R255 III Series

Hermetically Sealed Connector (MIL-DTL-38999K)

Description

R255 III series sealed connectors are designed according to MILDTL-38999K and the relevant specification sheet in order to meet the hermetic performance. They are composed of hermetic electrical connector and thru-bulkhead sealed connector. The contact is sintered and adapted to the shell of receptacle, therefore the connector has the excellent hermetic performance. The matching plug is the common un-sealed plug,
R255 series hermetic receptacle and thru-bulkhead receptacle are composed of ：

Receptacle type	Mounting type	Mark	Feature
R255 Ⅲ series sealed receptacle	square flange mounting	R255/21 Y N - P S	stainless steel shell；thread quick coupling contact：soldered pin, soldered socket
	jam nut mounting	R255/23 Y N - P S	
	solder mounting	R255/25 Y N - P S	
	weld mounting	R255/27 Y N - P S	
R255 Ⅲ series thru-bulkhead sealed receptacle	square flange mounting	R255/20 Y N - C	stainless steel shell；thread quick coupling ；contact：thru-bulkhead pin
	jam nut mounting	R255/24 Y N - C	

Main technical characteristics

[Mechanical]
—Shell ： Stainless steel
—Plating ： Y class stainless steel passivated
N class nickel electroplating
—Insulator ： Fused glass material for the insulator with pin ； Glass sealed and hard insulator material for the insulator with socket
—Sealing ring and grommet ： Silicon rubber
—Contact ： Fe-Ni-Co sealing copper, gold plating over nickel, solder termination
—Durability ： 500 cycles
—Shock ： 3ms half-sine wave acceleration peak value 300g
—Vibration ： Sine ： frequency 10~2000Hz acceleration294m/s2

Main technical characteristics

[Electrical]

—Withstanding voltage：V

Work level	M	N	Ⅰ	Ⅱ
Sea level	1300	1000	1800	2300
21000m	800	600	1000	1000

Note：Different insert arrangements have different service rating. Please see the insert arrangements.

—EMI shielding：The minimum attenuation is 85dB at 100MHz ~ 1GHz The minimum attenuation is 50dB at 1GHz ~ 10GHz

—Contact resistance and rated current：

Contact size	Diameter mm	Contact resistance mΩ	Rated current A
22D#	Φ0.76	≤28	5
20#	Φ1.00	≤12	7.5
16#	Φ1.60	≤8.5	13
12#	Φ2.40	≤5.0	23

—Insulation resistance： normal≥5000MΩ

[Environmental]

—Temperature：-65 ~+200℃℃ —Hermetic：Air leakage rate ≤1×10-3 Pa cm3/ s at a pressure differential of 1atmospheres

Ordering Information

Basic series	R255/	20	Y	E	35	P	N
Type of connector 21—square flange mounting sealed receptacle 23—jam nut mounting sealed receptacle 25—solder mounting sealed receptacle（only N plating） 27—weld mounting sealed receptacle 20—thru-bulkhead square flange sealed receptacle 24—thru-bulkhead jam nut sealed receptacle							
Finish N = stainless steel nickel electroplating Y = Stainless steel passivated							
Shell size 09 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)							
Contact layout (See below)							
Type of contact For hermetic receptacle：P—pin S—socket For thru-bulkhead sealed receptacle：C—thru-bulkhead pin							
Orientation N = Normal A, B, C, D = Alternative							

Note:

The two corresponding plugs should be loaded with sockets, one is left plug and the other is right plug, -U should be marked at the P/N of the left plug. The right plug should be marked in the normal manner.

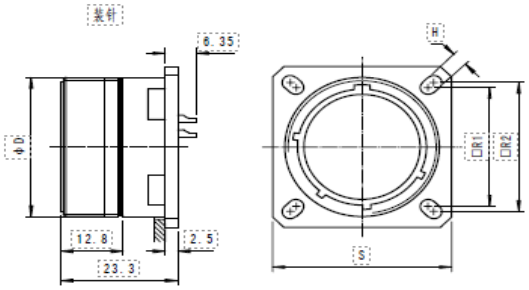
[Part number identification example]

