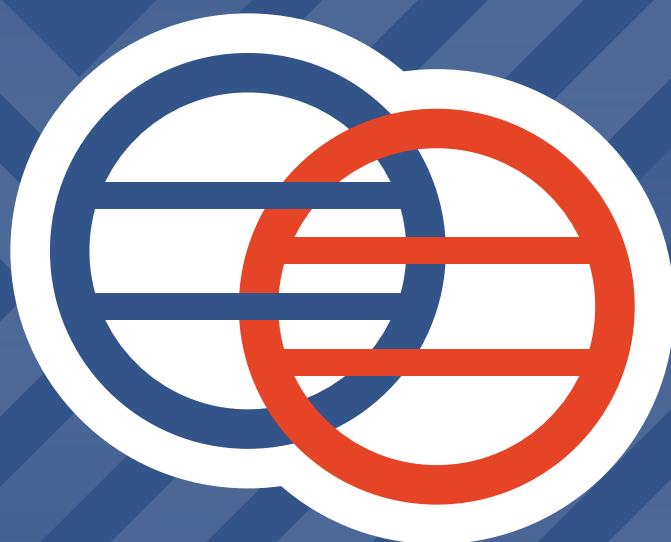




MATENG

MIL-DTL-38999 II SERIES

CATALOG

MIL-DTL-38999 II SERIES

DESCRIPTION:

- Comply with MIL-DTL-38999K II series
- Quick bayonet coupling
- Smallest size, shortest shell length and lightest weight in 599 series
- EMI/RFI shielding
- Removable crimp contacts, without scoop-proof
- Light weight electrical connectors, applicable for environments not withstanding high vibration or severe sand and moisture.
- Applicable enterprise standard : 21E0.204.102JT



MAIN TECHNICAL CHARACTERISTICS

MECHANICAL

- Shell: Aluminum alloy, stainless steel
- Plating:
 - B class: Olive green cadmium plating
 - C class: Anodize
 - E class: Stainless steel passive
 - F class: Electroless nickel plating
- Insulator: Thermo-set plastic
- Grommet and seal: Silicon rubber
- Contact: gold plating copper alloy, crimp, soldering and PCB
- Endurance: 500 cycles
- Vibration: random vibration: at frequency 100~1000Hz, density of power chart: 1g²/Hz
- Shock: At 3ms half sinusoid, peak value of acceleration: 300g 45dB

ELECTRICAL

- Contact resistance and current rating

Contact size	Operating dia. (mm)	Contact resistance (mΩ)	Rated current (A)
22D [#]	Φ0.76	≤12	5
20 [#]	Φ1.00	≤5	7.5
16 [#]	Φ1.60	≤2.5	13
12 [#]	Φ2.40	≤1.5	23

- EMI shielding
- 100MHz ~ 1GHz, minimum attenuation



— Withstanding voltage: V

Service rating*	M	I	II
Sea level	1300	1800	2300
21000m	800	1000	1000

*Please see the contact layout.

— Insulating resistance:

Normal $\geq 5000\text{M}\Omega$ Damp heat $\geq 100\text{M}\Omega$

— Electrical continuity between shells:

B class $\leq 2.5\text{m}\Omega$ F class $\leq 1.0\text{m}\Omega$

E class $\leq 5\text{m}\Omega$

ENVIRONMENTAL

— Operating temperature:

B class: $-65^{\circ}\text{C} \sim +175^{\circ}\text{C}$

E, F class: $-65^{\circ}\text{C} \sim +200^{\circ}\text{C}$

— Salt spray: According to method 1001 GJB1217

B class 500 h

E class 1000h

F class 48 h

— Relative humidity: 98% at 40°C

— operating height: $\leq 30480\text{m}$

ORDERING INFORMATION

Basic series	JY	27472	T	14	F	35	P	-H
Type	Type 27473- plug (Only for type T) 27484- sheilding plug (Only for type T) 27472- wall-through front mounting receptacle (Only for type T) 27497- wall-through rear mounting receptacle (Only for type T) 27513- box front mounting receptacle (Only for type E) 27508- box rear mounting receptacle (Only for type E) 27474- jam nut mounting receptacle (Only for type T)							
Shell type	T-with thread, stop teeth and rear mounting accessory E-without thread, stop teeth or rear mounting accessory							
Shell size	08-10-12-14-16-18-20-22-24							
Plating	B –aluminum alloy shell with olive green cadmium plating F –aluminum alloy shell with electroless nickel plating E –stainless steel shell, passive							
Layout	See “Layout table” for more details.							
Contact	Crimp and solder contacts: P-pin, S-socket PCB contact: PL-long PCB pin SL-long PCB socket PC-short PCB pin SC-short PCB socket							
Polarization	A, B, C, D-alternative (when select crimp contacts, N can be omitted; when choose other contacts, N must be marked; there are only N, A and D keys for 08# shell							
Solder contact identification	(only applicable for solder connectors) H- Solder contact							

