

General

- High density miniature circular electrical connector
- Bayonet coupling, quick locking and releasing
- Scoop proof
- Key/keyway polarization
- EMI/RFI shielding and shell-to-shell conductivity
- Shockproof and vibration proof
- Excellent fluid immersion performance

Extensively used in aviation, space and military systems.

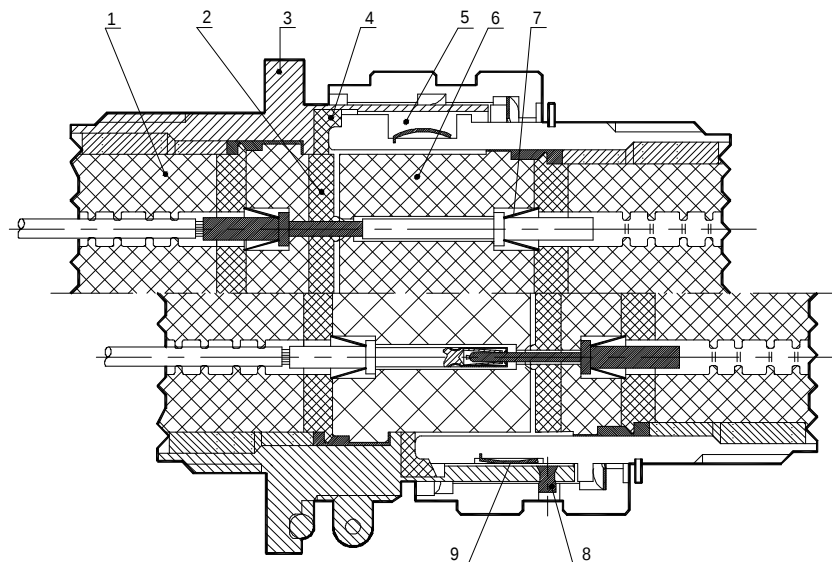
US military standard: MIL-DTL-38999K.

National military standard: GJB599A

Company military standard: Q/Lk30002-2004



Structure drawing



1. Grommet: Protect wire, prevent liquid and dust enter.
2. Interfacial seal: Seal every single contact pin at insert interface.
3. Scoop-proof: Blind mate protection.
4. Mated seal: Receptacle and plug interface seal.
5. Five shell polarizations: Inserting guiding.
6. Socket insert: Sealed interface to protect contacts.
7. Supporting ring: Provide reliable and stable contact structure.
8. Self-locking.
9. Ground reed: Grounding both male and female shell before pin inserting.

Note: Series III has similar structure as series I mentioned above, however series III and series I are not interchangeable.

Series I —Scoop-proof, bayonet coupling; Series III —Scoop-proof, triple start, self-locking, threaded coupling.

Characteristics

Mechanical Characteristics	
- Shell: Aluminum alloy. - Finishing: - Camouflage cadmium plate (B) - Electroless nickel coating (F) - Insulator: Insulative Plastic - Gasket: - Silicon rubber elastomer - Contact: Copper alloy - Finishing: Gold plated over Nickel - Durability: 500 cycles	- Shock: 2940m/s^2 3ms - Vibration: Sine 294m/s^2 10 ~ 2000Hz; Random $96(\text{m/s}^2)^2/\text{Hz}$ 408 m/s^2, 100 ~ 1000Hz; Random $480(\text{m/s}^2)^2/\text{Hz}$, 100 ~ 300 Hz - Contact retention force (min) #22D:44N #16:111N #8 coaxial:111N #20:67N #12:111N #8 tri-coaxial:111N

Electrical Characteristics																		
- Dielectric withstanding voltage (Vrms) (Mated)<table><tr><th>Ratings</th><th>Sea level</th><th>21000m</th></tr><tr><td>M</td><td>1300</td><td>800</td></tr><tr><td>N</td><td>1000</td><td>600</td></tr><tr><td>I</td><td>1800</td><td>1000</td></tr><tr><td>II</td><td>2300</td><td>1000</td></tr></table> - Contact resistance: #22D: 14.6mΩ #20: 7.3mΩ #16: 3.8mΩ #12: 1.8mΩ - Insulate resistance: ≥ 5000MΩ (500V DC) - Contact current ratings: #22D: 5A #20: 7.5A #16: 13A #12: 23A - Shell-to-shell conductivity: Olive-drab cadmium plate: 2.5 mV nickel coating: 1 mV		Ratings	Sea level	21000m	M	1300	800	N	1000	600	I	1800	1000	II	2300	1000	- Shielding: 100MHz: 90dB ,1GHz: 85dB 10 GHz: 50dB - Coaxial contacts: Operating frequency: 0 ~ 1GHz Impedance: 50Ω Voltage standing wave rate: ≤ 1.3 - #8 tri-coaxial contacts: Frequency Width: 0 ~ 20 MHz Voltage Ratings: 500V AC max 125V AC at 21000m Voltage dropped: Inner and middle contact: ≤ 55mV at 1A External contact: ≤ 75mV at 12A	
Ratings	Sea level	21000m																
M	1300	800																
N	1000	600																
I	1800	1000																
II	2300	1000																

Environmental Characteristics	
- Temperature ranges: - Cadmium plate: $-65^\circ\text{C} \sim +175^\circ\text{C}$ - Nickel coating: $-65^\circ\text{C} \sim +200^\circ\text{C}$ - Salt spray: 500h (B) 48h (F)	- Humidity: - For 24 hours, 10 cycles - Fluid immersion: - Hydraulic oil, Lubricating oil, Freezing liquid and other solvents.

