

J599 Series III Circular Connectors (38999 Series III Type)

38999 Series III type · shell sizes 9–25 · 184 insert arrangements



Coupling	Triple-start thread
Shell sizes	9 to 25
Insert arrangements	184
Contact sizes	26 to 10 (2–33 A)
Temperature	–65 to +200 °C
Mating cycles	500 (1500 option)

Key features

- Triple-start threaded coupling with anti-decoupling device, scoop-proof and keyed (six key positions)
- Built to GJB 599B Series III, the Chinese counterpart of MIL-DTL-38999 Series III
- Nine shell materials and finishes, including composite (2000 h salt spray) and titanium
- Hermetic receptacles with leak rate $\leq 1 \times 10^{-8}$ Pa·m³/s
- High-temperature (260 °C) versions, fluorosilicone (oil-resistant) seals and thermocouple contacts
- Crimp contacts from size 26 to size 10, plus coax, shielded and twinax contacts
- Marine-environment (M) versions in stainless steel, titanium or composite for exposed marine locations

Specifications

Electrical		
Parameter	Value	Condition
Dielectric withstanding voltage, service rating M	1300 Vrms / 800 Vrms	Sea level / 21,000 m altitude, mated
Dielectric withstanding voltage, service rating N	1000 Vrms / 600 Vrms	Sea level / 21,000 m altitude, mated
Dielectric withstanding voltage, service rating I	1800 Vrms / 1000 Vrms	Sea level / 21,000 m altitude, mated
Dielectric withstanding voltage, service rating II	2300 Vrms / 1000 Vrms	Sea level / 21,000 m altitude, mated
Insulation resistance	≥ 5000 M Ω	500 VDC
Shell-to-shell conductivity	1–10 m Ω	Depends on finish — see finish table
EMI shielding	45–65 dB at 10 GHz; ≥ 85 dB at 1 GHz	Depends on finish — see finish table
Mechanical		
Parameter	Value	Condition
Coupling	Triple-start thread, self-locking	
Durability	500 mating cycles	1500 cycles with H/J contacts (composite shells)

Mechanical

Parameter	Value	Condition
Shock	2940 m/s ²	

Environmental

Parameter	Value	Condition
Operating temperature	–65 to +200 °C	–65 to +175 °C for cadmium and T finishes; 260 °C with MT high-temperature version
Sine vibration	10–2000 Hz, 60 g (140–2000 Hz), 3 × 12 h	With temperature cycling
Random vibration	50–2000 Hz, 1 g ² /Hz (100–2000 Hz), 2 × 8 h	At maximum temperature
Random vibration	25–2000 Hz, 5 g ² /Hz (100–300 Hz), 2 × 8 h	At ambient temperature
Humidity	10 cycles of 24 h	
Salt spray	48 to 2000 h	Depends on finish — see finish table
Hermetic leak rate	≤ 1 × 10 ^{–8} Pa·m ³ /s	Hermetic receptacles, 0.1 MPa pressure differential

Versions

Series code	Version	Notes
J599/20	Square-flange receptacle	Crimp contacts
J599/24	Jam-nut receptacle	Crimp contacts
J599/26	Plug	Crimp contacts; -U suffix for the reverse-side plug
J599/21	Square-flange hermetic receptacle	Solder-sealed pin contacts
J599/23	Jam-nut hermetic receptacle	
J599/25	Solder-mount hermetic receptacle	
J599/27	Weld-mount hermetic receptacle	
J599/20...C, J599/24...C	Hermetic feed-through (bulkhead) receptacles	Mate with a standard plug on one side and a -U plug on the other; C8 for extended contacts
J599/...M	Marine-environment version (M)	Stainless (K), titanium (TA) or composite shells, including hermetic, bulkhead feed-through and PCB receptacles; rated for acid salt spray, acid atmosphere and mold. Example: J599/20MKB35PN.

Shell materials and finishes

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
F	Aluminum alloy	Nickel	1 mΩ	≥ 65 dB at 10 GHz, ≥ 85 dB at 1 GHz	–65 to +200 °C	48 h

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
W	Aluminum alloy	Olive-drab cadmium	2.5 mΩ	50 dB at 10 GHz	–65 to +175 °C	500 h
T	Aluminum alloy	Nickel-PTFE	2.5 mΩ	50 dB at 10 GHz	–65 to +175 °C	500 h
K	Stainless steel	Passivated	10 mΩ	45 dB at 10 GHz	–65 to +200 °C	500 h
S	Stainless steel	Nickel	1 mΩ	≥ 65 dB at 10 GHz, ≥ 85 dB at 1 GHz	–65 to +200 °C	48 h
M	Composite	Nickel	3 mΩ	≥ 65 dB at 10 GHz, ≥ 85 dB at 1 GHz	–65 to +200 °C	2000 h
J	Composite	Olive-drab cadmium	3 mΩ	≥ 50 dB at 10 GHz	–65 to +175 °C	2000 h
Y	Stainless steel (hermetic)	Electropolished	10 mΩ	45 dB at 10 GHz	–65 to +200 °C	500 h
TA	Titanium alloy	None	10 mΩ	≥ 65 dB at 10 GHz	–65 to +200 °C	500 h