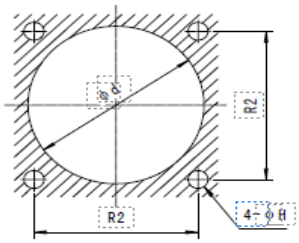
R255/21YE35PN R255 series square flange mounting sealed receptacle, stainless steel passivated, E shell code, pin contact, N polarization

Outline dimension

R255 III Series Sealed Receptacle [R255/21 square flange mounting sealed receptacle]

Recommended panel cut-out dimensions

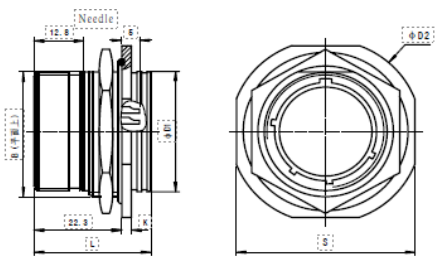


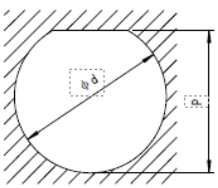


Shell size	Shell code	D	R1	R2	S	H	d
9	A	15.88	15.09	18.26	23.8	3.25	16.66
11	B	19.05	18.26	20.62	26.2	3.25	20.22
13	C	22.23	20.62	23.01	28.6	3.25	23.42
15	D	25.40	23.01	24.61	31.0	3.25	26.59
17	E	30.16	24.61	26.97	33.3	3.25	30.96
19	F	31.80	26.97	29.36	36.5	3.25	32.94
21	G	34.73	29.36	31.75	39.7	3.25	36.12
23	H	38.1	31.75	34.93	42.9	3.90	39.29
25	J	41.2	34.93	38.1	46.0	3.90	42.47

[R255/23 jam nut mounting sealed receptacle]

Recommended panel hole dimensions

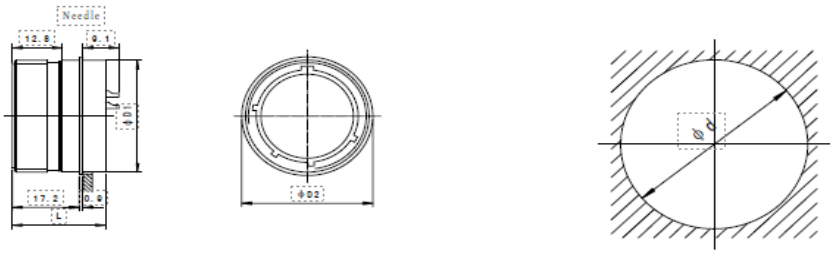




Shell size	Shell code	D	R1	R2	S	H	d		
9	A	16.6	30.5	27.0	16.5	29.2	2.6	17.7	16.99
11	B	19.7	35.2	31.8	19.3	29.2	2.6	20.88	19.53
13	C	23	38.4	34.9	24.0	29.3	2.6	25.58	24.26
15	D	26.2	41.6	38.1	27.2	29.3	2.6	28.8	27.53
17	E	29.3	44.8	41.3	30.4	29.3	2.6	31.98	30.68
19	F	32.5	49.3	46.0	33.4	30.1	3.4	35.15	33.86
21	G	35.7	52.7	49.2	36.5	30.1	3.4	38.28	37.06
23	H	38.9	55.9	52.4	39.7	30.1	3.4	41.50	40.24
25	J	42.0	59.0	55.6	42.8	30.1	3.4	44.68	43.41

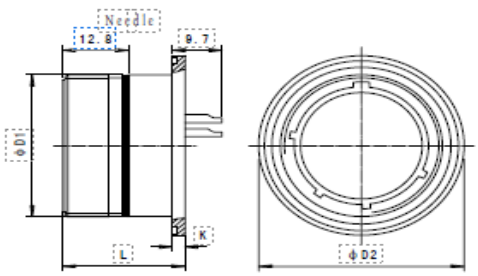
Outline dimension

[R255/25 solder mounting sealed receptacle]



