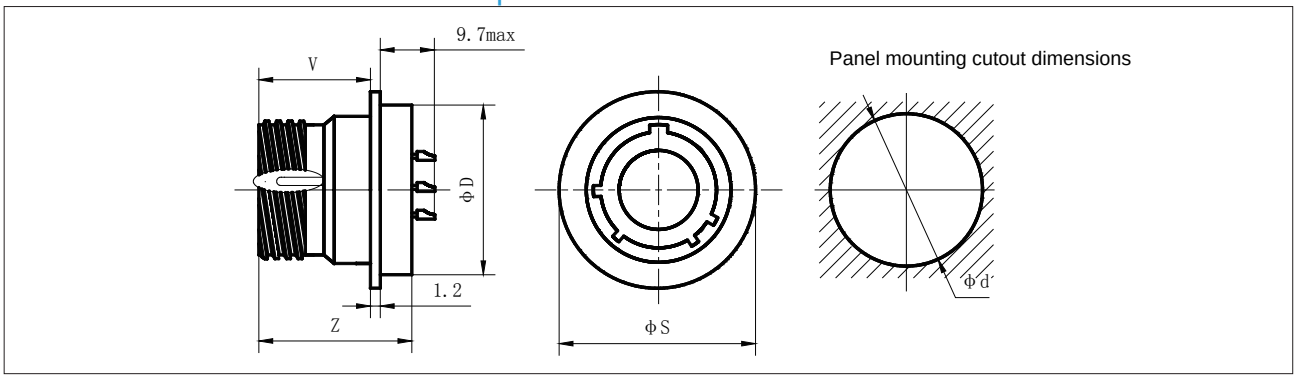
J599/23 jam nut mount hermetic receptacle



J	5	9	9	/	2	3	Y						

Shell size	Z max	D	S	W	B		E	M	P	d
09	29.2	30.2	27.0	2.6	16.6	A	15.3	16.4	17.02	17.78
11	29.2	34.9	31.8	2.6	19.1	B	18.4	19.5	19.59	20.96
13	29.2	38.1	34.9	2.6	23.9	C	21.6	22.8	24.26	25.65
15	29.2	41.3	38.1	2.6	27.0	D	24.8	26.0	27.56	28.83
17	29.2	44.5	41.3	2.6	30.2	E	28.0	29.1	30.73	32.01
19	30.1	49.2	46.0	3.4	33.3	F	31.2	32.3	33.91	35.18
21	30.1	52.4	49.2	3.4	36.55	G	34.3	35.5	37.08	38.35
23	30.1	55.6	52.4	3.4	39.7	H	37.5	38.7	40.26	41.53
25	30.1	58.7	55.6	3.4	42.9	J	40.7	41.8	43.43	44.70

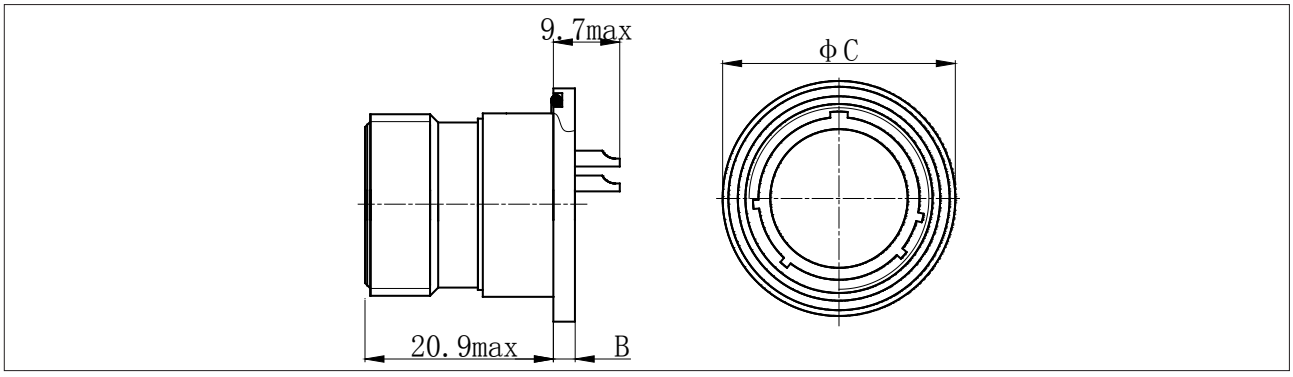
J599/25 weld mount hermetic receptacle



J	5	9	9	/	2	5	Y						

Shell size	Zmax	Vmax		S	D	Φd
09	23.8	17.2	A	19.4	17.1	17.6
11	23.8	17.2	B	21.8	19.9	20.4
13	23.8	17.2	C	24.9	23.1	23.6
15	23.8	17.2	D	28.1	26.2	26.7
17	23.8	17.2	E	31.3	29.4	29.9
19	23.8	17.2	F	33.6	31.8	32.3
21	23.8	17.2	G	36.8	35.0	35.5
23	24.6	17.2	H	40.0	38.2	38.7
25	24.6	17.2	J	43.2	41.3	41.8

J599/27 fusion-weld mount hermetic receptacle



J	5	9	9	/	2	7	Y						

Shell size	Shell code		Φ Cmax	B ± 0.2
09	A	A	25.0	3.2
11	B	B	28.1	3.2
13	C	C	31.3	3.2
15	D	D	34.5	3.2
17	E	E	36.7	3.2
19	F	F	40.4	3.2
21	G	G	44.0	3.2
23	H	H	48.2	4.0
25	J	J	50.4	4.0

MATERIALS

■ Shell: stainless steel

Finish: stainless steel passivated (Y)

stainless steel nickel-plated (N)

■ Hermetic seal insulant: glass

ENVIRONMENTAL CHARACTERISTICS

■ Temperature range: stainless steel passivated (Y): -65°C~+200°C

stainless steel nickel-plated (N): -65°C~+200°C

■ Salt spray: 500 h (Y) 48 h (N)

■ Hermeticity: $1\times10^{-3}Pa\cdot cm^3/s$

PART NUMBERING

MIL basic series code:	D38999/	20	Y	B	35	C	N
Our basic series code:	J599/	20	Y	B	35	C	N
	①	②	③	④	⑤	⑥	⑦

1) Basic series code: D38999 = MIL basic code; J599 = our basic code.

