J599FS IP67 Waterproof 38999-Type Connectors with J1784FS Backshells

IP67 with J1784FS backshell · threaded 38999 type · rain-tested



Coupling	Triple-start thread
Shell sizes	9 to 25
Insert arrangements	32
Contact sizes	22D to 12 (5–23 A)
Temperature	–65 to +200 °C
Protection	IP67 with J1784FS backshell

Key features

- Extra mating-face seal: water cannot collect in the key slots
- IP67 for the complete connector with J1784FS waterproof backshell
- Passes the GJB 150.8A drip (rain) test: 1.7 mm/min at 18 m/s wind
- Triple-start threaded coupling with anti-decoupling; scoop-proof and keyed
- EMI/RFI shielding; aluminum, stainless-steel and titanium shells
- Lockwire-ready versions (-S) with matching screws for receptacles
- Contact layouts can be extended to your requirements

Specifications

Sealing

Parameter	Value	Condition
Ingress protection	IP67	Mated, with J1784FS backshells
Rain (drip) test	1.7 mm/min, wind 18 m/s	GJB 150.8A-2009
Insulation resistance after water immersion	≥ 20 MΩ	
Hermetic receptacle leak rate	≤ 1 × 10^{-8} Pa·m^3/s	0.1 MPa pressure differential

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 MΩ	Room temperature

Electrical		
Parameter	**Value**	**Condition**
Insulation resistance	≥ 1000 MΩ (non-hermetic) / ≥ 200 MΩ (hermetic)	High temperature

Mechanical and environmental		
Parameter	**Value**	**Condition**
Durability	500 mating cycles	
Shock	2940 m/s²	
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	
Damp heat	10 cycles × 24 h	
Operating temperature	–65 to +200 °C	–65 to +175 °C for cadmium finish
Operating altitude	≤ 30,480 m	

Versions

Series code	Version	Notes
J599FS/20	Square-flange receptacle	
J599FS/26	Plug	
J1784FS/38, /39	Waterproof cable-clamp backshell, straight / 90°	For J599 connectors; metric M12 × 1 to M37 × 1 thread; finishes to match the connector
J1784FS/88, /90	Waterproof shielded backshell, straight / 90°	For J599 connectors; optional band ring for 360° shield termination
J1784FS/49, /47	Waterproof cable-clamp backshell, straight / 90°	For JY27 (Series I and II) connectors; UNEF thread
J1784FS/85, /87	Waterproof shielded backshell, straight / 90°	For JY27 (Series I and II) connectors

Shell materials and finishes

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
W (B)	Aluminum alloy	Olive-drab cadmium	2.5 mΩ	50 dB at 10 GHz	–65 to +175 °C	500 h
F	Aluminum alloy	Nickel	1 mΩ	50 dB at 10 GHz	–65 to +200 °C	96 h
K	Stainless steel	Passivated	50 mΩ	—	–65 to +200 °C	500 h
S	Stainless steel	Nickel	1 mΩ	—	–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
22D	0.76 mm	≤ 14.6 mΩ	≤ 28 mΩ	5 A	AWG 22–26 (0.13–0.33 mm²)
20	1.02 mm	≤ 7.3 mΩ	≤ 12.0 mΩ	7.5 A	AWG 20–24 (0.20–0.52 mm²)
16	1.58 mm	≤ 3.7 mΩ	≤ 8.5 mΩ	13 A	AWG 16–20 (0.52–1.31 mm²)
12	2.41 mm	≤ 1.83 mΩ	≤ 5 mΩ	23 A	AWG 12–14 (2.08–3.31 mm²)

Weights

Weight in grams, socket / pin version.

Shell	Arrangement	Receptacle, stainless	Plug, stainless	Receptacle, aluminum	Plug, aluminum
9 (A)	44	28.6 / 26.7	35.8 / 33.9	18.6 / 16.7	25.8 / 23.9
11 (B)	06	41.3 / 34.4	48.6 / 42.7	31.3 / 24.4	38.6 / 32.7
13 (C)	13	56.3 / 45.3	75.2 / 66.2	46.3 / 35.3	60.2 / 51.2
15 (D)	22	70.1 / 54.7	90.8 / 78.5	55.1 / 39.7	70.8 / 58.5
17 (E)	37	95.3 / 75.5	100.2 / 85.5	80.3 / 60.5	75.2 / 60.5
19 (F)	42	103.2 / 78.9	138.1 / 103.8	83.2 / 88.9	108.1 / 73.8
21 (G)	55	125.7 / 94.6	142.7 / 114.6	100.7 / 70.6	112.7 / 84.6
23 (H)	66	145.8 / 106.7	165.2 / 128.1	115.8 / 76.7	135.2 / 93.1
25 (J)	79	165.3 / 120.7	185.6 / 141.5	125.3 / 80.7	145.6 / 101.5

Stainless steel K and S weigh the same; aluminum W and F weigh the same.

How to order

J599FS/ [type] H [finish] [shell] [arrangement] [contact] [key] [suffix] -[lockwire]

Example: **J599FS/20HWB06PNR2-S** — Square-flange receptacle, olive-drab cadmium, shell B (size 11), arrangement 11-06, pin contacts, key N, two pairs of thermocouple contacts, lockwire version with M3 × 12 screws

Code segment	Options
Type	**20** Square-flange receptacle
Type	**26** Plug
H	**H** Waterproof version (always present)
Finish	**W (or B) / F** Aluminum — 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. 06** See the insert arrangement table below
Contact	**P / S** Pin / socket

Code segment	Options
Key	**N A B C D E** Key positions
Suffix	**V** Fluorosilicone seals (oil resistant)
Suffix	**Rn** n pairs of thermocouple contacts
Lockwire	**-S** Plug or receptacle, receptacle with M3 × 12 screws
Lockwire	**-S08 / -S14** Receptacle with M3 × 8 / M3 × 14 screws
Lockwire	**-SC / -S10C** Receptacle with M3 × 12 / M3 × 10 countersunk screws

Backshell example: J1784FS/88-HW1522S01 — straight shielded backshell for J599, olive-drab cadmium, shell 15, arrangement 15-22, socket side, wire range 01. Wire range 01 or 02 is chosen from your wire insulation diameter (Ø 1.04–3.63 mm across all sizes).

Insert arrangements

Arrangement	Contacts	Contact sizes	Service rating
9-03	3	3 × size 20	I
9-44	4	4 × size 22D	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
11-06	6	6 × size 22D	M
13-03	3	3 × size 16	II
13-08	8	8 × size 20	I
13-13	13	13 × size 22D	M
15-04A	4	4 × size 12	M
15-05	5	5 × size 16	II
15-06A	6	6 × size 16	M
15-18	18	18 × size 20	I
15-22	22	22 × size 22D	M
17-08	8	8 × size 16	II
17-26	26	26 × size 20	I
17-37	37	37 × size 22D	M
19-11	11	11 × size 16	II
19-32	32	32 × size 20	I
19-42	42	42 × size 22D	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
21-55	55	55 × size 22D	I

Arrangement	Contacts	Contact sizes	Service rating
23-99	11	11 × size 16	II
23-32	32	32 × size 20	I
23-66	66	66 × size 22D	M
25-29	29	29 × size 16	I
25-61	61	61 × size 20	I
25-79	79	79 × size 22D	I

Standards

- **GJB 599B (Series III type)** — Base design; J599FS adds the mating-face seal.
- **GJB 1784** — Base design of the J1784FS backshells.

Request a quote or drawing: https://sinoxh.com/request-a-quote/?product=J599FS