Contact sizes and current ratings

Contact size	Engaging diameter	Contact resistance	Contact resistance (hermetic)	Current rating	Wire size
26	0.508 mm	≤ 26 mΩ	—	2 A	—
22D	0.76 mm	≤ 14.6 mΩ	≤ 28 mΩ	5 A	AWG 22–26 (0.13–0.33 mm ²)
20	1.02 mm	≤ 7.3 mΩ	≤ 12.0 mΩ	7.5 A	AWG 20–24 (0.20–0.52 mm ²)
16	1.58 mm	≤ 3.7 mΩ	≤ 8.5 mΩ	13 A	AWG 16–20 (0.52–1.31 mm ²)
12	2.41 mm	≤ 1.83 mΩ	≤ 5 mΩ	23 A	AWG 12–14 (2.08–3.31 mm ²)
10	3.20 mm	≤ 1 mΩ	—	33 A	AWG 10 (5.26 mm ²)

How to order

J599/ [type] [class] [finish] [shell] [arrangement] [contact] [key] [-suffix]

Example: **J599/20WB35SN** — Square-flange receptacle, olive-drab cadmium, shell B (size 11), arrangement 11-35, crimp socket contacts, key position N

Code segment	Options
Type	20 Square-flange receptacle
Type	24 Jam-nut receptacle
Type	26 Plug
Type	21 / 23 / 25 / 27 Hermetic receptacle: square flange / jam nut / solder mount / weld mount
Class	(none) Standard
Class	MT High temperature, 260 °C (stainless steel only)

Code segment	Options
Finish	F, W, T Aluminum alloy — nickel, olive-drab cadmium, nickel-PTFE
Finish	K, S Stainless steel — passivated, nickel
Finish	M, J Composite — nickel, olive-drab cadmium
Finish	Y, N Stainless steel hermetic — electropolished, nickel
Finish	TA Titanium alloy
Shell	A B C D E F G H J Shell size 9, 11, 13, 15, 17, 19, 21, 23, 25
Arrangement	e.g. 35 See the insert arrangement table below
Contact	P / S Pin / socket (crimp)
Contact	H / J Pin / socket, 1500 mating cycles (composite shells)
Contact	P Solder-sealed pin (hermetic receptacles)
Contact	C Feed-through pin (hermetic feed-through receptacles)
Key	N Normal key position
Key	A B C D E Alternate key positions
Suffix	-U Reverse-side plug (plugs only)
Suffix	V Fluorosilicone (oil-resistant) seals, not with MT
Suffix	R(X) NiCr–NiSi thermocouple contacts, X = number of pairs

Cadmium finishes (W, J) are not RoHS compliant and are supplied on request; nickel or composite finishes are recommended for export to the EU.

Insert arrangements

Arrangement	Contacts	Contact sizes	Service rating
9-02x	2	2 × size 20	I
9-03	3	3 × size 20	I
9-10	1	1 × size 12	I
9-11	1	1 × size 16	I
9-35	6	6 × size 22D	M
9-43	3	3 × size 22D	I
9-98	3	3 × size 20	I
11-01	1	1 × size 12	I
11-02	2	2 × size 16	I
11-04	4	4 × size 20	I
11-05	5	5 × size 20	I
11-08a	8	4 × size 20, 4 × size 22D	M
11-15	5	4 × size 22D, 1 × size 12	N
11-35	13	13 × size 22D	M
11-43	3	3 × size 16	M
11-98	6	6 × size 20	I