Identification

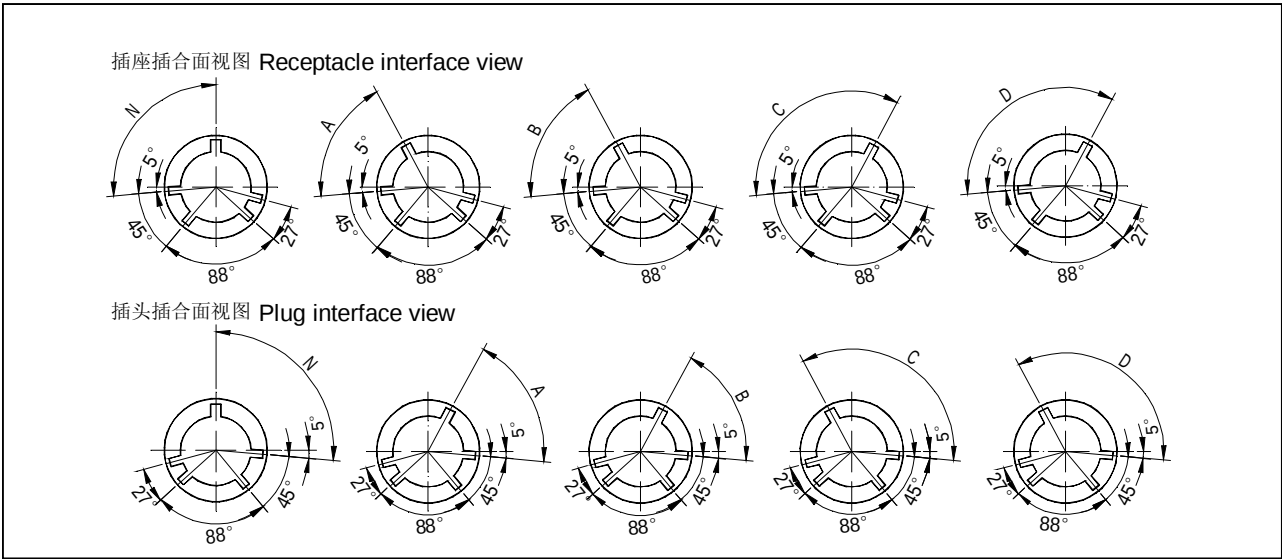
Series	JY	27466	T	13	F	8	P	A
Shell code	27466 — Wall flange receptacle front panel mounting 27656 — Wall flange receptacle rear panel mounting 27496 — Box flange receptacle front panel mounting 27505 — Box flange receptacle rear panel mounting 27468 — Jam nut thread mounting receptacle 27467 — Plug							
Type	T — shell with thread and accessory stop mechanism. (To be mounted with rear accessories) (only JY27466 , JY27656 , JY27468,JY27467) E — No thread (only JY27496, JY27505)							
Shell code	09, 11, 13, 15, 17, 19, 21, 23, 25							
Finishing	B — Camouflage cadmium plate F — Electroless nickel coating							
Contact arrangement	See P43							
Contact type	P — Normal crimp type pin S — Normal crimp type Socket A — No or customer assigned pin B — No or customer assigned Socket PH — Solder type pin SH — Solder type PC — Short straight PCB termination pin PC — Long straight PCB termination pin SC — Short straight PCB termination socket SC — Long straight PCB termination socket							
Key/keyway	N — normal(non-noted) A, B, C, D							
polarization	To see P4							

Note:

1. Identification is selfsame between GJB599A and MIL-C-38999 except series prefix. GJB599A use “JY” and MIL-C-38999 uses “MS”, both series are exchangeable with each other.
- 2.Outline dimension of JY27470 see space grade connector (P68).
- 3.When using PC, SC contacts, normal polarization must be marked.

Key/keyway polarization

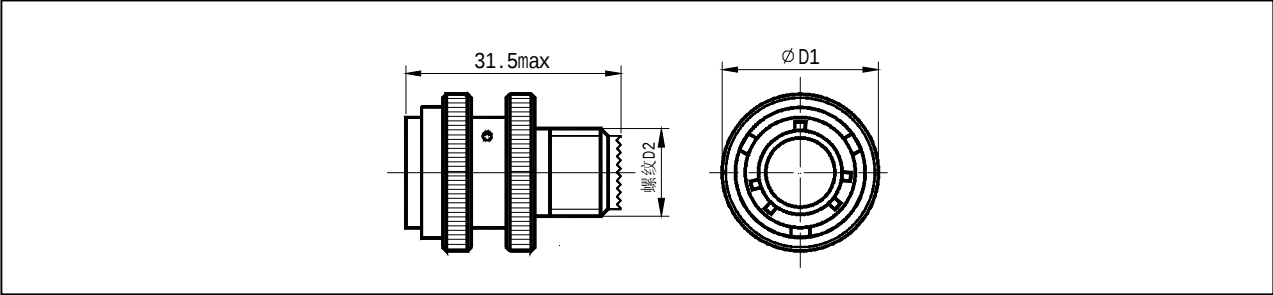
Polarization is assigned and guided by key/keyway.



Shell code	Angular/degree				
	N	A	B	C	D
09	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