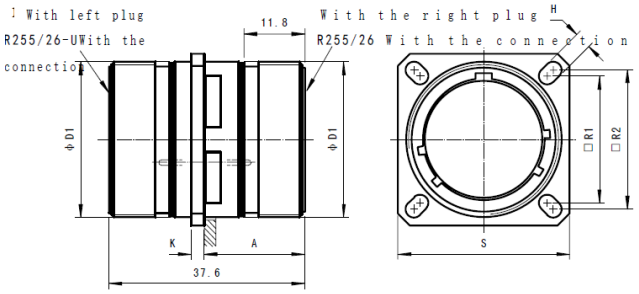
Shell size	Shell code	D1	D2	L	d
9	A	17.1	19.4	23.8	17.6
11	B	19.9	21.8	23.8	20.4
13	C	23.1	24.9	23.8	23.6
15	D	26.2	28.1	23.8	26.7
17	E	29.4	31.3	23.8	29.9
19	F	31.8	33.6	23.8	32.3
21	G	35.0	36.8	23.8	35.5
23	H	38.2	40.0	24.6	38.7
25	J	41.3	43.2	24.6	41.8

[R255/27 weld mounting sealing receptacle]

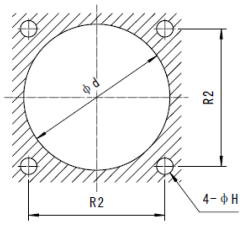


Shell size	Shell code	D1	D2	L	K
9	A	15.88	25.0	21.4	3.2
11	B	19.05	28.1	21.4	3.2
13	C	22.23	31.3	21.4	3.2
15	D	25.40	34.5	21.4	3.2
17	E	30.16	36.7	21.4	3.2
19	F	31.80	40.4	21.4	3.2
21	G	34.73	44.0	21.4	3.2
23	H	38.10	48.2	24.9	4.0
25	J	41.20	50.4	24.9	4.0

[R255/20 square flange mounting thru-bulkhead sealed



Recommended panel cut-out dimensions

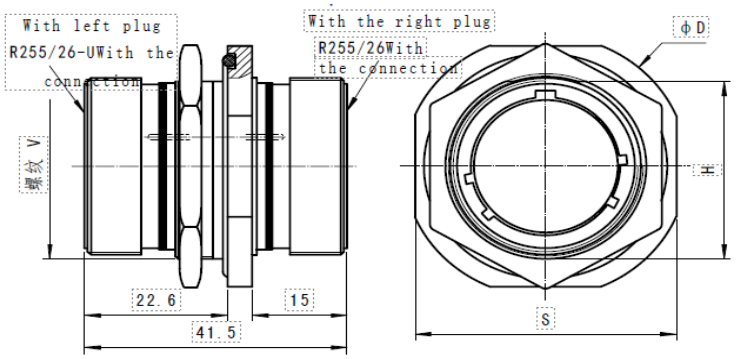


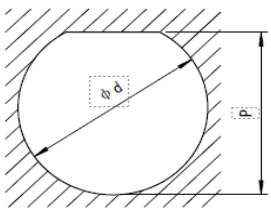
Thickness of panel≤2.5mm

Shell size	Shell code	D1	A	K	R1	R2	S	H	d
9	A	15.88	19.5	2.1	15.09	18.26	23.8	3.25	16.66
11	B	19.05	19.5	2.1	18.26	20.62	26.2	3.25	20.22
13	C	22.23	19.5	2.1	20.62	23.01	28.6	3.25	23.42
15	D	25.4	19.5	2.1	23.01	24.61	31.0	3.25	26.59
17	E	30.16	19.5	2.1	24.61	26.97	33.3	3.25	30.96
19	F	31.80	19.5	2.1	26.97	29.36	36.5	3.25	32.94
21	G	34.73	18.7	2.8	29.36	31.75	39.7	3.25	36.12
23	H	38.10	18.7	2.8	31.75	34.93	42.9	3.90	39.29
25	J	41.20	18.7	2.8	34.93	38.10	46.0	3.90	42.47

[R255/46 jam nut mounting thru-bulkhead sealed receptacle]