NOTE:

- 1) Part number designation for GJB599A series and MIL-DTL-38999K are all the same, except that basic series are different. Basic series for GJB599A is "JY", while MIL-DTL-38999K is "MS". They are interchangeable.
- 2) Applicable sealing cap, backshell and square flange rubber washer for this series see P32-P33.
- 3) When high oil resistance is required, connector sealing material is fluorine silicon rubber, put C1 behind the original part number (Example: JY27467T17F35PNC1).

Part number identification example

JY27472T14F35PN-H

JY series wall-through square flange front mounting receptacle, with thread at shell end, stop teeth and rear mounting accessory, 14# shell size, aluminum alloy shell with electroless nickel plating, 35# insert arrangement, pin contact, polarization N. Solder contacts are only applicable for solder connectors.

CRIMP CONTACTS

Contact size	Dia. mm	Pin color ring	Socket color ring	Inner dia. of crimp boot mm	Outer dia. of crimp boot mm	Section of cable mm ²	AWG	Insulator outer dia. of wire	With draw tool code	Crimp tool code
22D#	0.76	Orange blue black	Orange green yellow	0.85	1.20	0.08, 0.125 0.2, 0.3	28, 26, 24, 22	0.76~1.37	M81969/ 14-01	YJQ-02
20#	1.00	Orange blue orange	Orange green purple	1.17	1.78	0.2, 0.3 0.5	24, 22, 20	1.02~2.11	M81969/ 14-10	YJQ-02
16#	1.60	Orange blue yellow	Orange green gray	1.68	2.62	0.5, 0.8 1.0, 1.2	20, 18, 16	1.65~2.77	M81969/ 14-03	XCXY-01
12#	2.40	Orange blue green	Orange green white	2.49	3.84	2.0, 3.0	14, 12	2.46~3.61	M81969/ 14-04	XCXY-01

NOTE:

For crimping tool and operation explain, please see "GJB599 series product matching crimp tool operation instruction".

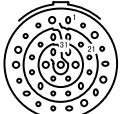
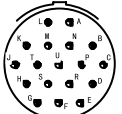
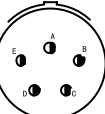
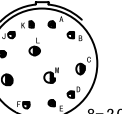
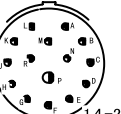
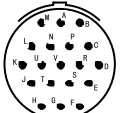
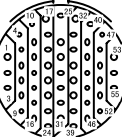
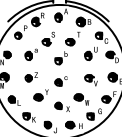
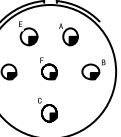
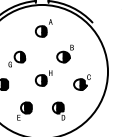
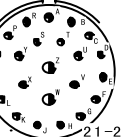
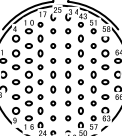
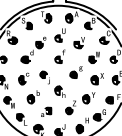
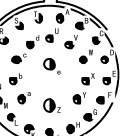
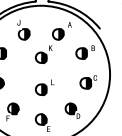
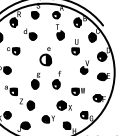
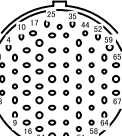
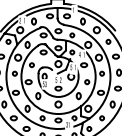
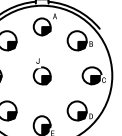
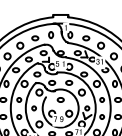
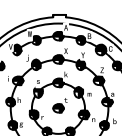
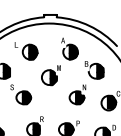
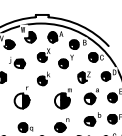
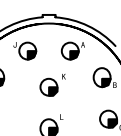
SOLDER CONTACTS

Solder contact size	Inner dia. of solder cup	The Max. applicable wire gauge (AWG)
22D#	φ0.9	22
20#	φ1.1	20
16#	φ1.9	16
12#	φ2.9	12