2) Shell style: 20 - wall-mount square flange feed-through receptacle

24 - jam nut mount feed-through receptacle

3) Finish: Y - hermetic, passivated stainless steel shell, -65°C~+200°C

N - hermetic, nickel-plated stainless steel shell, -65°C~+200°C

4) Shell size: 09 11 13 15 17 19 21 23 25

Shell size code: A B C D E F G H J

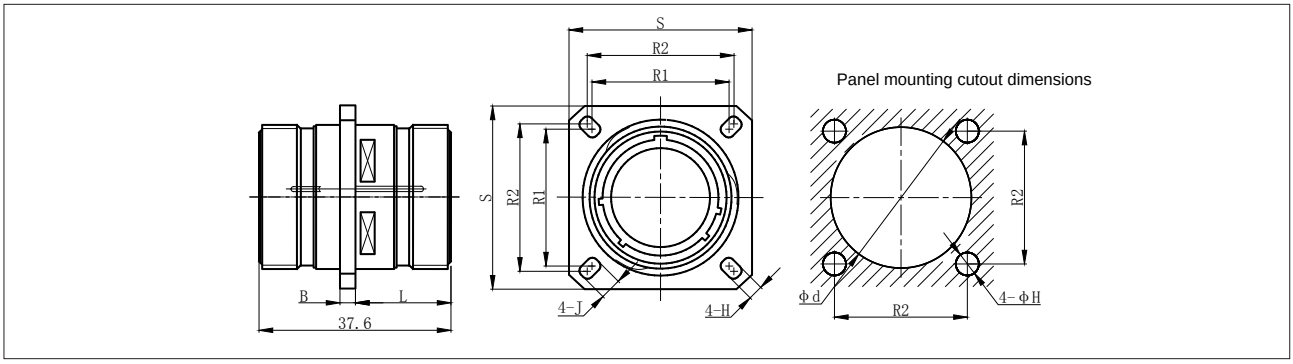
5) Insert arrangement: see page 87

6) Contact type: C - feed-through pin

7) Key/keyway position: N - standard A, B, C, D, E

OUTLINE DIMENSIONS

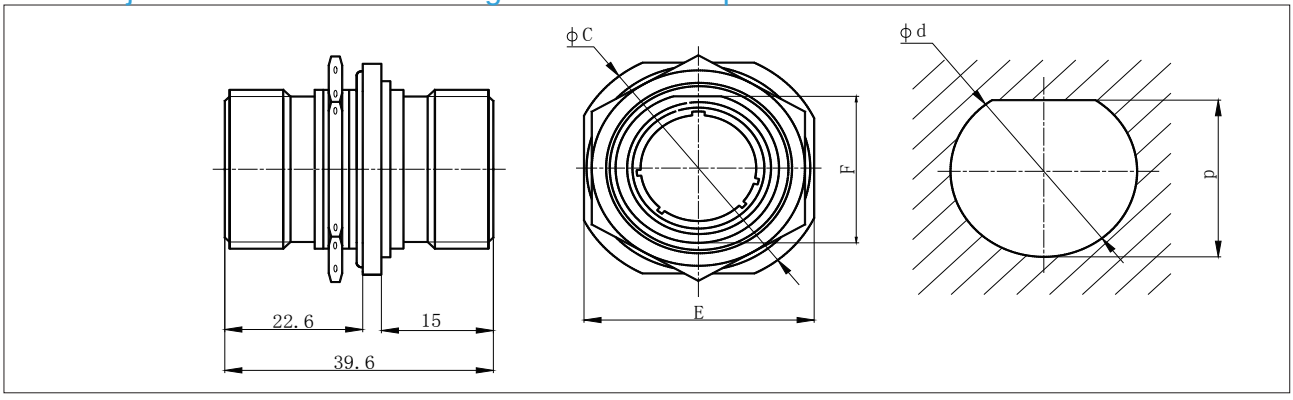
J599/20 wall-mount square flange feed-through hermetic receptacle



J	5	9	9	/	2	0	Y						

Shell size	Shell size code	L	B	S		R1	R2	H	J	Φd
09	A	20.1	3.2	23.8	A	15.09	18.26	3.25	5.49	16.66
11	B	20.1	3.2	26.2	B	18.26	20.62	3.25	4.93	20.22
13	C	20.1	3.2	28.6	C	20.62	23.01	3.25	4.93	23.42
15	D	20.1	3.2	31.0	D	23.01	24.61	3.25	4.39	26.59
17	E	20.1	3.2	33.3	E	24.61	26.97	3.25	4.93	30.96
19	F	20.1	3.2	36.5	F	26.97	29.36	3.25	4.93	32.94
21	G	20.1	3.2	39.7	G	29.36	31.75	3.25	4.93	36.12
23	H	20.1	3.2	42.9	H	31.75	34.93	3.91	6.15	39.29
25	J	20.1	3.2	46.0	J	34.93	38.10	3.91	6.15	42.47

J599/24 jam nut mount feed-through hermetic receptacle



J	5	9	9	/	2	4	Y						

Shell size	Shell code	ΦC	E		F	$\Phi d\ ^{+0.2}_{0}$	p
09	A	30.5	27.0	A	16.53	17.78	17.02
11	B	35.2	31.8	B	19.07	20.96	19.59
13	C	38.4	34.9	C	23.82	25.65	24.26
15	D	41.6	38.1	D	26.97	28.83	27.56
17	E	44.8	41.3	E	30.15	32.01	30.73
19	F	49.5	46.0	F	33.32	35.18	33.91
21	G	52.7	49.2	G	36.50	38.35	37.08
23	H	55.9	52.4	H	39.67	41.53	40.26
25	J	59.0	55.6	J	42.85	44.70	43.43

MATERIALS

- Shell: aluminum alloy

Finish: olive drab cadmium (W)

- Lanyard: stranded stainless steel wire rope

MECHANICAL CHARACTERISTICS

- Mechanical durability: 500 cycles
- Vibration: 10 Hz~2000 Hz, 1.0 g^2m/Hz
- External bending moment: 28.3 N·m
- Shock: 300 g
- Lanyard load capacity: 900 N
- Breakaway force: 160~400 N along the normal axis
- 160~445 N at 15° off the normal axis

ELECTRICAL CHARACTERISTICS

- Operating voltage: 250 V
- Dielectric withstanding voltage: 1000 V

ENVIRONMENTAL CHARACTERISTICS

- Operating temperature: -65°C~+175°C
- Salt spray: 500 h
- Sealing: waterproof and rainproof when mated
- Rain: rainfall rate $2^{+0.3}_{-0.2}$ mm/min

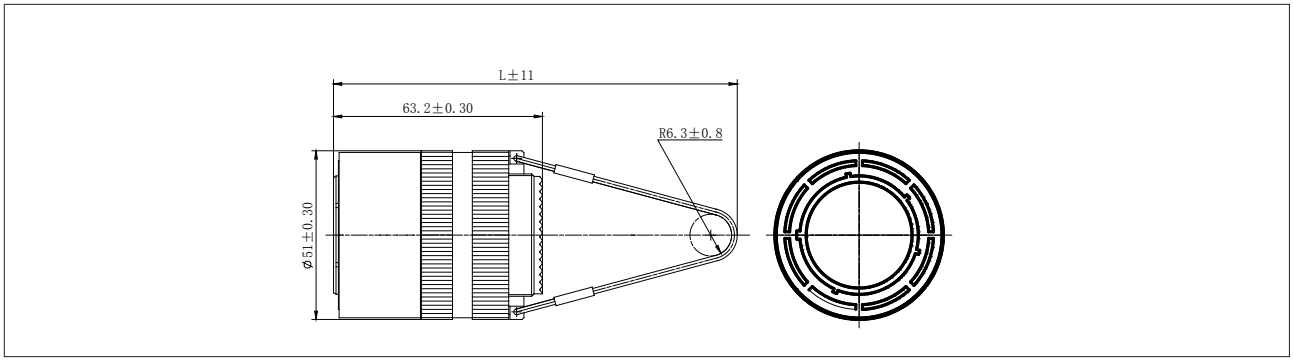
raindrop dia. 0.5~4.5 mm
exposure time 40 min

PART NUMBERING

MIL basic series code:	D38999/	31	W	E	20	P	N	1
Our basic series code:	J599/	31	W	E	20	P	N	1
	①	②	③	④	⑤	⑥	⑦	⑧

1) Basic series code: D38999 = MIL basic code; J599 = our basic code.
2) Shell style: 31 - size 25 shell breakaway plug
3) Class: W - olive drab cadmium, -65°C~+175°C
4) Lanyard length code: E F G H I J K L
Lanyard length: 153 166 178 191 203 216 229 242
5) Insert arrangement: see page 87
6) Contact type: P - standard crimp pin
A - no pin or as specified by user
7) Key/keyway position: N - standard A, B, C, D, E
8) Type code: 1 - Type 1, 2 - Type 2, 3 - Type 3, 4 - Type 4, 5 - Type 5, 6 - Type 6

J599/31 size 25 shell breakaway plug



Note: lanyard lengths vs. length codes see the part numbering table.