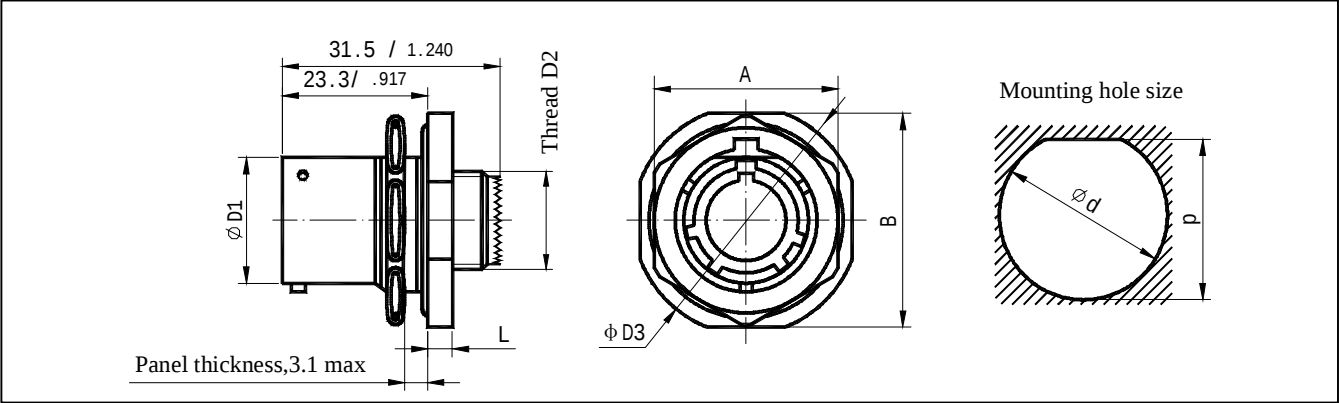
Dimensions

JY27467 Plug



Shell code	D1 max	Thread D2
09	21.80 / .858	0.4375-28 UNEF-2A
11	25.00 / .984	0.5625-24 UNEF-2A
13	29.36 / 1.156	0.6875-24 UNEF-2A
15	32.50 / 1.280	0.8125-20 UNEF-2A
17	35.70 / 1.406	0.9375-20 UNEF-2A
19	38.50 / 1.516	1.0625-18 UNEF-2A
21	41.70 / 1.642	1.1875-18 UNEF-2A
23	44.85 / 1.766	1.3125-18 UNEF-2A
25	48.00 / 1.890	1.4375-18 UNEF-2A

JY27468 Jam nut thread mounting receptacle

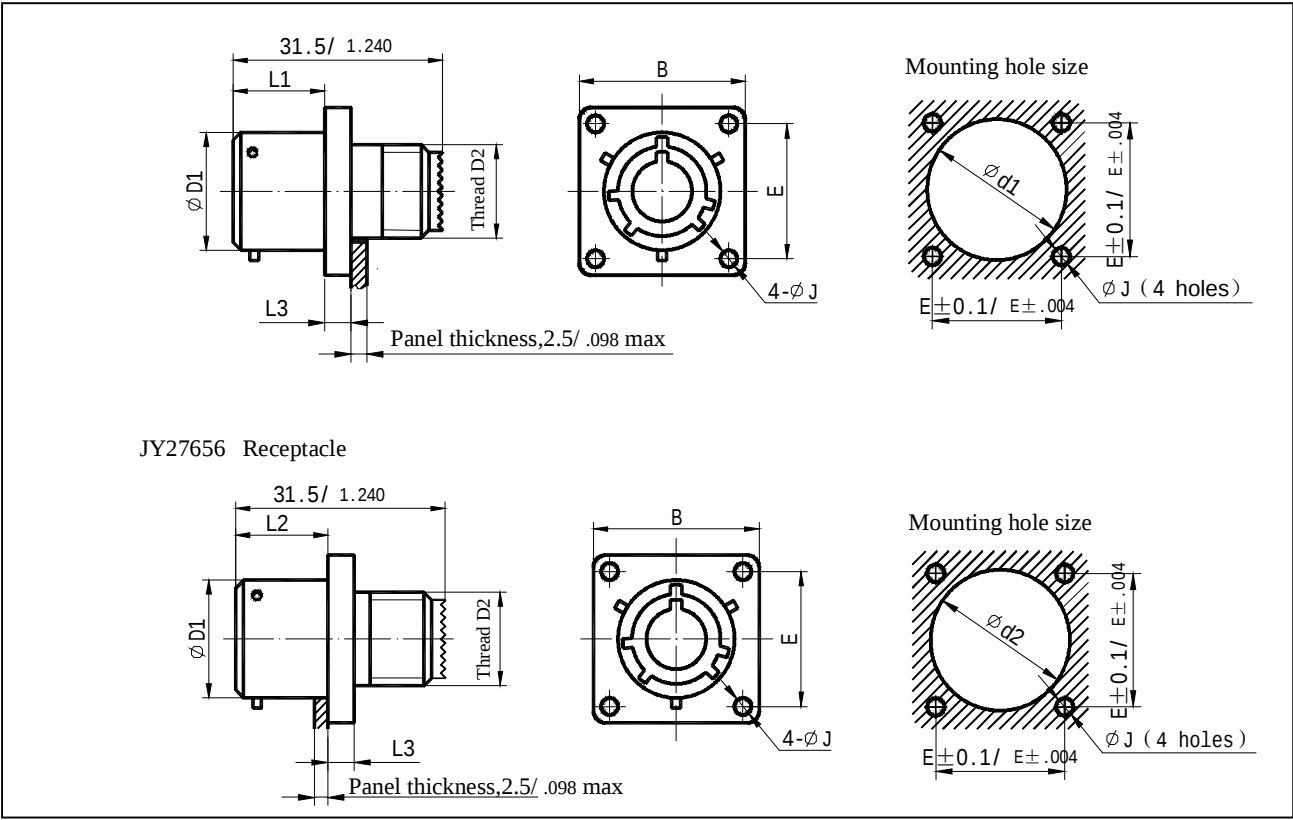


Shell Size	D1	Thread D2	D3	L	A	B	d	P
09	14.53/.572	0.4375-28 UNEF-2A	30.54/1.202	3.00/.118	22.35/.880	27.35/1.077	17.70/.697	16.99/.699
11	17.78/.700	0.5625-24 UNEF-2A	35.23/1.387	3.00/.118	25.55/1.006	32.10/1.2640	20.88/.822	19.53/.769
13	21.59/.850	0.6875-24 UNEF-2A	38.40/1.512	3.00/.118	30.30/1.193	35.31/1.390	25.58/1.007	24.26/.955
15	24.77/.975	0.8125-20 UNEF-2A	41.64/1.639	3.00/.118	33.45/1.317	38.49/1.515	28.80/1.134	27.53/1.084
17	27.94/1.100	0.9375-20 UNEF-2A	44.75/1.761	3.00/.118	36.65/1.443	41.63/1.639	31.98/1.259	30.68/1.208
19	30.66/1.207	1.0625-18 UNEF-2A	49.53/1.950	3.79/.149	39.80/1.567	46.37/1.826	35.15/1.384	33.86/1.333
21	33.83/1.331	1.1875-18 UNEF-2A	52.67/2.074	3.79/.149	43.00/1.633	49.58/1.952	38.28/1.507	37.06/1.459
23	37.00/1.457	1.3125-18 UNEF-2A	55.94/2.202	3.79/.149	46.15/1.817	52.76/2.077	41.50/1.634	40.01/1.575
25	40.18	1.4375-18 UNEF-2A	59.02/2.324	3.79/.149	50.95/2.006	55.93/2.202	44.68/1.759	43.41/1.709