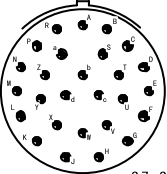
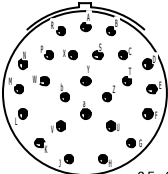
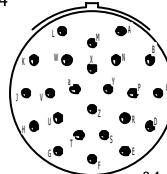
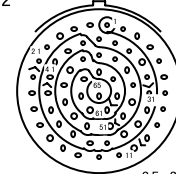
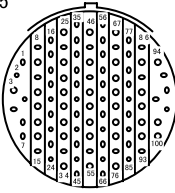
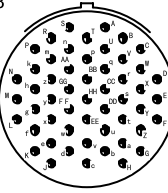
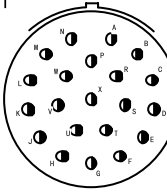
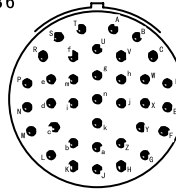
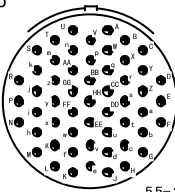
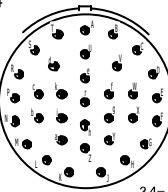
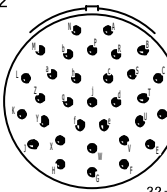
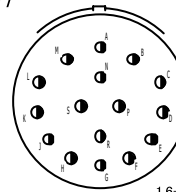
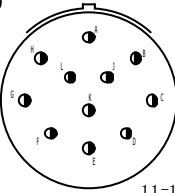
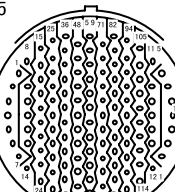
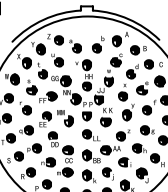
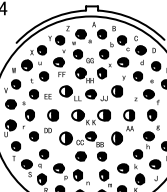
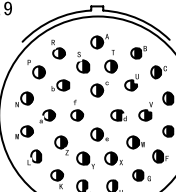
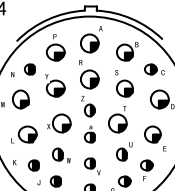
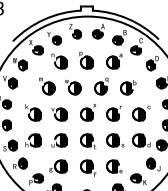
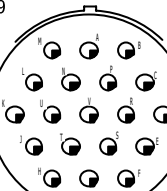
NOTE:

There is no solder type for coaxial contacts.

LAYOUT TABLE

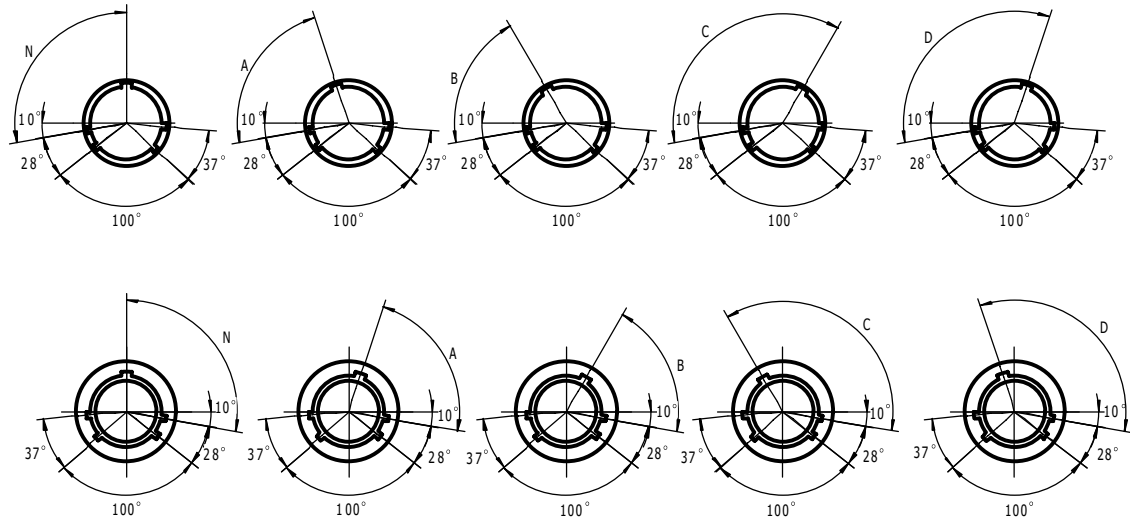
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10	35  M 98  I 05  I 04  I 01  I 99  I 02  I 13-22D# 6-20# 5-20# 4-20# 1-12# 7-20# 2-16#
12	35  M 98  I 04  I 08  I 03  II 22-22D# 10-20# 4-16# 8-20# 3-16#
14	35  M 18  I 05  II 97  I 15  I 37-22D# 18-20# 5-16# 8-20# 4-16# 14-20# 1-16#
	19  I 19-20#
16	35  M 26  I 06  I 08  II 99  I 55-22D# 26-20# 6-12# 8-16# 21-20# 2-16#
18	35  M 32  I 28  I 11  II 30  I 66-22D# 32-20# 26-20# 2-16# 11-16# 29-20# 1-16#
	45  M 53  M 93  I 96  I 67-22D# 53-22D# 24-22D# 6-20# 2-10# 9-12#
20	35  M 41  I 16  II 39  I 11  II 79-22D# 41-20# 16-16# 37-20# 2-16# 11-12#

