J599S5 Lightweight Miniature 38999-Type Circular Connectors

Up to 41 % lighter · same insert arrangements as Series III · 2 to 128 contacts



Coupling	Double-start thread
Weight saving	30–41 % vs. Series III (aluminum)
Shell sizes	9 to 25
Contacts	2 to 128
Insert arrangements	95
Temperature	−65 to +200 °C
Contact sizes	22D to 12 (5–23 A)

Key features

- About 30 % lighter and 20 % smaller than J599 Series III connectors with the same insert arrangement (aluminum shells)
- Same insert arrangements, crimp contacts (GJB 1216) and harness assembly process as J599 Series III — no retooling
- 20G square-flange receptacles use the Series III panel cut-out, so the panel needs no change
- Double-start threaded coupling with anti-decoupling; scoop-proof, keyed and blind-mateable
- Aluminum, stainless-steel and titanium shells; marine (M) versions pass acid salt spray 240 h and acid atmosphere 28 days
- Matching straight, 90° and shielded backshells

Specifications

Electrical

Parameter	Value	Condition
Dielectric withstanding voltage, service rating I	1800 V / 1000 V / 1000 V	Sea level / 21,336 m / 30,480 m altitude, mated
Dielectric withstanding voltage, service rating II	2300 V / 1000 V / 1000 V	Sea level / 21,336 m / 30,480 m altitude, mated
Dielectric withstanding voltage, service rating M	1300 V / 800 V / 800 V	Sea level / 21,336 m / 30,480 m altitude, mated
Dielectric withstanding voltage, service rating N	1000 V / 600 V / 600 V	Sea level / 21,336 m / 30,480 m altitude, mated
Insulation resistance	≥ 5000 MΩ	Room temperature
Insulation resistance	≥ 1000 MΩ	High temperature
Insulation resistance	≥ 100 MΩ	Humidity
Insulation resistance	≥ 1000 MΩ	Low-pressure immersion
Shell-to-shell conductivity	1–10 mΩ	Depends on finish — see finish table
EMI shielding	≥ 45–65 dB at 10 GHz	Depends on finish — see finish table

Mechanical		
Parameter	**Value**	**Condition**
Coupling	Double-start thread with anti-decoupling	
Durability	500 mating cycles	
Shock	2940 m/s²	

Environmental		
Parameter	**Value**	**Condition**
Operating temperature	–65 to +200 °C	–65 to +175 °C for T and W finishes
Sine vibration	10–2000 Hz, 60 g (140–2000 Hz), 3 × 12 h	With temperature cycling
Random vibration	50–2000 Hz, 1 g²/Hz (100–2000 Hz), 2 × 8 h	At maximum temperature
Random vibration	25–2000 Hz, 5 g²/Hz (100–300 Hz), 2 × 8 h	At ambient temperature
Humidity	10 cycles of 24 h	
Acid salt spray	240 h	Marine (M) versions
Acid atmosphere	28 days	Marine (M) versions
Mold resistance	84 days	Marine (M) versions

Versions

Series code	Version	Notes
J599S5/26	Plug	-U suffix for the reverse-side plug
J599S5/20	Square-flange receptacle	
J599S5/20G	Square-flange receptacle, Series III panel cut-out	Replaces Series III receptacles without changing the panel
HA (J1784/27)	Backshell, straight, non-shielded	
HB (J1784/49), HC (J1784/47)	Backshells with cable clamp, straight / 90°	
J1784/85, J1784/87	Shielded backshells, straight / 90°	Optional Ti-Ni shape-memory band; J1784/85 is identical to JY599I-FJA00
HF, HG	Shielded backshells, straight / 90°	Optional Ti-Ni shape-memory band

Shell materials and finishes

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
T	Aluminum alloy	Nickel-PTFE	2.5 mΩ	≥ 50 dB at 10 GHz	–65 to +175 °C	500 h neutral; 240 h acid
W	Aluminum alloy	Olive-drab cadmium	2.5 mΩ	≥ 50 dB at 10 GHz	–65 to +175 °C	500 h neutral; 240 h acid
F	Aluminum alloy	Nickel	1 mΩ	≥ 65 dB at 10 GHz, ≥ 85 dB at 1 GHz	–65 to +200 °C	48 h neutral

