38999 Series III-Type Fiber-Optic and Hybrid Connectors

Fiber + power + coax + data in one 38999 shell · ≤ 0.6 dB

Optical insertion loss	≤ 0.6 dB (≤ 4 fibers)
Coax	50 Ω, 0–18 GHz
Differential data	1.65 Gbps
Shell sizes	9 to 25
Temperature	–55 to +125 °C

Key features

- Fiber, power, coax, shielded, twinax and differential contacts mixed in one shell
- Physical-contact fiber contacts in sizes 20, 16 and 12; expanded-beam size 16 contacts on request
- Optical insertion loss ≤ 0.6 dB (≤ 4 fibers), ≤ 0.75 dB (> 4), ≤ 1 dB in hybrid layouts
- Size 8 coax: 50 Ω, DC to 18 GHz, VSWR ≤ 1.35
- Size 8 differential contacts (2 or 4 conductors) for 1.65 Gbps
- Triple-start threaded coupling, anti-decoupling, EMI shielding; marine grade

Specifications

Optical

Parameter	Value	Condition
Insertion loss	≤ 0.6 dB / ≤ 0.75 dB	≤ 4 fibers / > 4 fibers
Insertion loss, hybrid layouts	≤ 1 dB	
Fiber contact sizes	20, 16, 12	

Electrical

Parameter	Value	Condition
Dielectric withstanding voltage, service rating M	1300 / 800 Vrms	Sea level / 21,000 m, mated
Dielectric withstanding voltage, service rating N	1000 / 600 Vrms	Sea level / 21,000 m, mated
Dielectric withstanding voltage, service rating I	1800 / 1000 Vrms	Sea level / 21,000 m, mated
Dielectric withstanding voltage, service rating II	2300 / 1000 Vrms	Sea level / 21,000 m, mated
Insulation resistance	≥ 5000 MΩ	500 VDC
Size 8 coax	50 Ω, 0–18 GHz, VSWR ≤ 1.35, 750 Vrms	
Size 8 differential	1.65 Gbps, 1 A, 500 VAC center-to-outer	

Mechanical and environmental		
Parameter	**Value**	**Condition**
Operating temperature	–55 to +125 °C	
Durability	500 mating cycles	
Damp heat	10 cycles × 24 h	
Sealing	Low-pressure immersion, mated	
Fluid resistance	Fuels, coolants, solvents	

Versions

Series code	Version	Notes
J599/20M, /24M, /26M	Square-flange receptacle, jam-nut receptacle, plug (marine)	
Fiber	Fiber-only layouts	
Hybrid	Fiber + electrical layouts (layout code with E, F, G suffix)	

Shell materials and finishes

Code	Shell material	Finish	Shell conductivity	EMI shielding	Temperature	Salt spray
W	Aluminum alloy	Olive-drab cadmium	2.5 mΩ	EMI shielded	–55 to +125 °C	Marine grade
K	Stainless steel	Passivated	10 mΩ	EMI shielded	–55 to +125 °C	Marine grade
TA	Titanium alloy	None	10 mΩ	EMI shielded	–55 to +125 °C	Marine grade

Contact sizes and current ratings

Contact size	Engaging diameter	Contact resistance	Current rating
22D	0.76 mm	≤ 14.6 mΩ	5 A
20	1.02 mm	≤ 7.3 mΩ	7.5 A
16	1.58 mm	≤ 3.7 mΩ	13 A
12	2.41 mm	≤ 1.83 mΩ	23 A
10	3.20 mm	≤ 1 mΩ	33 A

How to order

J599/ [type] M [finish] [shell] [arrangement] [contact] [key] [design no.]

Example: **J599/20MWG61G2PN** — Marine square-flange hybrid receptacle, olive-drab cadmium, shell G (21), arrangement 21-61 with 2 size 16 fiber contacts, other contacts electrical, pins, key N

Code segment	Options
Type	**20 / 24 / 26** Square-flange / jam-nut receptacle / plug
Finish	**W / K / TA** Aluminum cadmium / stainless / titanium
Shell	**A–J** Shell 9–25
Contact	**A1 / B1** Fiber pin / socket (P / S in hybrid layouts)

Code segment	Options
Key	**N A B C D E** Key positions

Plugs and receptacles are usually supplied as cable assemblies.

Fiber-only example: J599/20MWC04A1N — arrangement 13-04, fiber pins, key N.

Coax, differential and expanded-beam contacts are ordered separately; state the wavelength for expanded-beam contacts.

Standards

- **GJB 599A Series III (type)** — Chinese counterpart of MIL-DTL-38999 Series III.

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