Outline Dimension

JY27466 Wall flange receptacle front panel mounting

JY27656 Wall flange receptacle rear panel mounting

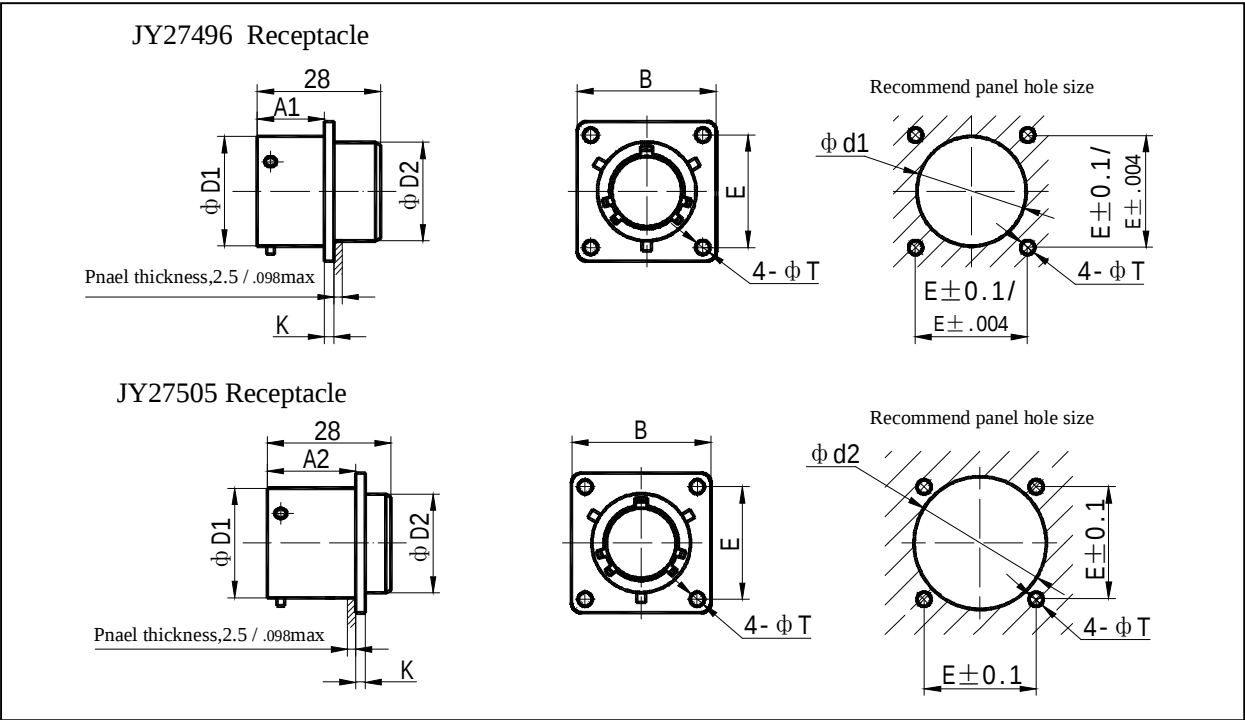


Shell size	D1	Thread D2	L1	L2	L3
09	14.53/.572	0.4375-28UNEF-2A	16.05/.632	20.83/.820	2.48/.098
11	17.78/.700	0.5625-24UNEF-2A	16.05/.632	20.83/.820	2.48/.098
13	21.59/.850	0.6875-24UNEF-2A	16.05/.632	20.83/.820	2.48/.098
15	24.77/.975	0.8125-20UNEF-2A	16.05/.632	20.83/.820	2.48/.098
17	27.94/1.100	0.9375-20UNEF-2A	16.05/.632	20.83/.820	2.48/.098
19	30.66/1.207	1.0625-18UNEF-2A	16.05/.632	20.83/.820	2.48/.098
21	33.83/1.332	1.1875-18UNEF-2A	15.29/.602	20.08/.791	3.24/.128
23	37.00/1.457	1.3125-18UNEF-2A	15.29/.602	20.08/.791	3.24/.128
25	40.18/1.582	1.4375-18UNEF-2A	15.29/.602	20.08/.791	3.24/.128
Shell size	B	E	d1	d2	J
09	24.25/.955	18.26/.719	15.70/.618	16.66/.656	3.25/.128
11	26.60/1.047	20.62/.812	18.70/.736	20.22/.796	3.25/.128
13	29.00/1.142	23.01/.906	21.80/.858	23.42/.922	3.25/.128
15	31.35/1.234	24.61/.969	25.00/.984	26.59/1.047	3.25/.128
17	33.75/1.329	26.97/1.062	28.30/1.114	30.96/1.219	3.25/.128
19	36.90/1.453	29.36/1.156	31.00/1.220	32.94/1.297	3.25/.128
21	40.101.579	31.75/1.250	34.20/1.346	36.12/1.422	3.25/.128
23	43.25/1.703	34.93/1.375	37.30/1.469	39.29/1.547	3.73/.147
25	46.50/1.831	38.10/1.500	40.50/1.594	42.47/1.672	3.73/.147