 22D#
  20#
  16#
  12#

20	27 I  27-20#	25 I  25-20#	24 I  24-20#	02 M  65-22D#
	35 M  100-22D#	53 I  53-20#	21 II  21-16#	36 I  36-20#
22	55 I  55-20#	34 I  34-20#	32 I  32-20#	97 I  16-16#
	99 II  11-16#			
24	35 M  128-22D#	61 I  61-20#	04 I  48-20# 8-16#	29 I  29-16#
	24 I  12-16# 12-12#	43 I  23-20# 20-16#	19 I  19-12#	

接触件规格  22D#  20#  16#  12#

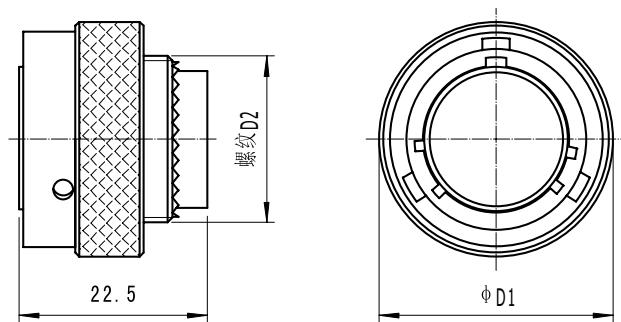
POLARIZATION



Polarization	08	10	12	14	16	18	20	22	24
N	100°	100°	100°	100°	100°	100°	100°	100°	100°
A	82°	86°	80°	79°	82°	82°	82°	85°	85°
B	None	72°	68°	66°	70°	70°	70°	74°	74°
C	None	128°	132°	134°	130°	130°	130°	126°	126°
D	118°	114°	120°	121°	118°	118°	118°	115°	115°

OUTLINE DIMENSIONS

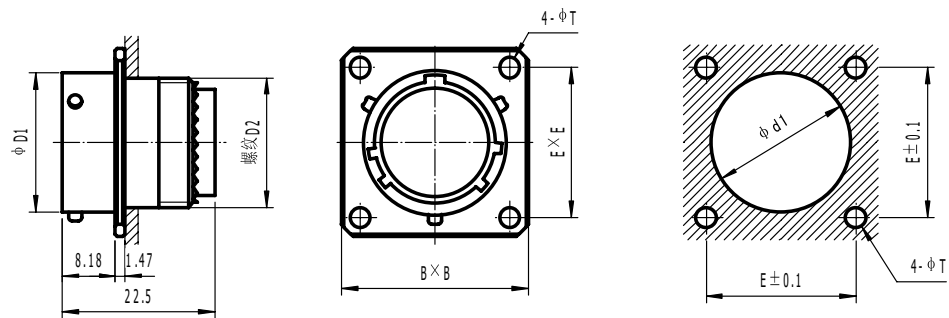
Plug JY27473/JY27484



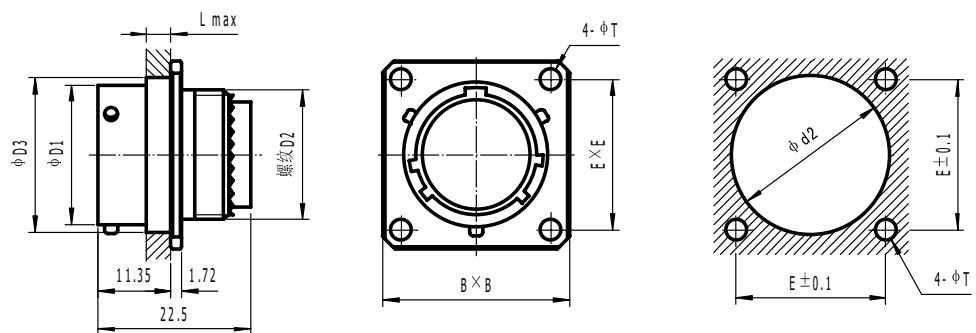
Shell size	D1	Thread D2 UNEF-2A
08	19.00	0.4375-28
10	21.80	0.5625-24
12	26.20	0.6875-24
14	29.30	0.8125-20
16	32.50	0.9375-20
18	35.70	1.0625-18
20	38.80	1.1875-18
22	41.68	1.3125-18
24	44.86	1.4375-18

WALL-THROUGH SQUARE FLANGE RECEPTACLE JY27472/JY27497

(JY27472)