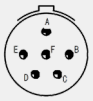
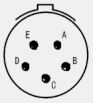
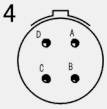
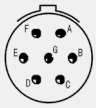
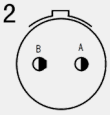
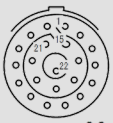
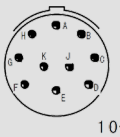
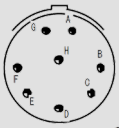
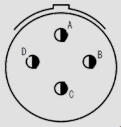
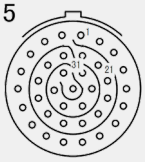
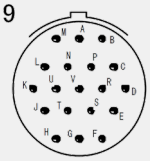
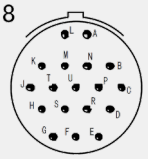
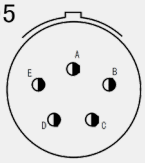
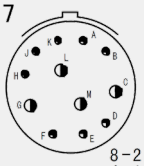
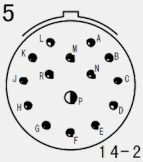
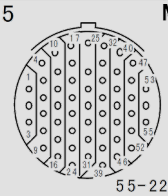
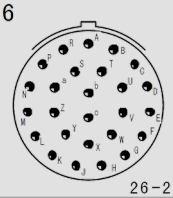
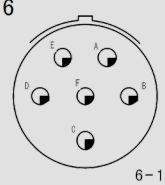
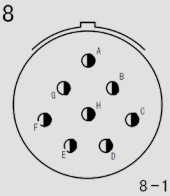
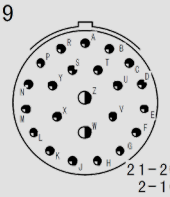
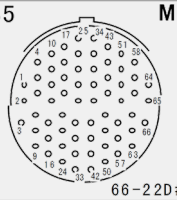
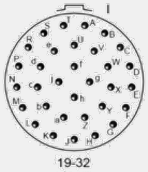
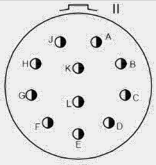
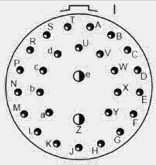
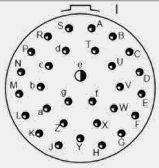
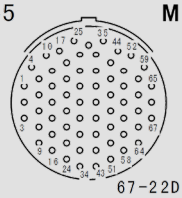
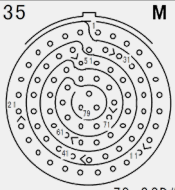
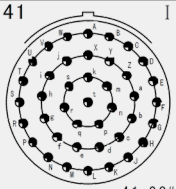
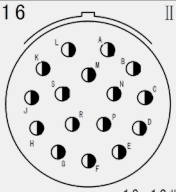
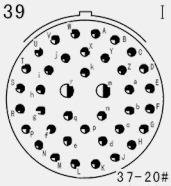
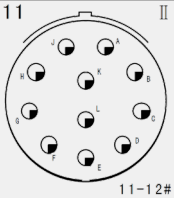
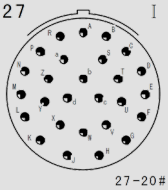
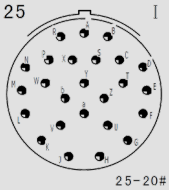
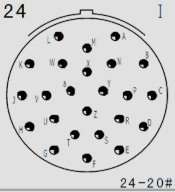
Recommended panel cut-out dimensions