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
K	Stainless steel	Passivated	10 mΩ	≥ 45 dB at 10 GHz	−65 to +200 °C	500 h neutral; 240 h acid
S	Stainless steel	Nickel	1 mΩ	≥ 65 dB at 10 GHz	−65 to +200 °C	500 h neutral
TA	Titanium alloy	None	10 mΩ	≥ 65 dB at 10 GHz	−65 to +200 °C	500 h neutral; 240 h acid

Contact sizes and current ratings

Contact size	Engaging diameter	Contact resistance	Contact resistance (hermetic)	Current rating
22D	0.76 mm	≤ 14.6 mΩ	≤ 28 mΩ	5 A
20	1.02 mm	≤ 7.3 mΩ	≤ 12.0 mΩ	7.5 A
16	1.58 mm	≤ 3.7 mΩ	≤ 8.5 mΩ	13 A
12	2.41 mm	≤ 1.83 mΩ	≤ 5 mΩ	23 A

Weight compared with J599 Series III

Weight of a mated pair (plug + receptacle) with the -35 insert arrangement in each shell size.

Shell size	J599S5 aluminum	Series III aluminum	Series III composite	Saving vs. aluminum	Saving vs. composite
9 (A)	13.1 g	22.2 g	17.9 g	−41.0 %	−26.8 %
11 (B)	18.2 g	30.0 g	26.1 g	−39.3 %	−30.3 %
13 (C)	27.0 g	43.4 g	36.9 g	−37.8 %	−26.9 %
15 (D)	35.1 g	56.1 g	48.5 g	−37.5 %	−27.7 %
17 (E)	44.3 g	70.3 g	61.2 g	−37.0 %	−27.6 %
19 (F)	53.5 g	84.3 g	73.7 g	−36.6 %	−27.4 %
21 (G)	68.4 g	100.2 g	87.2 g	−31.7 %	−21.5 %
23 (H)	81.3 g	117.6 g	103.8 g	−30.8 %	−21.7 %
25 (J)	97.3 g	139.4 g	122.3 g	−30.2 %	−20.4 %

Series III refers to GJB 599 Series III (J599 Series III) connectors with the same insert arrangement.

How to order

J599S5/ [type] [class] [finish] [shell] [arrangement] [contact] [key] [options]

Example: **J599S5/20MTB35PNV** — Square-flange receptacle, marine version, nickel-PTFE finish, shell B (size 11), arrangement 11-35, pin contacts, key position N, fluorosilicone seals

Code segment	Options
Type	**20** Square-flange receptacle
Type	**20G** Square-flange receptacle with Series III panel cut-out
Type	**26** Plug
Class	**(none)** Standard
Class	**M** Marine environment (T, W, K and TA finishes)

Code segment	Options
Finish	**T, W, F** Aluminum alloy — nickel-PTFE, olive-drab cadmium, nickel
Finish	**K, S** Stainless steel — passivated, 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
Key	**N** Normal key position
Key	**A B C D E** Alternate key positions
Options	**U** Reverse-side plug (plugs only)
Options	**V** Fluorosilicone (oil-resistant) seals

Coupling threads are imperial UNEF, for example 0.4375-28UNEF-2A for shell size 9 and 1.4375-18UNEF-2A for shell size 25.

Cadmium finish (W) is not RoHS compliant and is supplied on request.