Dimensions

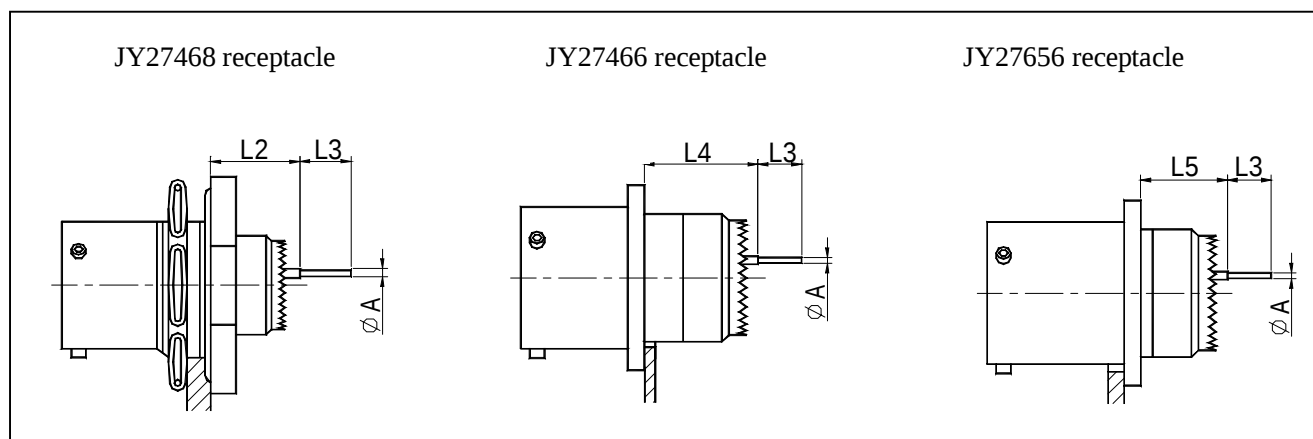
JY27496 Box flange receptacle front panel mounting

JY27505 Box flange receptacle rear panel mounting



Shell size	D1	D2	A1	A2	K	B	E	T	d1	d2
09	14.6/.575	11.2/.441	16.1/.634	20.9/.823	2.4/.094	23.8/.937	18.26/.719	3.2/.126	12.5/.492	16.7/.657
11	17.8/.701	14.5/.571	16.1/.634	20.9/.823	2.4/.094	26.2/1.031	20.62/.812	3.2/.126	15.5/.610	20.2/.795
13	21.6/.850	18.0/.709	16.1/.634	20.9/.823	2.4/.094	28.6/1.165	23.02/.906	3.2/.126	19.5/.768	24.5/.965
15	24.8/.976	20.5/.807	16.1/.634	20.9/.823	2.4/.094	31.0/1.220	24.62/.969	3.2/.126	21.5/.846	27.7/1.091
17	28.0/1.102	23.8/.937	16.1/.634	20.9/.823	2.4/.094	33.3/1.311	26.98/1.062	3.2/.126	25.0/.984	30.9/1.217
19	30.7/1.209	26.5/1.043	16.1/.634	20.9/.823	2.4/.094	36.51/1.437	29.36/1.156	3.2/.126	28.0/1.102	32.9/1.295
21	33.8/1.331	29.7/1.169	15.3/.602	20.1/.791	3.1/.122	39.7/1.563	31.76/1.250	3.2/.126	31.5/1.240	36.2/1.425
23	37.0/1.457	32.8/1.297	15.3/.602	20.1/.791	3.1/.122	42.9/1.689	34.92/1.375	3.7/.146	34.5/1.358	39.2/1.543
25	40.2/1.583	36.0/1.417	15.3/.602	20.1/.791	3.1/.122	46.0/1.811	38.10/1.5	3.7/.146	37.5/1.476	42.5/1.673