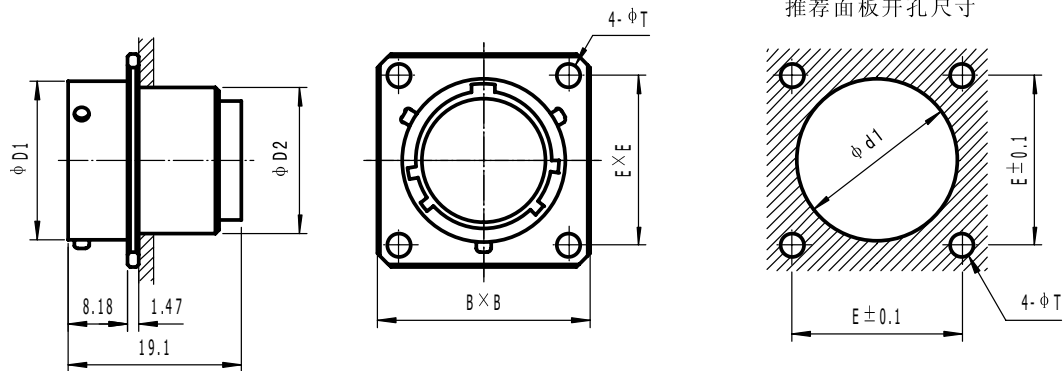
(JY27497)



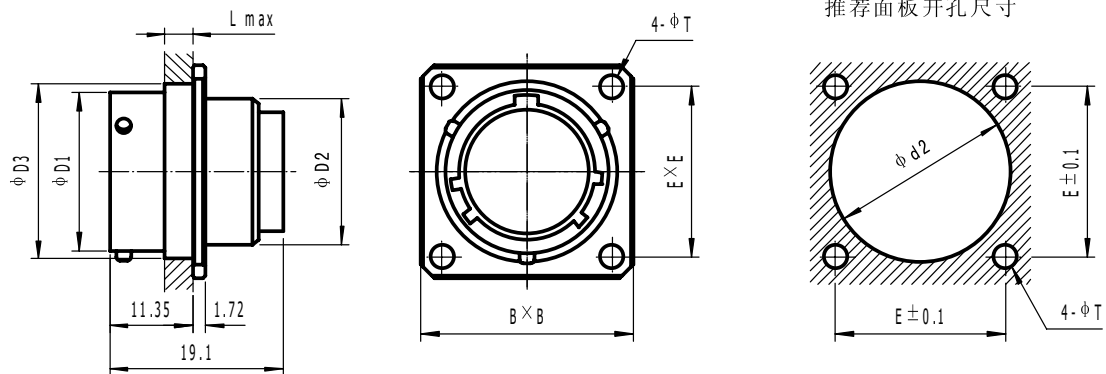
Shell size	D1	Thread D2 UNEF-2A	D3	L MAX	B	E	T	d1	d2
08	12.00	0.4375-28	13.20	3.71	21.00	15.09	3.2	12.5	14.2
10	15.00	0.5625-24	16.14	3.71	24.10	18.26	3.2	15.5	17.5
12	19.05	0.6875-24	20.50	3.71	26.50	20.62	3.2	19.5	21.3
14	22.23	0.8125-20	23.60	3.71	28.90	23.01	3.2	21.5	25.0
16	25.40	0.9375-20	26.80	3.71	31.21	24.61	3.2	25.0	27.3
18	28.58	1.0625-18	30.00	3.71	33.60	26.97	3.2	28.0	31.3
20	31.75	1.1875-18	33.20	4.27	36.80	29.36	3.2	31.5	34.5
22	34.93	1.3125-18	36.35	4.27	40.00	31.75	3.2	34.5	37.5
24	38.10	1.4375-18	39.50	4.27	43.10	34.93	3.9	37.5	40.6

BOX SQUARE FLANGE RECEPTACLE JY27513/JY27508

(JY27513)



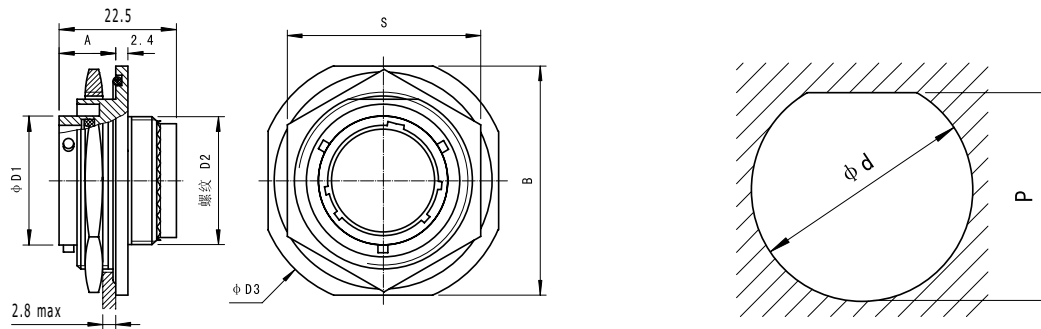
(JY27508)



