PS510LS-29G-F

Flexible Low Loss Phase Stable Coaxial Cable (29GHz, Stranded Conductor)

- **Stranded Inner Conductor:** 19/0.29mm SPC for extended dynamic flex life.
- **Frequency Range:** DC to 29.0 GHz with 50 Ohm nominal impedance.
- **LD-PTFE Dielectric:** Microporous PTFE dielectric achieving 83% velocity of propagation.
- **Dual Shielding & FEP Jacket:** Silver-plated copper tape + braid shielding (>90 dB) with Gray FEP jacket.

> **Direct Drop-in Replacement Compatibility:** The **PS510LS-29G-F** is functionally and dimensionally equivalent to industry-standard high-frequency phase-stable cables including **33201 / SF142B** and equivalent **5.10mm (0.200") low-loss PTFE flexible coaxial cables**.

1. PHYSICAL & CONSTRUCTION SPECIFICATIONS

Construction Element	Material Specification	Construction (mm)	Nom. O.D. (mm)
Inner Conductor	Stranded Silver Plated Copper (SPC)	19 / 0.29	1.45
Insulation Dielectric	Low-Density PTFE (LD-PTFE)	-	3.85
Inner Shield	Silver Plated Copper Strip	Helical Wrap	4.05
Outer Shield	Silver Plated Copper Braid Wire	Coverage ≥ 90%	4.50
Outer Jacket	Fluorinated Ethylene Propylene (Gray FEP)	-	5.10

2. MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification Value	Parameter	Specification Value
Min. Bend Radius (Static)	25.0 mm	Cable Weight	0.065 kg/m
Min. Bend Radius (Dynamic)	50.0 mm	Operating Temperature	-55 ℃ to +165 ℃

3. ELECTRICAL PERFORMANCE PARAMETERS

Parameter	Value	Parameter	Value
Impedance	50 Ω	Dielectric Withstanding Voltage	2000 V DC
Capacitance	80 pF/m	Phase Change vs. Bending	±0.3 °/GHz
Velocity of Propagation (VP)	83%	Phase Change vs. Temperature	≤ 750 PPM (-45~+85℃)
Max. Operating Frequency	29.0 GHz	Screening Effectiveness	> 90 dB

4. ATTENUATION & POWER HANDLING DATA

Frequency (MHz)	Nom. Attenuation (@25℃, Sea Level) (dB/100m)	Max. Power Handling (@40℃, Sea Level) (W)
300	15.20	1550
500	19.70	1190
1000	28.10	830
3000	49.80	470
6000	72.10	325
8000	84.20	278
10000	95.00	245
12400	106.80	218
18000	131.30	178
20000	139.30	168
26500	163.30	143
29000	172.10	135

Insertion Loss Formula: `IL = K1 * sqrt(F_MHz) + K2 * F_MHz (dB/100m)` | *K1 = 0.864210, K2 = 0.000875*