Arrangement	Contacts	Contact sizes	Service rating
11-99	7	7 × size 20	I
13-02	2	2 × size 12	I
13-03	3	3 × size 16	II
13-03a	3	3 × size 12	N
13-04	4	4 × size 16	I
13-05	3	1 × size 16, 2 × size 12	I
13-06a	6	2 × size 16, 4 × size 20	M
13-06x	6	3 × size 12, 3 × size 22D	M
13-06y	6	2 × size 12, 4 × size 20	M
13-08	8	8 × size 20	I
13-08a	8	4 × size 16, 4 × size 20	M
13-12x	12	11 × size 22D, 1 × size 12 coax	M
13-12a	12	12 × size 20	N
13-13	13	3 × size 16, 10 × size 22D	N
13-16	16	3 × size 16, 13 × size 22D	N
13-24	1	1 × size 12	II
13-26	8	2 × size 12, 6 × size 22D	M
13-35	22	22 × size 22D	M
13-45	5	5 × size 16	I
13-50	5	4 × size 20, 1 × size 10	M
13-60	6	4 × size 16, 2 × size 20	I
13-98	10	10 × size 20	I
13-99	7	3 × size 16, 4 × size 20	I
15-02	2	2 × size 12	II
15-03x	3	2 × size 12, 1 × size 16	I
15-03y	3	3 × size 12	M
15-05	5	5 × size 16	II
15-06a	6	6 × size 16	M
15-07a	7	7 × size 16	I
15-12	12	2 × size 12, 2 × size 20, 8 × size 22D	M
15-13x	13	2 × size 12, 11 × size 22D	M
15-13y	13	4 × size 16, 2 × size 20, 7 × size 22D	M
15-14	14	8 × size 22D, 6 × size 16	N
15-15	15	14 × size 20, 1 × size 16	I
15-16a	17	1 × size 16, 16 × size 22D	M
15-18	18	18 × size 20	I
15-19	19	19 × size 20	I

Arrangement	Contacts	Contact sizes	Service rating
15-23y	23	3 × size 16, 2 × size 20, 18 × size 22D	M
15-31	31	1 × size 12, 30 × size 22D	M
15-35	37	37 × size 22D	M
15-38	4	4 × size 12	II
15-39	16	2 × size 10, 14 × size 22D	M
15-48	8	8 × size 16	I
15-97	12	8 × size 20, 4 × size 16	I
17-02	39	38 × size 22D, 1 × size 8 twinax	M
17-03	3	2 × size 10, 1 × size 16	N
17-05x	5	5 × size 12	I
17-06	6	6 × size 12	I
17-07a	7	4 × size 12, 3 × size 16	I
17-08	8	8 × size 16	II
17-09	9	1 × size 12, 5 × size 16, 3 × size 20	M
17-09a	9	5 × size 12, 4 × size 20	M
17-11	11	3 × size 12, 8 × size 20	N
17-12x	12	3 × size 12, 9 × size 22D	N
17-14x	16	6 × size 12, 10 × size 22D	M
17-14y	14	2 × size 12, 4 × size 16, 8 × size 20	M
17-15x	15	8 × size 16, 3 × size 20, 4 × size 22D	M
17-16a	16	6 × size 12, 10 × size 22D	M
17-16x	6	2 × size 10, 1 × size 16, 3 × size 20	I
17-19y	19	4 × size 16, 11 × size 20, 4 × size 22D	M
17-20a	20	1 × size 12, 19 × size 22D	M
17-20x	20	2 × size 12, 2 × size 20, 16 × size 22D	I
17-20y	20	4 × size 12, 16 × size 22D	M
17-21x	21	4 × size 12, 17 × size 22D	N
17-26	26	26 × size 20	I
17-27y	7	7 × size 12	I
17-28a	28	3 × size 12, 25 × size 22D	M
17-30x	6	3 × size 10, 3 × size 20	N
17-35	55	55 × size 22D	M
17-36a	36	1 × size 12, 35 × size 22D	N
17-53	13	13 × size 16	I
17-99	23	21 × size 20, 2 × size 16	I
17-99a	23	4 × size 16, 19 × size 20	N
19-05	5	4 × size 10, 1 × size 20	N

Arrangement	Contacts	Contact sizes	Service rating
19-06	6	4 × size 10, 2 × size 22D	I
19-08x	8	8 × size 12	N
19-10y	10	2 × size 10, 1 × size 12, 7 × size 16	I
19-10a	10	5 × size 12, 5 × size 16	I
19-11	11	11 × size 16	II
19-12	10	2 × size 10, 1 × size 16, 7 × size 20	I
19-13y	13	8 × size 12, 5 × size 20	I
19-14	14	6 × size 12, 8 × size 20	I
19-16	16	2 × size 12, 14 × size 16	I
19-17	17	2 × size 12, 15 × size 20	M
19-18	18	14 × size 22D, 4 × size 8 twinax	M
19-19	19	19 × size 16	M
19-20	16	8 × size 16, 4 × size 20, 4 × size 22D	M
19-22a	22	2 × size 12, 6 × size 16, 14 × size 22D	M
19-22x	22	22 × size 20	I
19-22y	22	7 × size 12, 15 × size 22D	M
19-24	20	8 × size 16, 4 × size 20, 8 × size 22D	I
19-28	28	26 × size 20, 2 × size 16	I
19-28a	28	12 × size 16, 16 × size 22D	I
19-30	30	29 × size 20, 1 × size 16	I
19-32	32	32 × size 20	I
19-35	66	66 × size 22D	M
19-45	67	67 × size 22D	M
19-93	32	2 × size 10, 6 × size 20, 24 × size 22D	I
19-96	9	9 × size 12	I
21-11	11	11 × size 12	II
21-12a	12	12 × size 12	N
21-13	13	2 × size 10, 7 × size 12, 4 × size 20	M
21-16	16	16 × size 16	II
21-24	24	24 × size 20	I
21-25	25	25 × size 20	I
21-27	27	27 × size 20	I
21-28	28	3 × size 10, 25 × size 22D	I
21-28a	28	14 × size 16, 14 × size 22D	M
21-34a	34	1 × size 10, 33 × size 20	M
21-35	79	79 × size 22D	M
21-39	39	37 × size 20, 2 × size 16	I