Dimensions of straight PCB rear receptacle

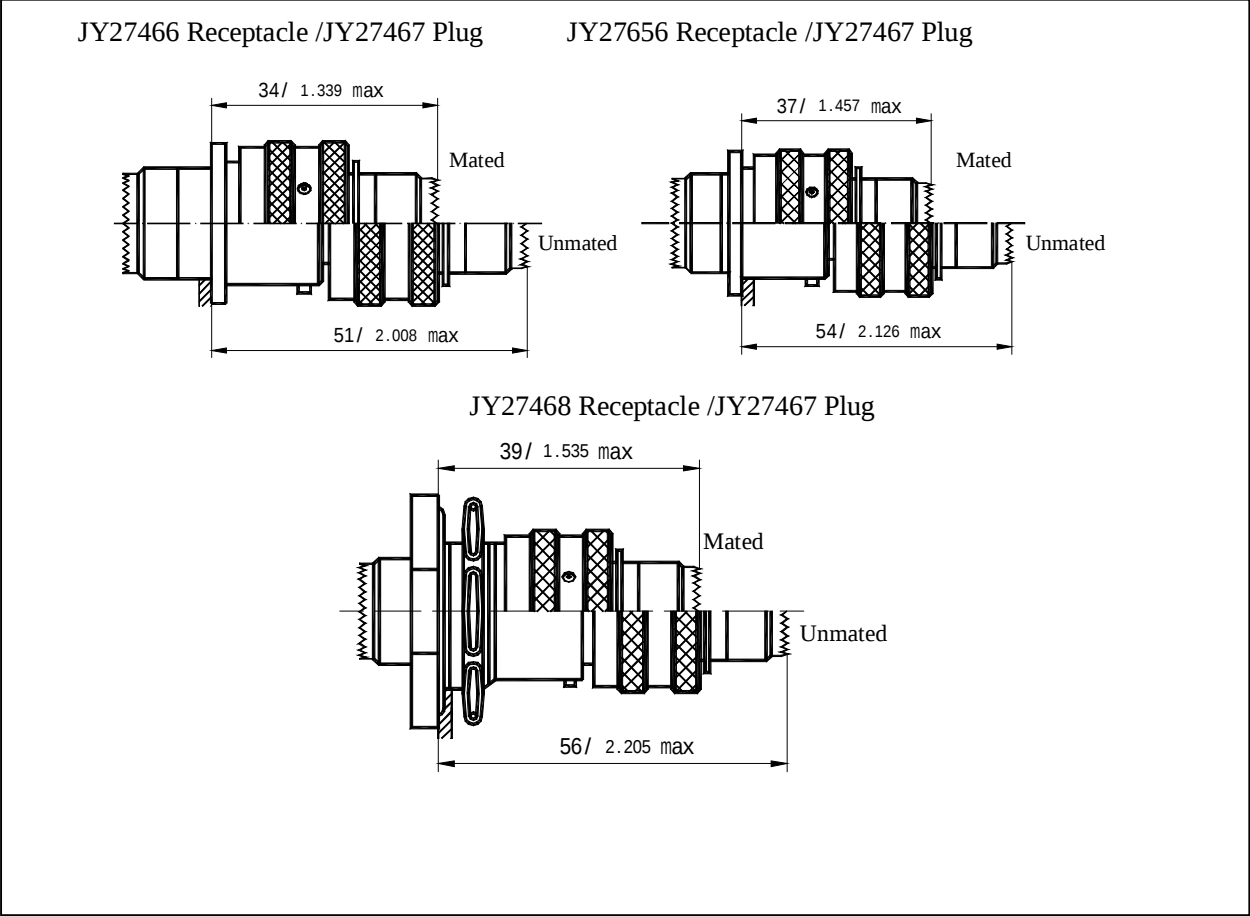


Straight PCB rear contact			L3	A
#22D	Long straight PCB rear contact	PL,SL	8.50 / .335	0.70 / .028
	Short straight PCB rear contact	PC,PC	4.00 / .157	
#20	Long straight PCB rear contact	PL,SL	8.50 / .335	0.70 / .028
	Short straight PCB rear contact	PC,PC	5.10 / .201	
#16	Long straight PCB rear contact	PL,SL	8.50 / .335	1.15 / .045
	Short straight PCB rear contact	PC,PC	5.10 / .201	

Length of using different contact			Shell code 09、11、13、15、17、19	Shell code 21、23、25
	contact			
L2	#22D pin	min	9.07 / .357	9.07
		max	10.06 / .396	10.06 / .396
	#22D socket	min	8.74 / .344	8.74
		max	10.06 / .396	10.06 / .396
	#20 or #16 pin、socket	min	9.24 / .364	9.24 / .364
		max	10.23 / .403	10.23 / .403
L4	#22D pin	min	13.91 / .548	13.91 / .548
		max	15.08 / .594	15.08 / .594
	#22D socket	min	13.58 / .535	13.58 / .535
		max	15.08 / .594	15.08 / .594
	#20 or #16 pin、socket	min	14.08 / .554	14.08 / .554
		max	15.25 / .600	15.25 / .600
L5	#22D pin	min	11.60 / .457	12.35 / .486
		max	12.47 / .491	13.22 / .520
	#22D socket	min	11.27 / .444	12.02 / .473
		max	12.47 / .491	13.22 / .520
	#20 or #16 pin、socket	min	11.77 / .463	12.52 / .493
		max	12.64 / .498	13.39 / .527

Note: The PCB holing size of GJB 599 series I see P45.

Mated and unmated dimensions



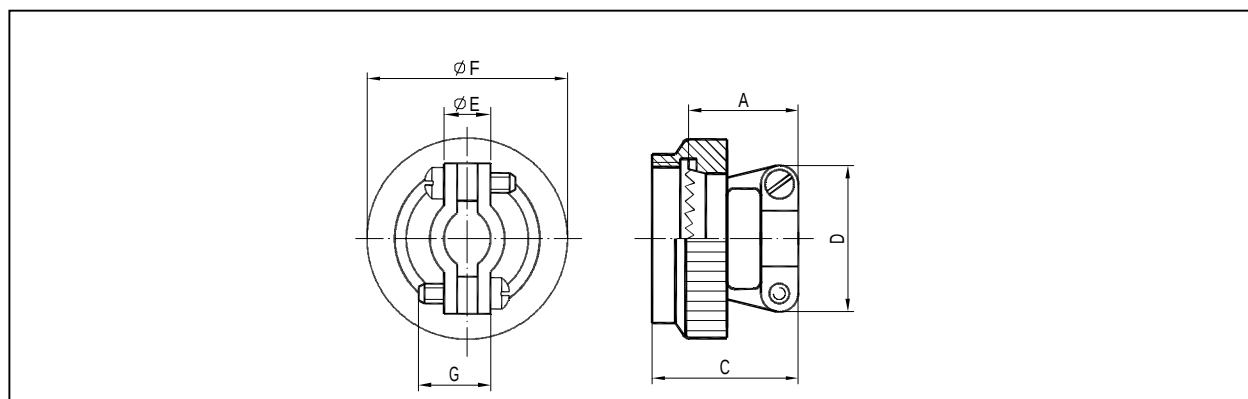
Rear accessory

Comply with **GJB1784 General Specification of Connector Accessory** requirements, used with GJB599A connector series I .

Accessories are ordered separately. Following are commonly used ones. They are also can be ordered to meet customer's special requirements.

Note: China national military standard GJB 1784 is identical with US MIL-C-85049 except nomenclature arrangement. Both part number GJB599 and MIL M85049 are compatible and exchangeable with each other.

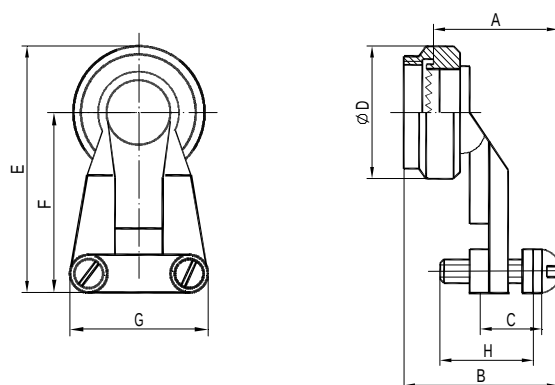
Series	J1784/	49	-	10	W
Rear shell type	49: straight cable clipper				
Rear shell jam nut	- - Non-self locking jam nut S - Self-locking jam nut				
Sequence number	08、10、12、14、16、18、20、22、24				
Finishing	A - Anode, black color N - Nickel W - Camouflage cadmium plate				



