

PSE460L-31G-BF

High Frequency Low Loss Phase Stable Coaxial Cable

The PSE460L-31G-BF is engineered for high-frequency microwave applications requiring ultra-low insertion loss and high phase stability up to 31 GHz. Constructed with a solid silver-plated copper conductor, LD-PTFE dielectric, and blue FEP jacket.



- **Frequency Range:** DC to 31 GHz
- **Inner Conductor:** Silver Plated Copper (1/1.02mm)
- **Dielectric:** Low-Density PTFE (Velocity of Propagation: 76%)
- **Phase Stability vs Flexure:** ±0.2 °/GHz
- **Thermal Phase Stability:** ≤ 1500 PPM (-45°C to +85°C)
- **Shielding Effectiveness:** > 90 dB

1. STRUCTURAL CONSTRUCTION SPECIFICATIONS

Layer	Material	Construction Details	Nom. O.D. (mm)
Inner Conductor	Silver Plated Copper	1 / 1.02 mm	1.02
Insulation	LD-PTFE (Low-Density PTFE)	--	3.07
Inner Shield	Silver Plated Copper Strip Tape	--	3.27
Interlayer	LD-PTFE Tape	--	3.54
Outer Shield	Silver Plated Copper Wire Braid	--	3.94
Outer Jacket	Blue FEP	--	4.60

2. ELECTRICAL, MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

Electrical Property	Value	Mechanical / Environmental	Value
Impedance	50 Ω	Min. Static Bend Radius	18.40 mm
Capacitance	88 pF/m	Min. Dynamic Bend Radius	46.00 mm
Velocity of Propagation	76%	Cable Weight	0.051 kg/m
Max Operating Frequency	31 GHz	Operating Temperature	-55°C to +165°C
Screening Effectiveness	> 90 dB	Phase Change VS Flexure	±0.2 °/GHz
Dielectric Voltage	1500 V DC	Phase Change VS Temp	≤ 1500 PPM

3. ATTENUATION & POWER HANDLING PERFORMANCE (@ SEA LEVEL)

Insertion Loss Formula: $IL = K1 * \sqrt{F_MHz} + K2 * F_MHz$ [dB/100m] Constants: K1 = 1.015556 K2 = 0.000598

Frequency (MHz)	Nom. Attenuation (@25°C) [dB/100m]	Max. Power Handling (@40°C) [W]
500	23.01	801
1000	32.71	563
2000	46.61	395
3000	57.42	321
6000	82.26	224
8000	95.62	193
10000	107.54	171
12400	120.51	153
18000	147.02	125
26500	181.18	102
31000	197.36	93

Cross-Reference / Replacement: HUBER+SUHNER SUCOFLEX103 (Form-Fit-Function Equivalent)