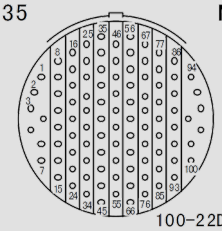
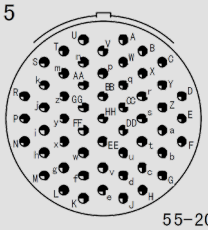
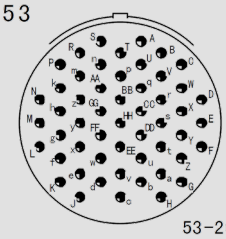
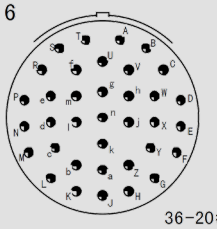
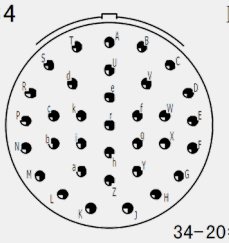
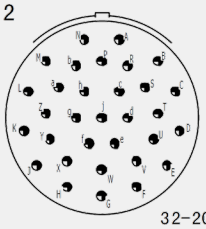
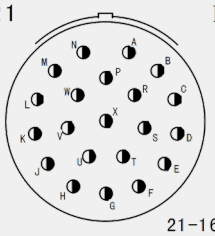
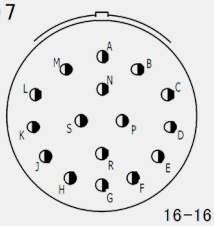
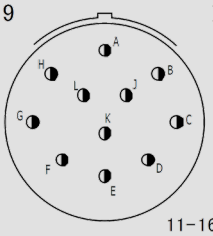
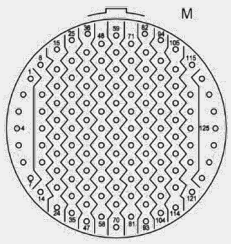
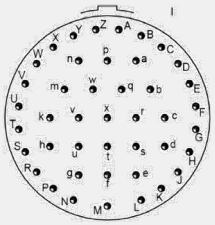
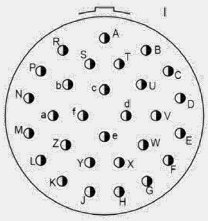
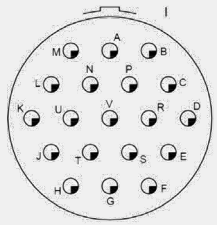
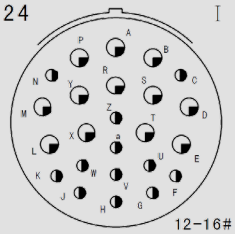
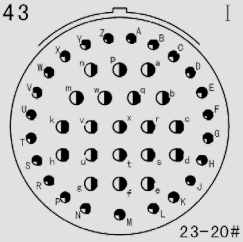
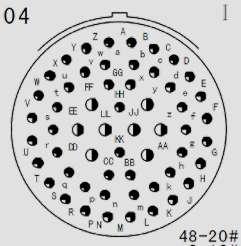


Shell size	Shell code	D	S	H	Thread V	d	p
9	A	30.5	27.0	16.5	0.6875-24UNEF	17.70	16.99
11	B	35.2	31.8	19.3	0.8125-20UNEF	20.88	19.53
13	C	38.4	34.9	24.0	1.0000-20UNEF	25.58	24.26
15	D	41.6	38.1	27.2	1.1250-18UNEF	28.80	27.53
17	E	44.8	41.3	30.4	1.2500-18UNEF	31.98	30.68
19	F	49.3	46.0	33.4	1.3750-18UNEF	35.15	33.86
21	G	52.7	49.2	36.5	1.5000-18UNEF	38.28	37.06
23	H	55.9	52.4	39.7	1.6250-18UNEF	41.50	40.24
25	J	59.0	55.6	42.8	1.7500-20UN	44.68	43.41

R255 Series Sealed Connector Insert Arrangement (front face of pin insert)

Shell number					
09 / A	35 M  6-22D#	98 I  3-20#			
11 / B	35 M  13-22D#	98 I  6-20#	05 I  5-20#	04 I  4-20#	01 I  1-12#	99 I  7-20#	02 I  2-16#
13 / C	35 M  22-22D#	98 I  10-20#	08 I  8-20#	04 I  4-16#	
15 / D	35 M  37-22D#	19 I  19-20#	18 I  18-20#	05 II  5-16#	97 I  8-20# 4-16#	15 I  14-20# 1-16#
17 / E	35 M  55-22D#	26 I  26-20#	06 I  6-12#	08 II  8-16#	99 I  21-20# 2-16#
19 / F	35 M  66-22D#	I  19-32 32-20#	II  19-11 11-16#	I  19-28 2-16# 26-20#	I  19-30 1-16# 29-20#
	45 M  67-22D#				
21 / G	35 M  79-22D#	41 I  41-20#	16 II  16-16#	39 I  37-20# 2-16#	11 II  11-12#
	27 I  27-20#	25 I  25-20#	24 I  24-20#		

Contact specifications ○ 22D# ◔ 20# ◑ 16# ◕ 12#

Shell number				
23 / H	35 M  100-22D#	55 I  55-20#	53 I  53-20#	36 I  36-20#
	34 I  34-20#	32 I  32-20#	21 II  21-16#	97 I  16-16#
	99 II  11-16#			
25 / J	M  25-35	I  25-61 61-20#	I  25-29 29-16#	I  25-19 19-12#
	24 I  12-16# 12-12#	43 I  23-20# 20-16#	04 I  48-20# 8-16#	

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