Arrangement	Contacts	Contact sizes	Service rating
21-41	41	41 × size 20	I
21-41a	41	4 × size 12, 2 × size 16, 1 × size 20, 34 × size 22D	N
21-51	51	1 × size 12, 8 × size 16, 42 × size 22D	N
21-61y	61	6 × size 16, 55 × size 22D	N
21-63	63	2 × size 12, 61 × size 22D	M
21-70	20	20 × size 16	M
21-75	4	4 × size 8 twinax	N
23-06ay	6	6 × size 10	II
23-09a	9	5 × size 10, 2 × size 12, 2 × size 22D	M
23-14	14	14 × size 12	I
23-19	19	4 × size 12, 15 × size 16	M
23-21	21	21 × size 16	II
23-26	26	8 × size 12, 18 × size 20	M
23-29	29	29 × size 16	M
23-32	32	32 × size 20	I
23-34	34	34 × size 20	I
23-34a	34	4 × size 12, 16 × size 16, 14 × size 22D	M
23-35	100	100 × size 22D	M
23-36	36	36 × size 20	I
23-37	37	6 × size 12, 31 × size 20	I
23-37a	37	2 × size 12, 4 × size 16, 31 × size 20	N
23-53	53	53 × size 20	I
23-55	55	55 × size 20	I
23-70	70	10 × size 20, 60 × size 22D	M
23-86	86	16 × size 20, 70 × size 22D	M
23-97	16	16 × size 16	I
23-99	11	11 × size 16	II
25-04	56	48 × size 20, 8 × size 16	I
25-07	99	97 × size 22D, 2 × size 8 twinax	N
25-08	8	8 × size 8 twinax	N
25-10	10	6 × size 10, 4 × size 12	N
25-11	11	2 × size 20, 9 × size 10	N
25-12	12	12 × size 10	N
25-19	19	19 × size 12	I
25-20	30	10 × size 20, 13 × size 16, 1 × size 12 coax, 3 × size 12 shielded, 3 × size 8 twinax	N
25-24	24	12 × size 16, 12 × size 12	I

Arrangement	Contacts	Contact sizes	Service rating
25-25x	25	8 × size 10, 4 × size 12, 1 × size 16, 4 × size 20, 8 × size 22D	M
25-25a	25	9 × size 10, 8 × size 16, 8 × size 20	N
25-29	29	29 × size 16	I
25-30	30	14 × size 12, 16 × size 22D	N
25-32y	32	6 × size 10, 10 × size 16, 16 × size 20	M
25-35	128	128 × size 22D	M
25-37	37	37 × size 16	M
25-39	39	2 × size 12, 17 × size 16, 20 × size 20	M
25-41	41	3 × size 10, 24 × size 16, 14 × size 22D	I
25-52a	52	12 × size 16, 40 × size 20	M
25-58	58	2 × size 12, 20 × size 20, 36 × size 22D	M
25-59	59	8 × size 12, 5 × size 16, 46 × size 22D	I
25-61	61	61 × size 20	I
25-64a	64	8 × size 16, 40 × size 20, 16 × size 22D	N
25-68	68	4 × size 12, 64 × size 22D	M
25-69	69	10 × size 16, 15 × size 20, 44 × size 22D	M
25-92y	92	4 × size 20, 88 × size 22D	M
25-93x	118	8 × size 16, 110 × size 22D	M
25-43	43	23 × size 20, 20 × size 16	I
25-45	45	8 × size 12, 37 × size 20	M
25-46	46	40 × size 20, 4 × size 16, 2 × size 8 twinax	I

Standards

- **GJB 599B Series III** — Chinese specification for Series III threaded circular connectors, the counterpart of MIL-DTL-38999 Series III.

Request a quote or drawing: <https://sinoxh.com/request-a-quote/?product=J599%20Series%20III>