GJB599 Series III Environment-Resistant High-Density Miniature Circular Composite Electrical Connectors

FEATURES

- Quick thread locking with anti-loosening mechanism
- 100% skew-proof; contacts protected during blind mating
- Ground fingers for enhanced EMI/RFI shielding
- 25% lighter than standard aluminum-shell versions
- Compliant with GJB599A (MIL-DTL-38999L) Series III
- Corporate standard: Q/Lk30006-2007
- Detail specification: GJB599A Series III environment-resistant quick-disconnect high-density miniature composite (Class J, M) connectors

MATERIALS

- Shell: carbon fiber reinforced thermoplastic
Finish: olive drab cadmium (J) nickel-plated (M)
- Insulating mounting plate: thermoplastic
- Sealing gaskets: silicone rubber elastomer
- Contacts: copper alloy
Finish: gold over nickel

MECHANICAL CHARACTERISTICS

- Durability: 1500 mating cycles

ELECTRICAL CHARACTERISTICS

- Shell-to-shell conductivity: 3 mV
- Shielding: 100 MHz: 90 dB 1 GHz: 85 dB
10GHz(M): 65dB 10GHz(J): 50dB

ENVIRONMENTAL CHARACTERISTICS

- Temperature range: olive drab cadmium (J): -65°C~+175°C
nickel-plated (M): -65°C~+200°C
- Salt spray: 2000 h

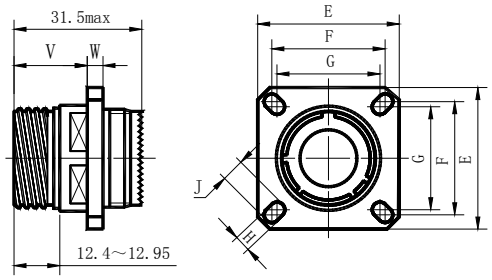
PART NUMBERING

MIL basic series code:	D38999/	20	J	B	35	P	N
Our basic series code:	J599/	20	J	B	35	P	N
	①	②	③	④	⑤	⑥	⑦

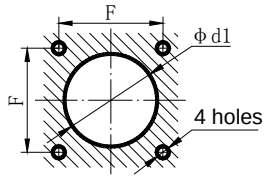
1) Basic series code: D38999 = MIL basic code; J599 = our basic code
2) Shell style: 20 - wall-mount square flange feed-through receptacle
26 - straight shielded plug
3) Finish: J - composite, olive drab cadmium (conductive)
M - composite, electroless nickel (conductive)
4) Shell size: 09 11 13 15 17 19 21 23 25
Shell size code: A B C D E F G H J
5) Insert arrangement: see page 87;
6) Contact type:
P - crimp pin, 500 mating cycles
S - crimp socket, 500 mating cycles
H - crimp pin, 1500 mating cycles
J - crimp socket, 1500 mating cycles
A - no pin or as specified by user
B - no socket or as specified by user
7) Key/keyway position: N - standard A, B, C, D, E

Note 1: In the part numbering of GJB599A and MIL-DTL-38999L, except for the basic series code, everything else is identical.
Note 2: If a backshell is ordered with the connector, write ·connector P/N + backshell P/N·; backshells may also be ordered separately.

J599/20 square flange receptacle

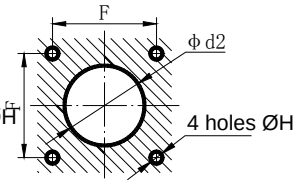


Rear-mount panel cutout dimensions



Max. panel thickness 2.5 mm

Front-mount panel cutout dimensions

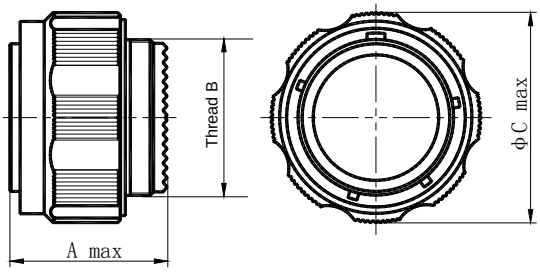


Max. panel thickness 3.2 mm

J	5	9	9	/	2	0	J						

Shell size	Shell size code	E ± 0.3	F	G	H ± 0.2		J ± 0.2	V+1.4	W	d1 min	d2 min
09	A	23.80	18.26	15.09	3.25	A	5.49	19.5	3.65 ~ 2.1	16.66	13.11
11	B	26.20	20.62	18.26	3.25	B	4.93	19.5	3.65 ~ 2.1	20.22	15.88
13	C	28.60	23.01	20.62	3.25	C	4.93	19.5	3.65 ~ 2.1	23.42	19.05
15	D	31.00	24.61	23.01	3.25	D	4.39	19.5	3.65 ~ 2.1	26.59	23.01
17	E	33.30	26.97	24.61	3.25	E	4.93	19.5	3.65 ~ 2.1	30.96	25.81
19	F	36.50	29.36	26.97	3.25	F	4.93	19.5	3.65 ~ 2.1	32.94	28.98
21	G	39.70	31.75	29.39	3.25	G	4.93	18.7	4.35 ~ 2.1	36.12	32.16
23	H	42.90	34.93	31.75	3.91	H	6.15	18.7	4.35 ~ 2.1	39.29	34.93
25	J	46.00	38.10	34.93	3.91	J	6.15	18.7	4.35 ~ 2.1	42.47	37.69

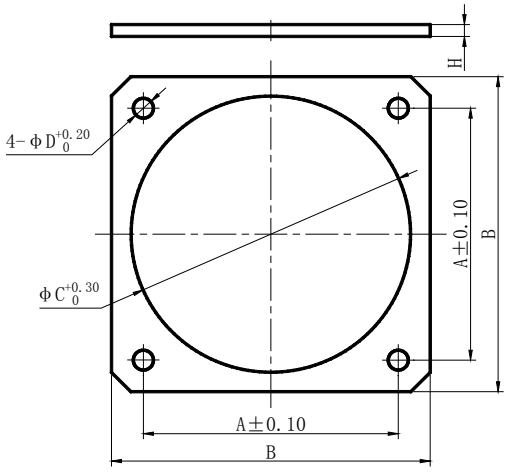
J599/26 plug



J	5	9	9	/	2	6	J						

Shell size	Shell size code	A		Thread B	C
09	A	31.00	A	M12×1 – 6g	21.80
11	B	31.00	B	M15×1 – 6g	25.00
13	C	31.00	C	M18×1 – 6g	29.40
15	D	31.00	D	M22×1 – 6g	32.50
17	E	31.00	E	M25×1 – 6g	35.70
19	F	31.00	F	M28×1 – 6g	38.50
21	G	31.00	G	M31×1 – 6g	41.70
23	H	31.00	H	M34×1 – 6g	44.90
25	J	31.00	J	M37×1 – 6g	48.00

J599 Series III Gasket Outline Dimensions



Matching shell size	Front-mount std. gasket code	Front-mount conductive gasket code	A	B	C	D		H
						Standard gasket	Conductive gasket	
09	Lk7.854.1297	Lk7.757.165	18.26	23.80	12.0	2.5	3.2	1.5
11	Lk7.854.1298	Lk7.757.166	20.62	26.20	15.0	2.5	3.2	1.5
13	Lk7.854.1299	Lk7.757.167	23.01	28.60	18.0	2.5	3.2	1.5
15	Lk7.854.1300	Lk7.757.168	24.61	31.00	22.0	2.5	3.2	1.5
17	Lk7.854.1301	Lk7.757.169	26.97	33.30	25.0	2.5	3.2	1.5
19	Lk7.854.1302	Lk7.757.170	29.36	36.50	28.0	2.5	3.2	1.5
21	Lk7.854.1303	Lk7.757.171	31.75	39.70	31.0	2.5	3.2	1.5
23	Lk7.854.1304	Lk7.757.172	34.93	42.90	34.0	3.0	3.9	1.5
25	Lk7.854.1305	Lk7.757.173	38.10	46.00	37.0	3.0	3.9	1.5

Matching shell size	Rear-mount std. gasket code	Rear-mount conductive gasket code	A	B	C	D		H
						Standard gasket	Conductive gasket	
09	Lk7.854.1306	Lk7.757.174	18.26	23.80	15.9	2.5	3.2	1.5
11	Lk7.854.1307	Lk7.757.175	20.62	26.20	19.0	2.5	3.2	1.5
13	Lk7.854.1308	Lk7.757.176	23.01	28.60	22.2	2.5	3.2	1.5
15	Lk7.854.1309	Lk7.757.177	24.61	31.00	25.4	2.5	3.2	1.5
17	Lk7.854.1310	Lk7.757.178	26.97	33.30	30.1	2.5	3.2	1.5
19	Lk7.854.1311	Lk7.757.179	29.36	36.50	31.7	2.5	3.2	1.5
21	Lk7.854.1312	Lk7.757.180	31.75	39.70	34.8	2.5	3.2	1.5
23	Lk7.854.1313	Lk7.757.181	34.93	42.90	38.0	3.0	3.9	1.5
25	Lk7.854.1314	Lk7.757.182	38.10	46.00	41.2	3.0	3.9	1.5

STANDARD BACKSHELLS

Complies with GJB1784 ·General Specification for Electrical Connector Accessories·; mates with GJB599A Series III products.
Accessories are ordered separately. Only common types are listed here; other backshells available on request.
Note: In the part numbering of GJB1784 and MIL-C-85049, except for the basic series number, everything else is identical: GJB1784 basic series number is ·J1784·, MIL-C-85049 is ·M85049·; the two are interchangeable.
When in use, backshells shall be secured against loosening, e.g.:
1. lock with Ø0.5 mm safety wire through the wire hole;
2. apply thread-locker to the coupling thread between backshell nut and connector rear;
3. secure with heat-shrink tubing over the whole backshell;
4. for backshells with set screws, apply thread-locker to the set screws.

