

PS310L-55G-F

55GHz High-Frequency Low-Loss Phase Stable Coaxial Cable

PS310L-55G-F is engineered for high-density microwave and mmWave applications requiring rigorous phase stability under dynamic bending and temperature variations up to 55 GHz.

- Dielectric:** Expanded Low-Density PTFE (LD-PTFE) with 82% VP
- Shielding:** Dual silver-plated copper tape & wire braid (>90 dB effectiveness)
- Phase Stability:** ±0.3 °/GHz vs bending
- Jacket:** Durable, high-temperature Gray FEP (-55°C to +165°C)
- Drop-in Replacement:** Compatible with Gore CXN3500 standards



1. STRUCTURAL SPECIFICATIONS

Layer	Material	Construction	Nom. O.D. (mm)
Inner Conductor	Silver Plated Copper (SPC)	1 / 0.72 mm	0.72
Dielectric	Low-Density PTFE (LD-PTFE)	Solid Expanded	2.00
Inner Shield	Silver Plated Copper Tape	Helical Wrap	2.20
Outer Shield	Silver Plated Copper Wire	Braid	2.52
Jacket	Gray FEP	Extruded	3.10

2. MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

Min. Bending Radius (Static)	15.0 mm	Weight	0.027 kg/m
Min. Bending Radius (Dynamic)	31.0 mm	Operating Temp. Range	-55°C to +165°C

3. ELECTRICAL PERFORMANCE

Impedance	50 ± 1 Ω	Max Operating Frequency	55 GHz
Velocity of Propagation	82%	Screening Effectiveness	> 90 dB
Capacitance	80 pF/m	Dielectric Withstanding Voltage	1000 V DC
Phase Stability vs Bending	±0.3 °/GHz	Phase Stability vs Temp. (-45~+85°C)	≤ 750 PPM

4. ATTENUATION & POWER HANDLING (@ 25°C SEA LEVEL)

Insertion Loss Calculation Formula: $IL = K1 * \sqrt{F_MHz} + K2 * F_MHz$ | $K1 = 1.45847, K2 = 0.00068$

Frequency (MHz)	Nom. Attenuation (dB/100m)	Max. Power Handling (W @ 40°C)
1000	46.80	407
2000	66.58	286
3000	81.92	233
4000	94.96	201
6000	117.05	163
8000	135.89	140
10000	152.65	125
18000	207.91	92
26500	255.44	75
40000	318.89	60
50000	360.12	53