

PS150L-110G-F

110GHz High-Frequency Low-Loss Phase Stable Coaxial Cable

PS150L-110G-F is an ultra-fine 1.50mm coaxial cable engineered for ultra-wideband millimeter-wave applications requiring phase stability up to 110 GHz.

- Dielectric:** Expanded Low-Density PTFE (LD-PTFE) with 80% VP
- Shielding:** Dual silver-plated copper strip & wire braid (>90 dB effectiveness)
- Phase Stability:** ± 0.3 °/GHz vs bending
- Jacket:** High-temperature Gray FEP (-55°C to +165°C)
- Form Factor:** Ultra-miniature 1.50 mm O.D. with 8.0 mm static bend radius

Structure Diagram



1. STRUCTURAL SPECIFICATIONS

Layer	Material	Construction	Nom. O.D. (mm)
Inner Conductor	Silver Plated Copper (SPC)	1 / 0.30 mm	0.30
Dielectric	Low-Density PTFE (LD-PTFE)	Solid Expanded	0.85
Inner Shield	Silver Plated Copper Strip	Helical Wrap	1.00
Outer Shield	Silver Plated Copper Wire	Braid	1.20
Jacket	Gray FEP	Extruded	1.50

2. MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

Min. Bending Radius (Static)	8.0 mm	Weight	0.006 kg/m
Min. Bending Radius (Dynamic)	15.0 mm	Operating Temp. Range	-55°C to +165°C

3. ELECTRICAL PERFORMANCE

Impedance	50 Ω	Max Operating Frequency	110 GHz
Velocity of Propagation	80%	Screening Effectiveness	> 90 dB
Capacitance	84 pF/m	Dielectric Withstanding Voltage	300 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: $IL = K1 * \sqrt{F_MHz} + K2 * F_MHz$ | $K1 = 3.557846$, $K2 = 0.000576$

Frequency (MHz)	Nom. Attenuation (dB/100m)	Max. Power Handling (W @ 40°C)
500	79.84	105
1000	113.08	74
3000	196.60	43
6000	279.05	30
8000	322.83	26
10000	361.54	23
18000	487.70	17
26500	594.44	14
40000	734.61	11
50000	824.36	10
67000	959.52	9
110000	1243.36	7