J1784/	14	–	11	N
①	②	③	④	⑤

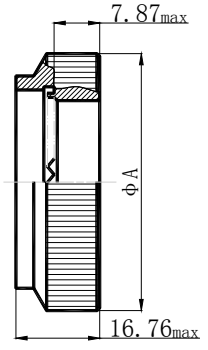
1) Basic series code: J1784/
2) Backshell style: 14 - straight crimp boot (for crimp low-frequency connectors)
3) - : non-self-locking
S : self-locking
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: N - nickel-plated (for Air Force airborne equipment only)
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
A - black anodized

Pictorial view



J	1	7	8	4	/	1	4	–					

Outline drawing



Shell size	ϕA max
09	21.8
11	25.0
13	29.29
15	32.49
17	35.71
19	38.50
21	41.71
23	44.91
25	47.98

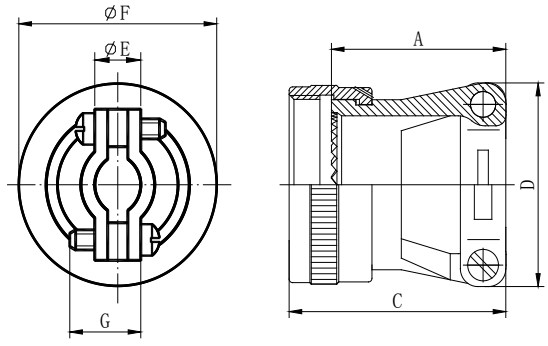
J1784/	38	–	11	N
①	②	③	④	⑤

1) Basic series code: J1784/
2) Backshell style: 38 - straight cable clamp (for crimp low-frequency connectors)
3) - : non-self-locking
S : self-locking
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: A - black anodized
N - nickel-plated
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
Note: for longer/shorter screw length, specify ·screw thread length L=**· after the P/N.

Pictorial view



OUTLINE DIMENSIONS



J	1	7	8	4	/	3	8	–					

Shell size	A max	Cmax	Dmax		Fmax	Matching cable dia. E		G
						min	max	
09	22.5	29.5	17.00	09	16.5	2.49	5.94	13.50
11	22.5	29.5	20.00	11	20	3.90	5.94	13.50
13	24.0	30.5	23.00	13	23	4.83	8.33	16.30
15	25.5	31.5	26.30	15	27	6.60	11.61	20.00
17	27.5	33.5	29.30	17	30	7.19	15.60	20.00
19	29.3	36.0	32.30	19	33	8.26	16.10	20.00
21	34.3	40.5	37.30	21	36	8.71	17.73	22.50
23	34.3	40.5	40.30	23	39	9.68	20.90	26.50
25	34.3	40.5	43.30	25	42	10.62	21.67	29.50

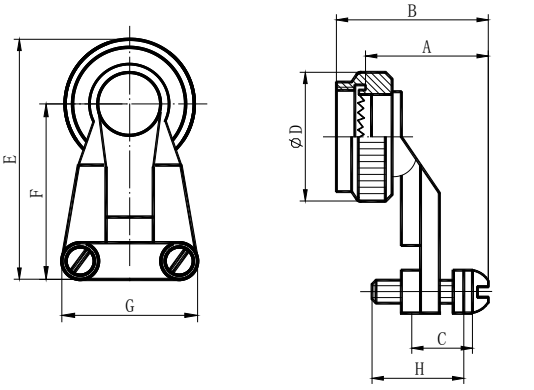
J1784/ 39 – 11 N
① ② ③ ④ ⑤

1) Basic series code: J1784/
2) Backshell style: 39 - 90° cable clamp (for crimp low-frequency connectors)
3) - : non-self-locking
S : self-locking
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: A - black anodized
N - nickel-plated
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
Note: for longer/shorter screw length, specify ·screw thread length L=**· after the P/N.

Pictorial view



Outline drawing



J	1	7	8	4	/	3	9	–					

Shell size	A max	B max	Matching cable dia. C			D max	E max	F max	G max	H
			min	max						
09	26.0	33.5	2.49	5.94	09	16.5	26.00	19.00	16.50	13.50
11	26.0	33.5	3.90	5.94	11	20.0	29.00	20.00	19.50	13.50
13	30.0	33.5	4.83	8.33	13	23.0	34.00	24.00	22.50	16.30
15	31.0	34.5	6.60	11.61	15	27.0	38.00	26.00	26.00	20.00
17	31.5	35.0	7.19	15.60	17	30.0	41.00	27.00	29.00	20.00
19	32.0	35.5	8.26	16.10	19	33.0	46.00	31.00	32.00	20.00
21	33.0	36.5	8.71	17.74	21	36.0	49.00	32.00	37.00	22.50
23	35.0	38.5	9.68	20.90	23	39.0	54.00	36.00	40.00	26.50
25	35.0	38.5	10.62	21.67	25	42.0	59.00	39.00	43.00	29.50

J1784/	69	-11	N	D
①	②	③	④	⑤

1) Basic series code: J1784/

2) Backshell style: 69 - shrink boot adapter

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: A - black anodized

N - nickel-plated

W - olive drab cadmium

S - stainless steel passivated

TT - titanium alloy unplated

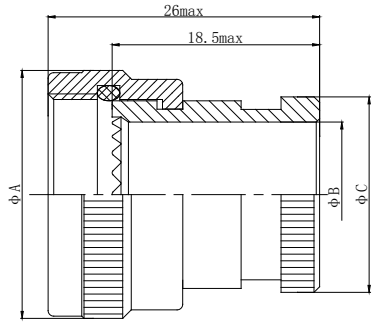
5) Vent option: unmarked - no vent hole

D - with vent hole

Pictorial view



Outline drawing



J	1	7	8	4	/	6	9	–					

Shell size	ΦA max		ΦB max	ΦC max
09	16.50	09	7.50	12.00
11	19.50	11	10.50	15.00
13	22.50	13	13.50	18.00
15	26.50	15	16.50	21.00
17	29.50	17	19.50	24.50
19	32.50	19	22.50	27.00
21	35.50	21	25.50	31.50
23	38.50	23	28.50	35.00
25	41.50	25	31.50	37.00

J1784/ 20 -11 W

① ② ③ ④

1) Basic series code: J1784/

2) Backshell style: 20: straight backshell assembly

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: A - black anodized

N - nickel-plated

W - olive drab cadmium

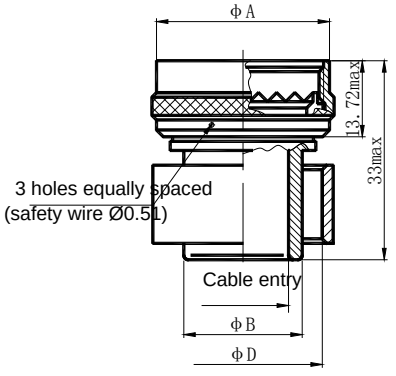
S - stainless steel passivated

TT - titanium alloy unplated

Pictorial view



Outline drawing



J	1	7	8	4	/	2	0	–					

Shell size	Amax	B		C	D
9	15.0	8.81	09	6.73	10.3
11	18.5	11.56	11	8.71	13.0
13	21.6	12.95	13	11.10	15.0
15	25.6	16.00	15	14.27	18.0
17	29.0	19.30	17	17.45	21.3
19	32.0	22.61	19	20.62	25.6
21	35.0	25.65	21	23.80	28.6
23	38.0	28.70	23	26.57	31.7
25	41.0	30.53	25	28.58	33.4