Shell size	D1	D2	D3	L MAX	B	E	T	d1	d2
08	12.00	11.51	13.20	3.71	21.00	15.09	3.2	12.5	14.2
10	15.00	14.68	16.14	3.71	24.10	18.26	3.2	15.5	17.5
12	19.05	17.86	20.50	3.71	26.50	20.62	3.2	19.5	21.3
14	22.23	21.03	23.60	3.71	28.90	23.01	3.2	21.5	25.0
16	25.40	24.21	26.80	3.71	31.21	24.61	3.2	25.0	27.3
18	28.58	26.97	30.00	3.71	33.60	26.97	3.2	28.0	31.3
20	31.75	30.18	33.20	4.27	36.80	29.36	3.2	31.5	34.5
22	34.93	33.32	36.35	4.27	40.00	31.75	3.2	34.5	37.5
24	38.10	36.53	39.50	4.27	43.10	34.93	3.9	37.5	40.6

NOTE:

Aviation standard screws are recommended for square flange receptacle mounting.

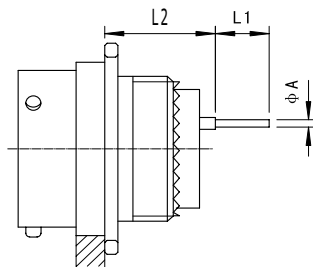


Shell size	D1	Thread D2 UNEF-2A	D3	A	B	S	d	p
08	12.00	0.4375-28	34.95	11.1	31.75	27.40	22.46	21.08
10	15.00	0.5625-24	38.10	11.1	34.95	30.61	25.58	24.26
12	19.05	0.6875-24	41.28	11.1	38.10	33.75	28.80	27.53
14	22.23	0.8125-20	44.45	11.1	41.28	36.96	31.98	30.68
16	25.40	0.9375-20	49.23	11.1	45.24	40.10	35.15	33.86
18	28.58	1.0625-18	51.21	11.1	48.00	43.31	38.28	37.06
20	31.75	1.1875-18	54.38	11.8	51.21	46.45	41.50	40.03
22	34.93	1.3125-18	57.53	11.8	54.36	51.23	44.68	43.21
24	38.10	1.4375-18	60.71	11.8	57.53	54.41	47.85	46.38

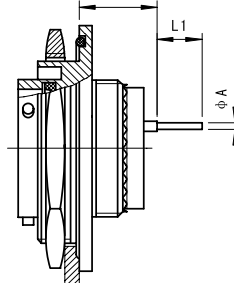
GJB599 II SERIES

RECEPTACLES WITH PCB CONTACTS

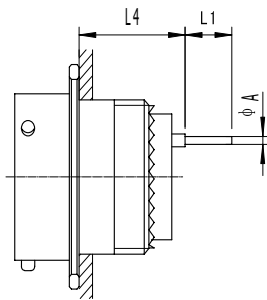
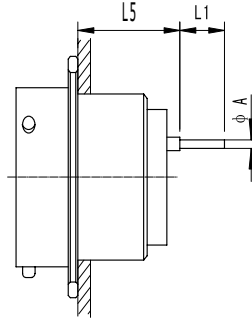
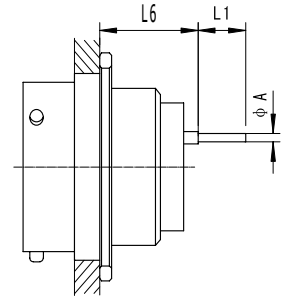
JY27497 RECEPTACLE



JY27474 RECEPTACLE



PCB contact size		L1	A
22D#	Long PCB contact	8.5	0.7
	Short PCB contact	4.0	
20D#	Long PCB contact	8.5	0.7
	Short PCB contact	5.1	
16D#	Long PCB contact	8.5	1.15
	Short PCB contact	5.1	

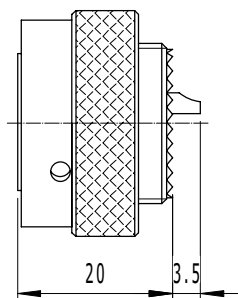
JY27472 RECEPTACLE

JY27513 RECEPTACLE

JY27508 RECEPTACLE


Dimensions with different contacts		Shell size 08-10-12-14-16-18	Shell size 20-22-24
L2	With 22D# pin/socket	13.40	13.40
	With 20# or 16# pin/ socket	13.57	13.57
L3	With 22D# pin/ socket	13.61	12.95
	With 20# or 16# pin/ socket	13.78	13.12
L4	With 22D# pin/socket	15.1	15.1
	With 20# or 16# pin/ socket	15.27	15.27
L5	With 22D# pin/ socket	11.1	11.1
	With 20# or 16# pin/ socket	11.27	11.27
L6	With 22D# pin/socket	9.4	9.4
	With 20# or 16# pin/ socket	9.57	9.57

