

# PS1500L-8G

## High Frequency Low Loss Phase Stable Coaxial Cable

- Operation Frequency: DC to 8 GHz
- Low Density PTFE (LD-PTFE) Dielectric for Ultra-Low Loss
- Triple Shielding Structure (Eff. > 90 dB)
- Phase Stability vs. Bending:  $\pm 0.2$  °/GHz
- Wide Operating Temperature Range: -55°C to +200°C



### STRUCTURE & PHYSICAL CONSTRUCTION

| Item                    | Material                        | Construction (mm) | Nom. O.D. (mm) |
|-------------------------|---------------------------------|-------------------|----------------|
| Inner Conductor         | Silver Plated Copper            | 19 / 0.88         | 4.40           |
| Insulation (Dielectric) | LD-PTFE                         | -                 | 12.90          |
| Inner Shield            | Silver Plated Copper Strip      | -                 | 13.22          |
| Interlayer              | High Temperature Aluminium Foil | -                 | 13.35          |
| Outer Shield            | Silver Plated Copper Wire       | -                 | 13.85          |
| Jacket                  | Light Blue FEP                  | -                 | 15.00          |

### ELECTRICAL & MECHANICAL CHARACTERISTICS

|                          |                 |                                   |                 |
|--------------------------|-----------------|-----------------------------------|-----------------|
| Impedance                | 50 $\Omega$     | Capacitance                       | 88 pF/m         |
| Velocity of Propagation  | 76%             | Max Operating Frequency           | 8 GHz           |
| Screening Effectiveness  | > 90 dB         | Dielectric Withstanding Voltage   | 5000 V DC       |
| Phase Change vs Bending  | $\pm 0.2$ °/GHz | Phase Change vs Temp. (-45~+85°C) | $\leq 1500$ PPM |
| Min Bend Radius (Static) | 60.00 mm        | Min Bend Radius (Dynamic)         | 120.00 mm       |
| Weight                   | 0.432 kg/m      | Operating Temperature             | -55°C to +200°C |

### ATTENUATION & POWER HANDLING PERFORMANCE

IL Formula =  $K1 * \sqrt{F\_MHz} + K2 * F\_MHz$  [dB/100m] |  $K1 = 0.304208$ ,  $K2 = 0.000591$

| Frequency (MHz) | Nominal Attenuation (dB/100m @ 25°C & Sea Level) | Max Power Handling (W @ 40°C & Sea Level) |
|-----------------|--------------------------------------------------|-------------------------------------------|
| 100             | 3.10                                             | 13,440                                    |
| 200             | 4.42                                             | 9,429                                     |
| 300             | 5.45                                             | 7,653                                     |
| 500             | 7.10                                             | 5,872                                     |
| 900             | 9.66                                             | 4,316                                     |
| 1000            | 10.21                                            | 4,082                                     |
| 1500            | 12.67                                            | 3,290                                     |
| 2000            | 14.79                                            | 2,819                                     |
| 3000            | 18.44                                            | 2,261                                     |
| 6000            | 27.11                                            | 1,537                                     |
| 8000            | 31.94                                            | 1,305                                     |