J1784/ 21 -09 N 02 A

① ② ③ ④ ⑤ ⑥

1) Basic series code: J1784/

2) Backshell style: 21 - straight cable clamp

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: A - black anodized

N - nickel-plated

W - olive drab cadmium

S - stainless steel passivated

TT - titanium alloy unplated

5) Cable clamp No.: 01, 02, 03, 05, 07, 08, 09, 10

6) Length code: standard (unmarked), A, B, C

Pictorial view



Outline drawing

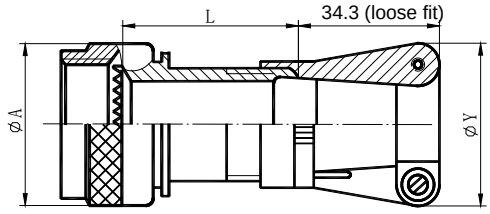


Table 1

Shell size	Cable clamp No.		A
	min	max	max
09	01	02	19.1
11	01	03	21.6
13	02	04	25.4
15	02	05	27.9
17	02	06	31.8
19	03	07	35.6
21	03	08	38.1
23	03	09	41.9
25	04	10	44.5

Table 2

Cable clamp No.	Matching cable dia.		Y
	min	max	max
01	1.57	3.18	20.3
02	3.18	6.35	25.4
03	6.35	9.53	27.9
04	7.93	12.70	30.5
05	11.10	15.88	31.8
06	14.27	19.05	35.6
07	17.45	22.23	38.1
08	20.62	25.40	41.9
09	23.80	28.58	44.5
10	26.97	31.75	48.3

Table 3

Shell size	Length code	L
9 ~ 25	Standard (unmarked)	38.1
9 ~ 25	A	63.5
15 ~ 25	B	88.9
21 ~ 25	C	114.3

J1784/ 18 -11 W 02 A

① ② ③ ④ ⑤ ⑥

1) Basic series code: J1784/

2) Backshell style: 18 - shield-terminating cable sealing clamp

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: N - nickel-plated

W - olive drab cadmium

S - stainless steel passivated

TT - titanium alloy unplated

5) Cable clamp No.: 01, 02, 03, 05, 07, 08, 09

6) Length code: standard (unmarked), A, B, C

Pictorial view



Outline drawing

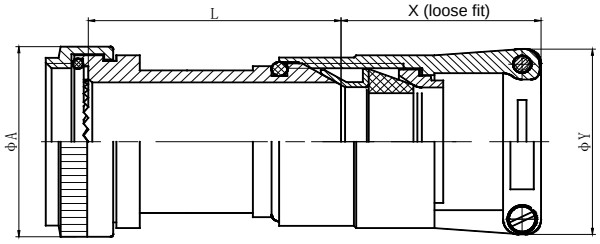


Table 1

Shell size	Cable clamp No.		A
	Min	max	max
09	01	03	19.1
11	01	05	21.6
13	02	05	25.4
15	02	05	29.2
17	02	05	31.8
19	03	09	35.6
21	03	09	39.4
23	03	09	41.9
25	04	10	47.0

Table 2

Cable clamp No.	Matching cable dia.		Y	X
	Min	max	max	max
01	1.57	3.18	20.3	31.75
02	3.18	6.35	25.4	31.75
03	6.35	9.35	27.9	31.75
04	9.35	12.70	30.5	31.75
05	12.70	15.88	31.8	34.29
06	15.88	19.05	35.6	34.93
07	19.05	22.23	38.1	38.10
08	22.23	25.40	41.9	41.28
09	25.40	28.58	44.5	41.28
10	28.58	31.75	48.3	41.28

Table 3

Shell size	Length code	L
9 ~ 25	Standard (unmarked)	38.1
9 ~ 25	A	63.5
15 ~ 25	B	88.9
15 ~ 25	C	114.3

SPECIAL BACKSHELLS

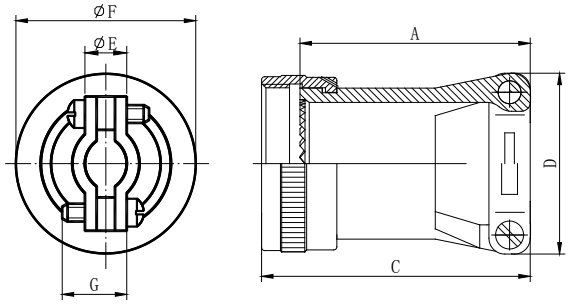
J1784/	38H00	-	11	W
①	②	③	④	⑤

1) Basic series code: J1784/
2) Backshell style: 38H00 - Class 38 extended straight cable clamp (for soldered products)
3) Backshell nut style: - : non-self-locking; S : self-locking
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: N - nickel-plated
A - black anodized
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
Note: for longer/shorter screw length, specify ·screw thread length L=**· after the P/N.

Pictorial view



Outline drawing



J	1	7	8	4	/	3	8	H	0	0			

Shell size	A max	Cmax	Dmax	Fmax		Matching cable dia. E		G
						min	max	
09	31.00	37.50	17.00	16.5	09	2.49	5.94	13.50
11	32.00	38.50	20.00	20.0	11	3.90	5.94	13.50
13	32.50	39.00	23.00	23.0	13	4.83	8.33	16.30
15	33.50	40.00	26.30	27.0	15	6.60	11.61	20.00
17	36.00	42.50	29.30	30.0	17	7.19	15.60	20.00
19	39.50	46.00	32.30	33.0	19	8.26	16.10	20.00
21	46.00	52.50	37.30	36.0	21	8.71	17.73	23.50
23	46.00	52.50	40.30	39.0	23	9.68	20.90	26.50
25	46.00	52.50	43.30	42.0	25	10.62	21.67	29.50

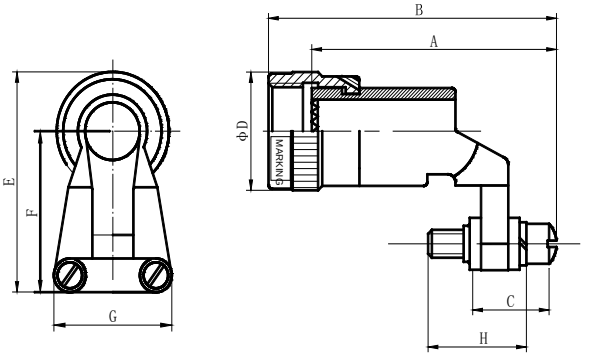
J1784/ 39H00 - 11 N
① ② ③ ④ ⑤

1) Basic series code: J1784/
2) Backshell style: 39H00 - Class 39 extended 90° cable clamp (for soldered products)
3) Backshell nut style: - : non-self-locking; S : self-locking
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: N - nickel-plated
A - black anodized
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
Note: for longer/shorter screw length, specify ·screw thread length L=**· after the P/N.