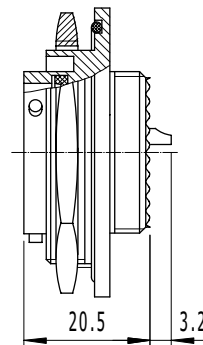
GJB599 II SERIES

SOLDER CONNECTORS

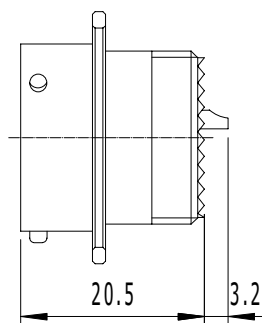
JY27497 RECEPTACLE



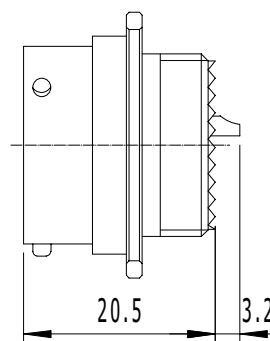
JY27474 RECEPTACLE



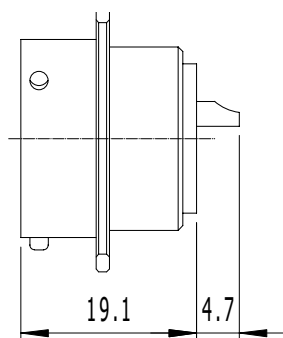
JY27472 RECEPTACLE



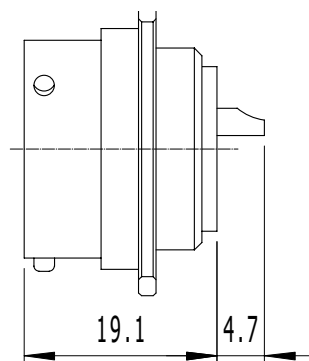
JY27497 RECEPTACLE



JY27513 RECEPTACLE

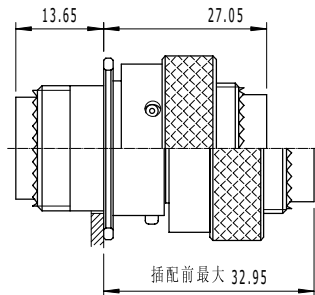


JY27508 RECEPTACLE

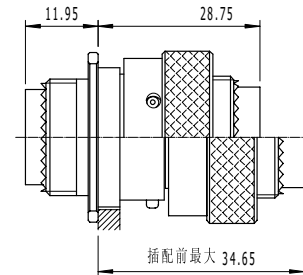


PLUG AND RECEPTACLE MATED DIMENSION

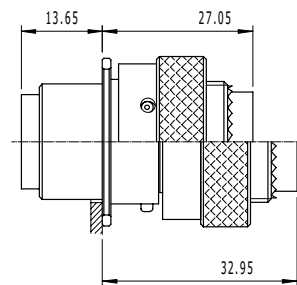
Wall-through square flange front mounting receptacle
(JY27472)/ plug (JY27473)



Through-wall square flange rear mounting receptacle
(JY27497)/ plug (JY27473)



Box mounting square flange front mounting receptacle
(JY27513)/ plug (JY27473)