Sequence number	Series I Shell size	Series II Shell size	A max	C max	D max	Mated cable diameter, E		F max	G
						min	max		
08	09	08	23.11/.910	28.1/1.106	21.59/.850	2.49/.098	5.94/.234	21.82/.859	12.70/.500
10	11	10	23.11/.910		22.86/.900	3.89/.153	5.94/.234	24.99/.984	12.70/.500
12	13	12	25.65/1.010		27.94/1.100	4.83/.190	8.33/.328	29.36/1.156	15.88/.625
14	15	14	26.92/1.060	28.6/1.126	29.21/1.150	6.60/.260	11.61/.457	32.54/1.281	19.05/.750
16	17	16	29.46/1.160	31.1/1.224	33.02/1.300	7.19/.283	15.60/.614	35.71/1.406	19.05/.750
18	19	18	35.81/1.410	34.6/1.362	38.10/1.500	8.26/.325	16.10/.634	38.51/1.516	19.05/.750
20	21	20	38.35/1.510	37.1/1.461	40.46/1.593	8.71/.343	17.73/.698	41.68/1.641	22.23/.875
22	23	22	42.16/1.660		43.18/1.700	9.68/.381	20.90/.823	44.86/1.766	25.40/1.000
24	25	24	44.70/1.760		45.72/1.800	10.26/.404	21.67/.853	48.03/1.891	28.58/1.125

Rear accessory

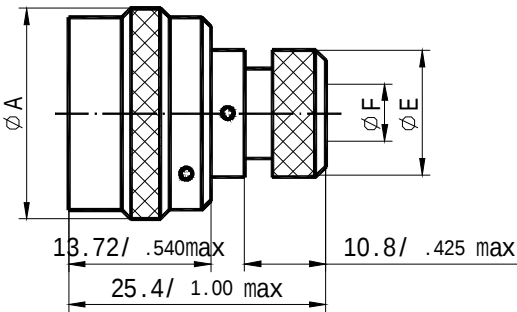
Series	J1784/	47	-	10	W
Rear shell type	47 — 90° wire clipper				
Rear shell jam nut	- - Non-self locking jam nut S - Self-locking jam nut				
Sequence number	08, 10, 12, 14, 16, 18, 20, 22, 24				
Finishing	N - Nickel W - Camouflage cadmium plate				



Sequence number	Series I Shell size	Series II Shell size	A max	B max	C		D max	
					max	min	Self-Locking	Non-self locking
08	09	08	29.46/1.160	35.05/1.380	5.94/.234	2.49/.098	21.84/.860	19.05/.750
10	11	10	29.46/1.160	35.05/1.380	5.94/.234	3.89/.153	24.89/.980	21.59/.850
12	13	12	31.50/1.240	37.08/1.488	8.33/.328	4.83/.190	29.46/1.160	25.40/1.000
14	15	14	35.81/1.410	41.40/1.630	11.61/.457	6.60/.260	32.51/1.280	27.94/1.100
16	17	16	40.13/1.580	45.72/1.800	15.60/.614	7.19/.283	35.81/1.410	31.75/1.250
18	19	18	40.64/1.600	46.23/1.820	16.10/.634	8.26/.325	38.61/1.520	35.56/1.400
20	21	20	42.67/1.707	48.26/1.900	17.73/.698	8.71/.943	41.66/1.640	38.10/1.500
22	23	22	46.23/1.820	51.82/2.040	20.90/.823	9.68/.381	44.96/1.770	41.91/1.650
24	25	24	49.02/1.930	54.81/2.158	21.67/.853	10.62/.418	48.01/1.890	44.45/1.750
Sequence number	Series I Shell size	Series II Shell size	E	F	G max	H		
08	09	08	35.05/1.380	25.40/1.000	21.59	12.70		
10	11	10	38.86/1.554	27.94/1.100	22.86	12.70		
12	13	12	40.64/1.600	27.94/1.100	27.94	15.88		
14	15	14	45.72/1.800	31.75/1.250	29.21	19.05		
16	17	16	49.02/1.930	33.02/1.300	33.02	19.05		
18	19	18	52.07/2.050	34.29/1.350	38.10	19.05		
20	21	20	59.69/2.350	40.64/1.600	40.64	22.23		
22	23	22	65.53/2.580	44.45/1.750	43.18	25.40		
24	25	24	69.34/2.730	46.99/1.850	45.72	28.58		

Rear accessory

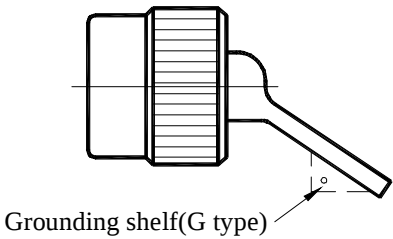
Series	J1784/	62	-10	W	D
Rear shell type	62 - Shrinking pipe adapter				
Sequence number	08, 10, 12, 14, 16, 18, 20, 22, 24				
Finishing	A - Anode, black color N - Nickel W - Camouflage cadmium plate				
Vent type	Blank - Without vent D - With vent				



Sequence number	Series I shell size	Series II shell size	A max	E max	F min
08	09	08	19.05/.750	13.54/.533	6.35/.250
10	11	10	21.59/.850	15.37/.605	9.53/.375
12	13	12	25.40/1.000	19.66/.744	12.70/.500
14	15	14	27.94/1.100	21.29/.838	15.88/.625
16	17	16	31.75/1.250	24.46/.963	19.05/.750
18	19	18	35.56/1.400	26.47/1.042	20.63/.812
20	21	20	38.10/1.500	30.91/1.217	23.80/.937
22	23	22	41.91/1.650	34.42/1.355	26.98/1.062
24	25	24	44.45/1.750	36.65/1.521	30.18/1.207

Rear accessory

Series	J1784/	57	S	10	W
Rear shell type	57 - 45° rapid connect				
Rear shell nut type	S - Self-locking - - Non-self locking G - Self-locking and grounding				
Sequence number	08, 10, 12, 14, 16, 18, 20, 22, 24				
Finishing	A - Anode, black color N - Nickel W - Camouflage cadmium plate				



Sequence number	Series I shell size	Series II shell size	Cable entry max
08	09	08	6.71 / .264
10	11	10	9.96 / .392
12	13	12	12.85 / .506
14	15	14	16.03 / .631
16	17	16	19.20 / .756
18	19	18	21.46 / .845
20	21	20	24.46 / .963
22	23	22	27.81 / 1.095
24	25	24	30.99 / 1.220