Pictorial view



Outline drawing



J	1	7	8	4	/	3	9	H	0	0			

Shell size	A max	B max	Matching cable dia. C min	Matching cable dia. C max	D max		E max	F max	G max	H
09	34.70	41.20	2.49	5.94	16.5	09	26.00	19.00	16.30	13.50
11	35.50	42.00	3.90	5.94	20.0	11	29.00	20.00	19.30	13.50
13	36.50	43.00	4.83	8.33	23.0	13	34.00	24.00	22.30	16.30
15	39.40	45.90	6.60	11.61	27.0	15	38.00	26.00	25.60	20.00
17	39.90	46.40	7.19	15.60	30.0	17	41.00	27.00	29.00	20.00
19	40.40	46.90	8.26	16.10	33.0	19	46.00	31.00	32.00	20.00
21	47.90	54.40	8.71	17.74	36.0	21	49.00	32.00	36.80	23.50
23	47.90	54.40	9.68	20.90	39.0	23	54.00	36.00	40.00	26.50
25	47.90	54.40	10.62	21.67	42.0	25	59.00	39.00	43.00	29.50

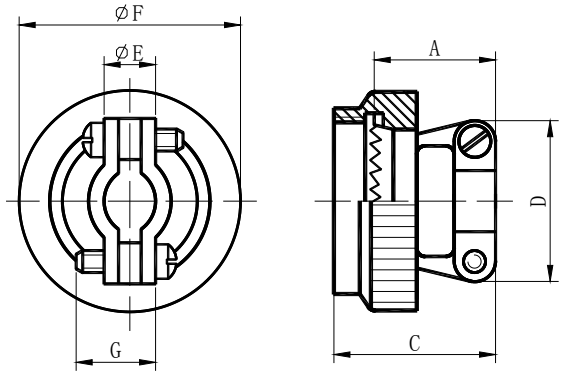
J1784/ 38A −11 W
① ② ③ ④

1) Basic series code: J1784/
2) Backshell style: 38A - Class 38 short straight cable clamp (for crimp low-frequency connectors)
3) Shell size: 09 11 13 15 17 19 21 23 25
4) Finish: N - nickel-plated
A - black anodized
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
Note: for longer/shorter screw length, specify ·screw thread length L=**· after the P/N.

Pictorial view



Outline drawing



J	1	7	8	4	/	3	8	A	−				

Shell size	A max	Cmax	Dmax		Fmax	Matching cable dia. E		G
						min	max	
09	16.70	23.20	17.00	09	16.5	2.49	5.94	13.50
11	16.70	23.20	20.00	11	20.0	3.90	5.94	13.50
13	19.00	25.50	23.00	13	23.0	4.83	8.33	16.30
15	19.00	25.50	26.30	15	27.0	6.60	11.61	20.00
17	19.00	25.50	29.30	17	30.0	7.19	15.60	20.00
19	19.00	25.50	32.30	19	33.0	8.26	16.10	20.00
21	19.00	25.50	37.30	21	36.0	8.71	17.73	23.50
23	19.00	25.50	40.30	23	39.0	9.68	20.90	26.50
25	19.00	25.50	43.30	25	42.0	10.62	21.67	29.50

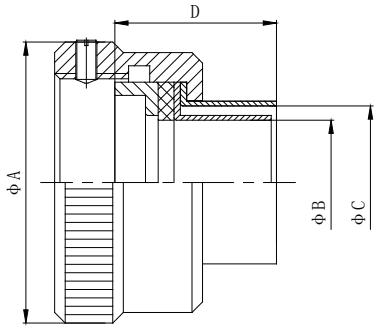
J1784/ C −11 N
① ② ③ ④

1) Basic series code: J1784/
2) Backshell style: C - special shielded accessory (for crimp low-frequency connectors)
3) Shell size: 09 11 13 15 17 19 21 23 25
4) Finish: N - nickel-plated
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated

Pictorial view



Outline drawing



J	1	7	8	4	/	C	−						

Shell size	ϕA max	ϕB max		ϕC max	D
09	18.5	6.5	09	9.0	15.4
11	21.5	6.5	11	9.0	15.4
13	24.5	9.0	13	11.5	15.4
15	28.5	12.3	15	14.8	15.4
17	31.5	16.3	17	18.8	15.4
19	34.5	16.8	19	19.3	15.4
21	37.5	18.4	21	20.9	15.4
23	40.5	21.6	23	24.1	15.4
25	43.5	22.8	25	25.7	15.4

J1784/ C −11 N −A

① ② ③ ④ ⑤

1) Basic series code: J1784/

2) Backshell style: C - special shielded accessory (for crimp low-frequency connectors)

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: N - nickel-plated

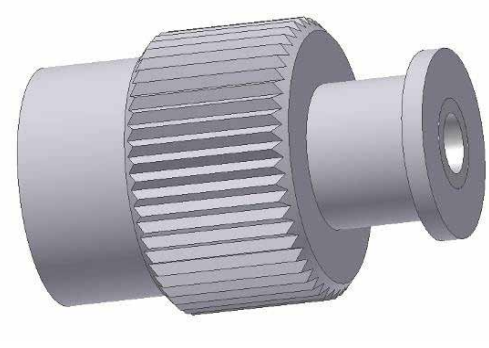
W - olive drab cadmium

S - stainless steel passivated

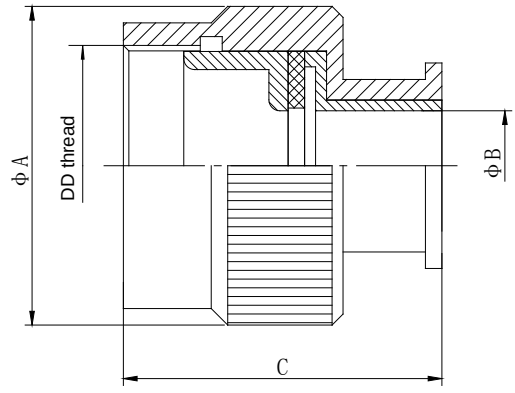
TT - titanium alloy unplated

5) Modification: -A - modified coupling sleeve & solder barrel

Pictorial view



Outline drawing



J	1	7	8	4	/	C	−						

Shell size	ϕA max		ϕB max	C ± 0.2
09	19.1	09	6.73	29.0
11	21.6	11	8.71	29.0
13	25.4	13	11.10	29.0
15	29.1	15	14.27	29.0
17	32.1	17	17.45	29.0
19	35.6	19	20.62	29.0
21	38.1	21	23.08	29.0
23	41.9	23	26.57	29.0
25	44.5	25	28.58	29.0

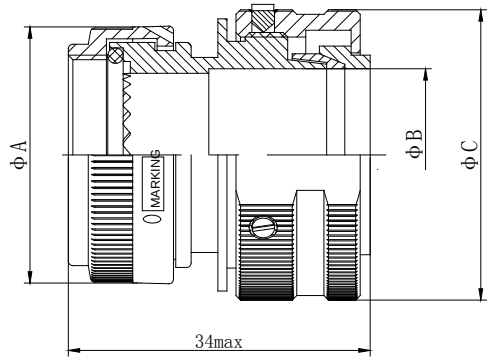
J1784/ A -17 N 10
① ② ③ ④ ⑤

1) Basic series code: J1784/
2) Backshell style: A
3) Shell size: 09 11 13 15 17 19 21 23 25
4) Finish: N - nickel-plated
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
5) Cable exit: see table below

Pictorial view



Outline drawing



Shell size	A max	Cable exit size	B max	C max
09	19.0	6	6.3	19.3
09	19.0	10	9.5	22.5
11	22.0	6	6.3	19.3
11	22.0	13	12.7	25.7
13	25.0	6	6.3	19.3
13	25.0	16	16	29.0
15	29.0	8	7.9	20.9
15	29.0	19	19	32.0
17	32.0	8	7.9	19.3
17	32.0	22	22.2	35.2
19	35.0	13	12.7	25.7
19	35.0	25	25.4	38.4
21	38.0	13	12.7	25.7
21	38.0	29	28.5	41.0
23	41.0	16	16	29
23	41.0	32	31.8	44
25	44.0	19	19	32
25	44.0	35	35	47