Insert arrangements

Arrangement	Contacts	Contact sizes	Service rating
9-03	3	3 × size 20	I
9-35	6	6 × size 22D	M
9-44	4	4 × size 22	M
9-98	3	3 × size 20	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
11-35	13	13 × size 22D	M
11-98	6	6 × size 20	I
11-99	7	7 × size 20	I
13-03	3	3 × size 16	II
13-04	4	4 × size 16	I
13-06	6	2 × size 12, 4 × size 20	M
13-06A	6	2 × size 16, 4 × size 20	M
13-08	8	8 × size 20	I
13-08A	8	4 × size 16, 4 × size 20	M
13-12A	12	12 × size 20	N
13-16	16	3 × size 16, 13 × size 22D	N
13-35	22	22 × size 22D	M
13-98	10	10 × size 20	I

Arrangement	Contacts	Contact sizes	Service rating
15-04A	4	4 × size 12	M
15-05	5	5 × size 16	II
15-06A	6	6 × size 16	M
15-13	13	4 × size 16, 2 × size 20, 7 × size 22D	M
15-14	14	6 × size 16, 8 × size 22D	N
15-15	15	1 × size 16, 14 × size 20	I
15-18	18	18 × size 20	I
15-19	19	19 × size 20	I
15-23	23	3 × size 16, 2 × size 20, 18 × size 22D	M
15-32	32	9 × size 20, 23 × size 22D	M
15-35	37	37 × size 22D	M
15-97	12	4 × size 16, 8 × size 20	I
17-06	6	6 × size 12	I
17-06C	6	4 × size 12, 2 × size 22	I
17-08	8	8 × size 16	II
17-14	14	2 × size 12, 4 × size 16, 8 × size 20	N
17-19	19	4 × size 16, 11 × size 20, 4 × size 22D	M
17-20	20	4 × size 12, 16 × size 22D	M
17-26	26	26 × size 20	I
17-28A	28	3 × size 12, 25 × size 22D	M
17-35	55	55 × size 22D	M
17-42	42	42 × size 22	M
17-99	23	2 × size 16, 21 × size 20	I
19-11	11	11 × size 16	II
19-17	17	2 × size 12, 15 × size 20	M
19-20	20	8 × size 16, 4 × size 20, 8 × size 22D	M
19-22	22	7 × size 12, 15 × size 22D	M
19-28	28	2 × size 16, 26 × size 20	I
19-30	30	1 × size 16, 29 × size 20	I
19-32	32	32 × size 20	I
19-35	66	66 × size 22D	M
19-45	67	67 × size 22D	M
19-96	9	9 × size 12	I
21-11	11	11 × size 12	I
21-16	16	16 × size 16	II
21-24	24	24 × size 20	I
21-25	25	25 × size 20	I

Arrangement	Contacts	Contact sizes	Service rating
21-27	27	27 × size 20	I
21-35	79	79 × size 22D	M
21-39	39	2 × size 16, 37 × size 20	I
21-41	41	41 × size 20	I
21-61	61	6 × size 16, 55 × size 22D	M
21-75A	4	4 × size 12	I
23-02	85	85 × size 22	M
23-14	14	14 × size 12	I
23-21	21	21 × size 16	II
23-26	26	8 × size 12, 18 × size 20	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
23-53	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
25-02	100	100 × size 22	M
25-04	56	8 × size 16, 48 × size 20	I
25-19	19	19 × size 12	I
25-24	24	12 × size 12, 12 × size 16	I
25-29	29	29 × size 16	I
25-35	128	128 × size 22D	M
25-35A	35	11 × size 12, 24 × size 20	M
25-39	39	2 × size 12, 17 × size 16, 20 × size 20	M
25-43	43	20 × size 16, 23 × size 20	I
25-45	45	8 × size 12, 37 × size 20	M
25-61	61	61 × size 20	I
25-64a	64	8 × size 16, 40 × size 20, 16 × size 22D	M
25-69	69	10 × size 16, 15 × size 20, 44 × size 22D	M
25-92	92	4 × size 20, 88 × size 22D	M
25-93	118	8 × size 16, 110 × size 22D	M
25-94	94	4 × size 12, 8 × size 16, 82 × size 22D	M

Standards

- **GJB 599** — Built on the GJB 599 (MIL-DTL-38999 counterpart) platform, combining the Series II shell size with Series III environmental performance.

Request a quote or drawing: https://sinoxh.com/request-a-quote/?product=J599S5