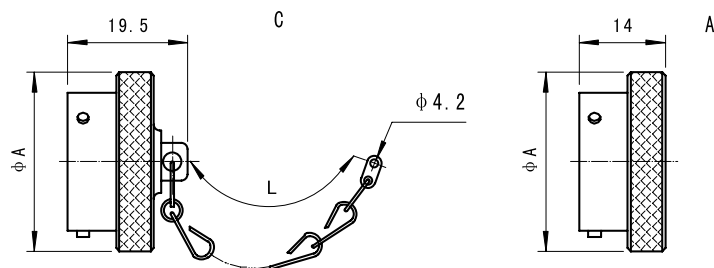
PLUG AND RECEPTACLE SEALING CAPS

Part number designation

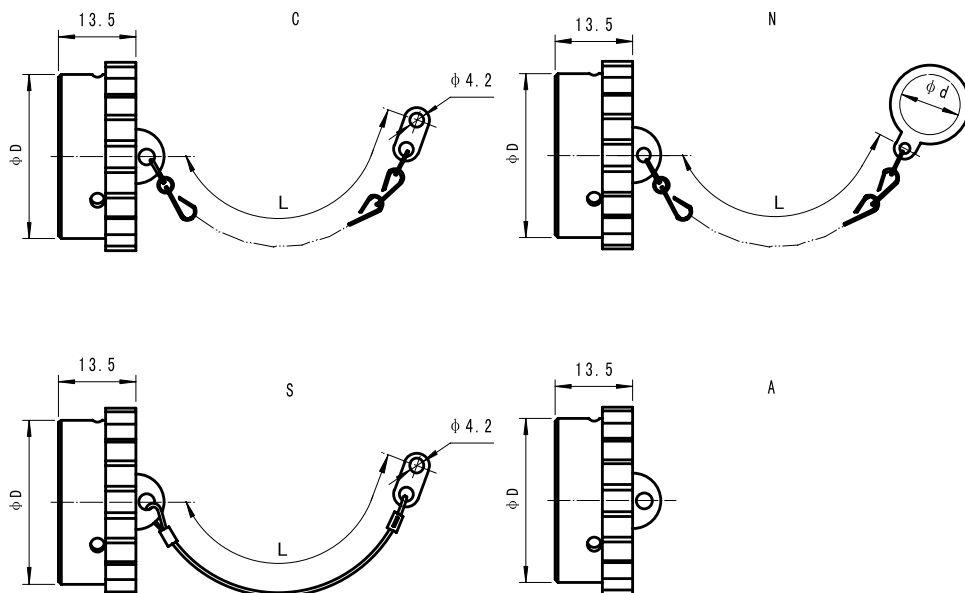
Basic series	JY27510	F	10	C	L
JY27510–sealing cap of plug (MS27510) JY27511–sealing cap of receptacle(MS27511)					
Shell plating	B - olive green cadmium plating F - eletroless nickel plating E – stainless steel passivation				
Shell size	08-10-12-14-16-18-20-22-24				
Chain type	C–stainless steel twisted chain with connecting lug N–stainless steel twisted chain with ring S– stainless steel wire rope R–brocaded silk rope with connecting lug A–without chain E–brocaded silk rope with ring				
Length mark	Omitted – standard length L- 127mm of chain length M- 152.4mm of chain length(only applicable for JY27510) N- 177.8mm of chain length(only applicable for JY27510)				

OUTLINE DIMENSIONS

JY27510 (MS27510)

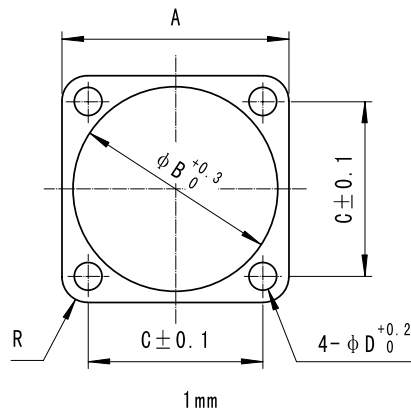


JY27511 (MS27511)



Shell size		08	10	12	14	16	18	20	22	24
A	Max	18.2	21.5	25.4	28.7	31.7	35.0	38.1	41.4	44.4
D	Max	18.5	21.7	25.3	29.0	31.6	34.8	38.0	41.1	44.2
d	Min	22.6	26.0	29.0	32.4	35.5	38.6	42.0	44.7	48.5
L	Max	76.2	76.2	88.9	88.9	88.9	88.9	101.6	101.6	101.6

SQUARE FLANGE RUBBER WASHER



Applicable shell size	Square flange rubber washer code	Conductive square flange rubber washer code	A	B	C	D	R
08	21E8-701-867-A1	21E8-701-868-A2	21.1	13.4	15.09	3.3	3.2
10	21E8-701-869-A1	21E8-701-870-A2	24.2	16.3	18.26	3.3	3.2
12	21E8-701-871-A1	21E8-701-872-A2	26.6	21.5	20.62	3.3	3.2
14	21E8-701-873-A1	21E8-701-874-A2	29.0	24.7	23.01	3.3	3.2
16	21E8-701-875-A1	21E8-701-876-A2	31.3	27.0	24.61	3.3	3.2
18	21E8-701-877-A1	21E8-701-878-A2	33.7	31.0	26.97	3.3	3.2
20	21E8-701-879-A1	21E8-701-880-A2	36.9	34.2	29.36	3.3	3.2
22	21E8-701-881-A1	21E8-701-882-A2	40.1	37.4	31.75	3.3	3.2
24	21E8-701-883-A1	21E8-701-884-A2	43.2	40.5	34.93	4.1	4.0



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