J1784/ A −17 N 10 −A

① ② ③ ④ ⑤ ⑥

1) Basic series code: J1784/

2) Backshell style: A

3) Shell size: 09 11 13 15 17 19 21 23 25

4) Finish: N - nickel-plated

W - olive drab cadmium

S - stainless steel passivated

TT - titanium alloy unplated

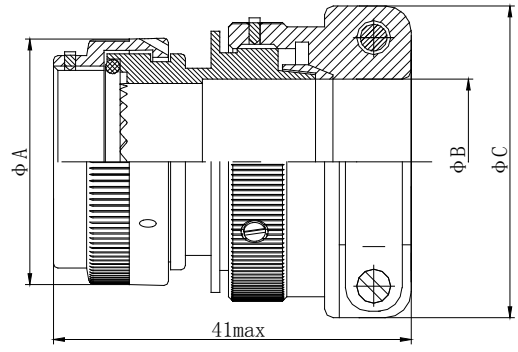
5) Cable exit: see table below

6) Modification: cable clamp added at rear end

Pictorial view



Outline drawing



Shell size	A max	Cable exit size	B max	C max
09	19.0	6	6.3	26.3
09	19.0	10	9.5	29.5
11	22.0	6	6.3	26.3
11	22.0	13	12.7	32.7
13	25.0	6	6.3	26.3
13	25.0	16	16	36
15	29.0	8	7.9	27.9
15	29.0	19	19	39
17	32.0	8	7.9	27.9
17	32.0	22	22.2	42.2
19	35.0	13	12.7	32.7
19	35.0	25	25.4	45.4
21	38.0	13	12.7	32.7
21	38.0	29	28.5	48.5
23	41.0	16	16.0	36.0
23	41.0	32	31.8	51.8
25	44.0	19	19	39
25	44.0	35	35	55

J1784/	D	90	-17	N	A	04
①	②	③	④	⑤	⑥	⑦

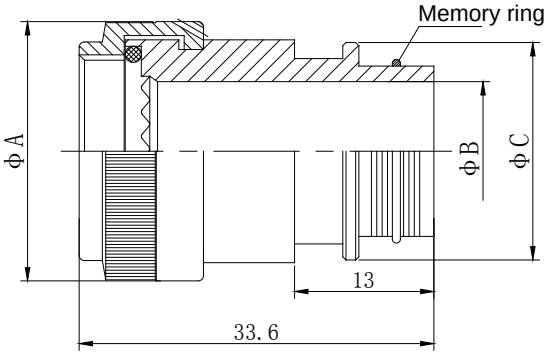
1) Basic series code: J1784/
2) Backshell style: D
3) Construction: 00 - straight backshell; 90 - 90° angle backshell
4) Shell size: 09 11 13 15 17 19 21 23 25
5) Finish: N - nickel-plated
W - olive drab cadmium
S - stainless steel passivated
TT - titanium alloy unplated
6) Ti-Ni ring: 0 - no memory ring (Ti-Ni); A - optional Ti-Ni ring
7) Cable exit dia. or Ti-Ni ring size: without Ti-Ni ring, state exit dia. (mm)
with Ti-Ni ring, state ring size

Pictorial view



Straight backshell

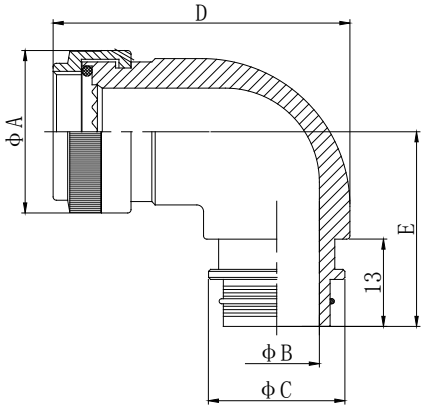
Outline drawing



Straight backshell



Angle backshell



Angle backshell

Shell size	Ti-Ni ring size	Shield braid size	A	D	E	B Cable exit dia.		C	
						Straight	Angle	Straight	Angle
09	TR-04	6×10 (0.15)	19	38.2	26	6.3	6.3	14	14
	TR-05	10×16 (0.2)	19	38.2	26	7.9	7.9	15.5	15.5
	TR-06	10×16 (0.2)	19	38.2	26	9.5	–	17.1	–
11	TR-04	6×10 (0.15)	22	40	26	6.3	6.3	14	14
	TR-05	10×16 (0.2)	22	40	26	7.9	7.9	15.5	15.5
	TR-06	10×16 (0.2)	22	40	26	9.5	9.5	17.1	17.1
	TR-07	10×16 (0.2)	22	40	26	11.1	11.1	18.7	18
	TR-08	16×24 (0.3)	22	40	26	12.7	–	20.3	–
13	TR-04	6×10 (0.15)	25.1	45.2	29	6.3	6.3	14	14
	TR-05	10×16 (0.2)	25.1	45.2	29	7.9	7.9	15.5	15.5
	TR-06	10×16 (0.2)	25.1	45.2	29	9.5	9.5	17.1	17.1
	TR-07	10×16 (0.2)	25.1	45.2	29	11.1	11.1	18.7	18.7
	TR-08	16×24 (0.3)	25.1	45.2	29	12.7	12.7	20.3	20.3
	TR-10	16×24 (0.3)	25.1	45.2	29	16	16	23.5	23
15	TR-05	10×16 (0.2)	29	47	29	7.9	–	15.5	–
	TR-06	10×16 (0.2)	29	47	29	9.5	9.5	17.1	17.1
	TR-07	10×16 (0.2)	29	47	29	11.1	11.1	18.7	18
	TR-08	16×24 (0.3)	29	47	29	12.7	12.7	20.3	20.3
	TR-10	16×24 (0.3)	29	47	29	16	16	23.5	23
	TR-12	16×24 (0.3)	29	47	29	19	19	26.7	25.5
17	TR-05	10×16 (0.2)	32	50.5	33	7.9	–	15.5	–
	TR-06	10×16 (0.2)	32	50.5	33	9.5	–	17.1	–
	TR-07	10×16 (0.2)	32	50.5	33	11.1	11.1	18.7	18
	TR-08	16×24 (0.3)	32	50.5	33	12.7	12.7	20.3	20.3
	TR-10	16×24 (0.3)	32	50.5	33	16	16	23.5	23.5
	TR-12	16×24 (0.3)	32	50.5	33	19	19	26.7	26.7
	TR-14	24×30 (0.3)	32	50.5	33	22.2	–	30	–
19	TR-08	16×24 (0.3)	35	53.5	33	12.7	12.7	20.3	20.3
	TR-10	16×24 (0.3)	35	53.5	33	16	16	23.5	23.5
	TR-12	16×24 (0.3)	35	53.5	33	19	19	26.7	26.7
	TR-14	24×30 (0.3)	35	53.5	33	22.2	22.2	30	30
	TR-16	24×30 (0.3)	35	53.5	33	25.4	25.4	33	33
21	TR-08	16×24 (0.3)	38	55.5	39	12.7	12.7	20.3	20.3
	TR-10	16×24 (0.3)	38	55.5	39	16	16	23.5	23.5
	TR-12	16×24 (0.3)	38	55.5	39	19	19	26.7	26.7
	TR-14	24×30 (0.3)	38	55.5	39	22.2	22.2	30	30
	TR-16	24×30 (0.3)	38	55.5	39	25.4	25.4	33	33
	TR-18	30×40 (0.3)	38	55.5	39	28.5	–	36.2	–
23	TR-10	16×24 (0.3)	41	58	39	16	16	23.5	23.5
	TR-12	16×24 (0.3)	41	58	39	19	19	26.7	26.7
	TR-14	24×30 (0.3)	41	58	39	22.2	22.2	30	30
	TR-16	24×30 (0.3)	41	58	39	25.4	25.4	33	33
	TR-18	30×40 (0.3)	41	58	39	28.5	28.5	36.2	36.2
	TR-20	30×40 (0.3)	41	58	39	31.8	–	39.4	–
25	TR-10	16×24 (0.3)	44	64	44	–	16	–	23.5
	TR-12	16×24 (0.3)	44	64	44	19	19	26.7	26.7
	TR-14	24×30 (0.3)	44	64	44	22.2	22.2	30	30
	TR-16	24×30 (0.3)	44	64	44	25.4	25.4	33	33
	TR-18	30×40 (0.3)	44	64	44	28.5	28.5	36.2	36.2
	TR-20	30×40 (0.3)	44	64	44	31.8	31.8	39.4	39.4
	TR-22	30×40 (0.3)	44	64	44	35	35	42.5	42

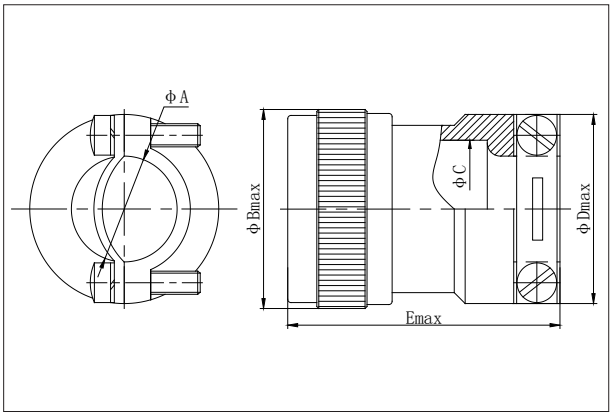
J1784B/ 38H00 S 11 S 11
① ② ③ ④ ⑤ ⑥

1) J1784B/: basic series number (semi-enclosed);
2) Backshell style: 38H00 - Class 38 extended straight cable clamp (for soldered products);
3) Backshell nut style: S : self-locking; - : non-self-locking;
4) Size No.: 11, 13, 15, 17, 19, 21, 23, 25;
5) Finish: N - nickel-plated;
W - olive drab cadmium;
S - stainless steel passivated;
6) Cable exit size: see table below.