Rear accessory

Series	J1784/	17	-24	W	10	A
Rear shell type	17 - Shielding rear is mated with cable seal clipper.					
Sequence number	08, 10, 12, 14, 16, 18, 20, 22, 24					
Finishing	W - Camouflage cadmium plate N - Nickel					
Cable clipper code	01, 02, 03, 04, 05, 06, 07, 08, 09, 10					
Length code	Standard(No mark)、A、B、C					

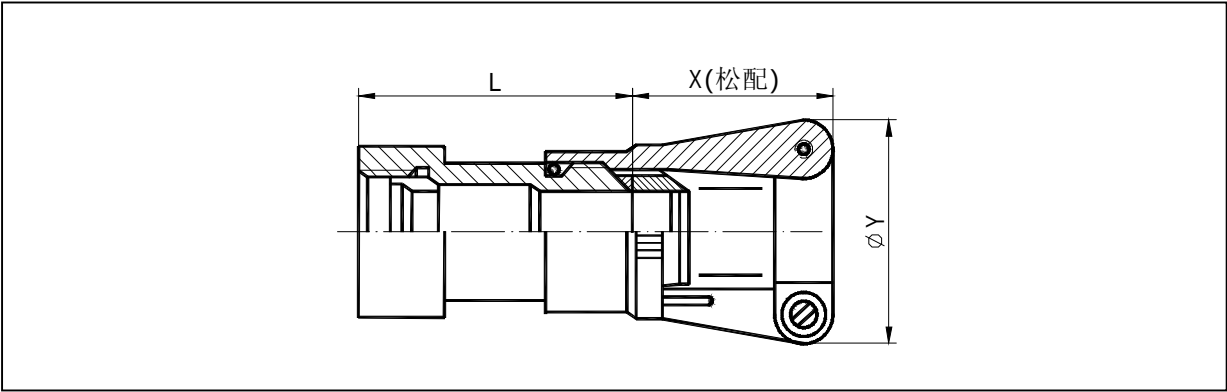


Table 1 表 1

Sequence number	Series I shell code	Series II shell code	Cable clipper code	
			min	max
08	09	08	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

Table2 表 2

Cable clipper code	Mated cable diameter		Y max	X max
	min	max		
01	1.57/.062	3.18/.125	19.84/.781	31.75/1.250
02	3.18/.125	6.35/.250	24.61/.969	
03	6.35/.250	9.53/.375	26.97/1.062	
04	9.53/.375	12.70/.500	29.36/1.156	
05	12.70/.500	15.88/.625	31.75/1.250	33.32/1.312
06	15.88/.625	19.05/.750	34.93/1.275	34.93/1.375
07	19.05/.750	22.23/.875	38.10/1.500	38.10/1.500
08	22.23/.875	25.40/1.000	41.28/1.625	41.28/1.625
09	25.40/1.000	28.58/1.125	44.45/1.750	
10	28.58/1.125	31.75/1.250	47.63/1.875	

Table 3 表 3

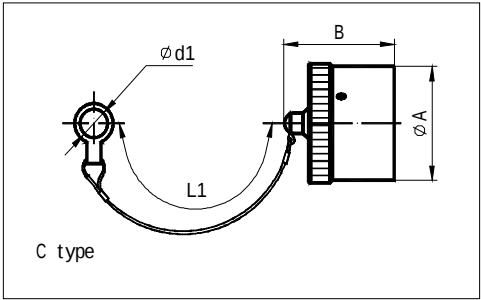
Sequence number	Length code	L
8 ~ 24	Standard(No mark)	38.1/1.500
8 ~ 24	A	63.5/2.500
14 ~ 24	B	88.9/3.500
20 ~ 24	C	114.3/4.500

Protecting Cover (Order separately)

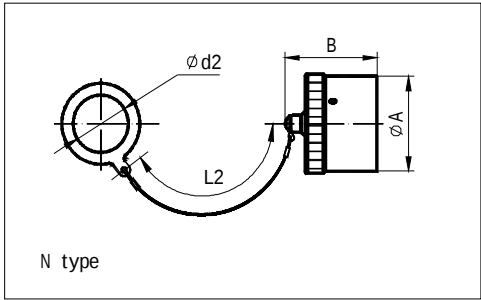
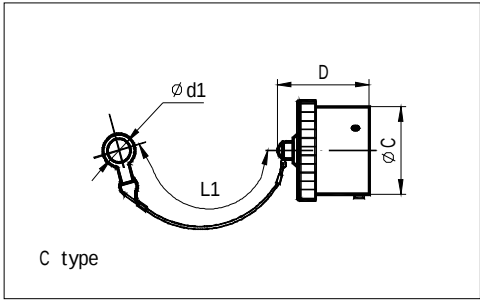
Order

Series	JY27501 - For plug use	JY27501	B	09	C	L
	JY27502 - For receptacle use					
Finishing	B - Camouflage cadmium plate					
	F - Nickel					
Shell code	09, 11, 13, 15, 17, 19, 21, 23, 25					
Type	C - Metal chain with eyelet					
	N - Metal chain with ring					
	(only JY27502 JY27502, using on JY27468)					
Length	A - Without chain					
	L - 127.00 See L1,L2 in the table					

Receptacle protecting cover



Plug protecting cover



Shell size	A max	B max	C max	D max	d1 min	d2 min	L1	L2
09	21.2/.835	28.0/1.102	20.5/.807	29.5/1.161	3.2/1.260	17.8/.701	77.0/3.031	77.0/3.031
11	24.4/.961		23.7/.933			21.3/.839		
13	28.4/1.118		26.9/1.059			25.7/1.012	90.0/3.534	90.0/3.534
15	31.6/1.244		30.1/1.185			29.0/1.142		
17	35.5/1.394		33.2/1.307			32.0/1.260		
19	37.9/1.492		36.4/1.433			35.3/1.390	102.0/4.016	102.0/4.016
21	41.1/1.618		39.6/1.559			38.1/1.500		
23	44.3/1.744		42.8/1.685			41.7/1.642		
25	47.4/1.886		45.9/1.807			44.7/1.760		