Pictorial view



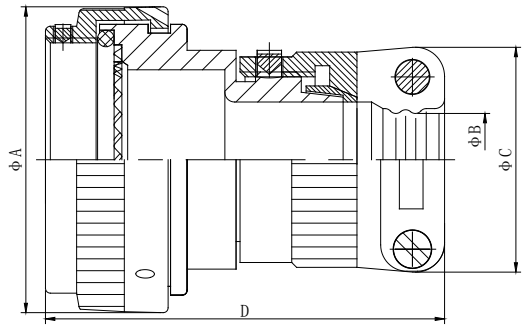
Outline drawing



Size No. (shell size)	A (cable exit size)	B	C	D	E
11 (11)	11	20.7	11.6	23.5	37.6
13 (13)	9	23.8	14.5	22	38.0
13 (13)	13	23.8	14.5	26	38.0
15 (15)	16	26.8	17.7	29	39.5
17 (17)	16	30.1	20.8	29	42.0
19 (19)	19	32.6	23.5	33	45.0
21 (21)	21	35.8	26.7	39	52.0
23 (23)	21.5	39.2	29.9	39.5	52.0
25 (25)	23	41.8	33	42.5	52.0

J1784B/ A - 11 N 13 - A1
① ② ③ ④ ⑤ ⑥

1) J1784B/: basic series number (semi-enclosed);
2) Backshell style: A;
3) Shell size: 11, 13, 15, 17, 19, 21, 23, 25;
4) Finish: N - nickel-plated;
W - olive drab cadmium;
S - stainless steel passivated;
TT - titanium alloy unplated;
5) Cable exit size: see table below;
6) Modification: A1 - boot straight knurl moved rearward.



Size No. (shell size)	A	B	Cable exit size	C	D
11 (11)	22. 4	12. 7	13	25. 5	39. 8
13 (13)	25. 4	16	16	28. 8	39. 8
15 (15)	29. 4	19	19	36. 5	39. 8
17 (17)	32. 4	22. 2	22	39. 5	39. 8
19 (19)	35. 4	25. 4	25	41. 4	39. 8
21 (21)	38. 4	28. 5	29	44	39. 8
23 (23)	41. 4	31. 8	32	47. 8	39. 8
25 (25)	44. 4	35	35	51	39. 8

PROTECTIVE COVERS

J599/	33	W	09	R
①	②	③	④	⑤

1) Basic series code: J599/

2) Cover class: 33 - for receptacles; 32 - for plugs

3) Finish: F - nickel-plated

W - olive drab cadmium

K - stainless steel passivated

TT - titanium alloy unplated

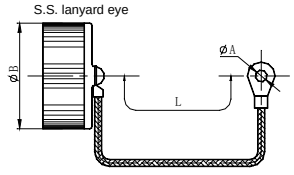
4) Shell size: 09 11 13 15 17 19 21 23 25

5) Cover style: R - S.S. lanyard eye; N - S.S. lanyard ring;

T - metal chain eye; A - without stainless steel lanyard

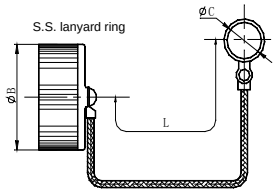
OUTLINE DIMENSIONS

Covers for receptacles
S.S. lanyard eye



Shell size	Our P/N	MIL P/N	A min	B max	L
09	J599/33W09R	D38999/33W09R	3.90	23	127.00
11	J599/33W11R	D38999/33W11R	3.90	28	127.00
13	J599/33W13R	D38999/33W13R	3.90	31	127.00
15	J599/33W15R	D38999/33W15R	3.90	32	127.00
17	J599/33W17R	D38999/33W17R	3.90	37	127.00
19	J599/33W19R	D38999/33W19R	3.90	39	127.00
21	J599/33W21R	D38999/33W21R	3.90	42	127.00
23	J599/33W23R	D38999/33W23R	3.90	45	127.00
25	J599/33W25R	D38999/33W25R	3.90	49	127.00

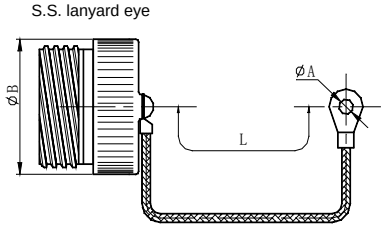
Covers for receptacles
S.S. lanyard ring



Shell size	Our P/N	MIL P/N	C min	B max	L
09	J599/33W09N	D38999/33W09N	12.93	23	127.00
11	J599/33W11N	D38999/33W11N	17.78	28	127.00
13	J599/33W13N	D38999/33W13N	19.27	31	127.00
15	J599/33W15N	D38999/33W15N	22.60	32	127.00
17	J599/33W17N	D38999/33W17N	25.62	37	127.00
19	J599/33W19N	D38999/33W19N	36.27	39	127.00
21	J599/33W21N	D38999/33W21N	31.97	42	127.00
23	J599/33W23N	D38999/33W23N	42.62	45	127.00
25	J599/33W25N	D38999/33W25N	44.45	49	127.00

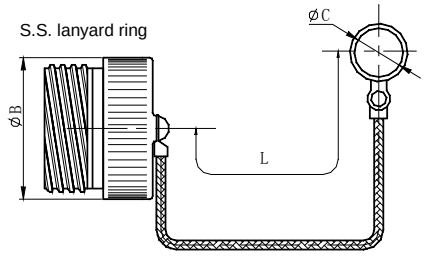
OUTLINE DIMENSIONS

Covers for plugs
S.S. lanyard eye



Shell size	Our P/N	MIL P/N	A min	B max	L
09	J599/32W09R	D38999/32W09R	3.90	23	127.00
11	J599/32W11R	D38999/32W11R	3.90	26	127.00
13	J599/32W13R	D38999/32W13R	3.90	31	127.00
15	J599/32W15R	D38999/32W15R	3.90	32	127.00
17	J599/32W17R	D38999/32W17R	3.90	37	127.00
19	J599/32W19R	D38999/32W19R	3.90	39	127.00
21	J599/32W21R	D38999/32W21R	3.90	42	127.00
23	J599/32W23R	D38999/32W23R	3.90	45	127.00
25	J599/32W25R	D38999/32W25R	3.90	49	127.00

Covers for plugs
S.S. lanyard ring



Shell size	Our P/N	MIL P/N	C min	B max	L
09	J599/32W09N	D38999/32W09N	12.93	23	127.00
11	J599/32W11N	D38999/32W11N	17.78	26	127.00
13	J599/32W13N	D38999/32W13N	19.27	31	127.00
15	J599/32W15N	D38999/32W15N	22.60	32	127.00
17	J599/32W17N	D38999/32W17N	25.62	37	127.00
19	J599/32W19N	D38999/32W19N	28.95	39	127.00
21	J599/32W21N	D38999/32W21N	31.97	42	127.00
23	J599/32W23N	D38999/32W23N	34.03	45	127.00
25	J599/32W25N	D38999/32W25N	38.32	49	127.00