

# PS850L-18G

## High Frequency Low Loss Phase Stable Coaxial Cable

- Maximum Operating Frequency: 18 GHz
- Velocity of Propagation: 83% (LD-PTFE Dielectric)
- High Power Handling Performance
- Screening Effectiveness: >90 dB
- Nominal Outer Diameter: 8.50 mm (TPU Jacket)



### 1. CABLE CONSTRUCTION & STRUCTURAL SPECIFICATIONS

| Structure Layer | Item / Parameter | Material / Specification   | Nom. O.D. (mm) |
|-----------------|------------------|----------------------------|----------------|
| Inner Conductor | Material         | Silver Plated Copper       | 2.39           |
|                 | Construction     | 19/0.48 mm                 |                |
| Insulation      | Material         | LD-PTFE                    | 6.35           |
| Inner Shield    | Material         | Silver Plated Copper Strip | 6.67           |
| Outer Shield    | Material         | Silver Plated Copper Wire  | 7.20           |
| Jacket          | Material         | TPU                        | 8.50           |

### 2. ELECTRICAL CHARACTERISTICS

| Parameter                | Specification | Parameter                         | Specification |
|--------------------------|---------------|-----------------------------------|---------------|
| Impedance                | 50 Ω          | Capacitance                       | 80 pF/m       |
| Velocity of Propagation  | 83%           | Max Operating Frequency           | 18 GHz        |
| Screening Effectiveness  | > 90 dB       | Dielectric Withstanding Voltage   | 3000 V@DC     |
| Phase Change vs. Bending | ±0.3 °@18GHz  | Phase Change vs. Temp (-45~+85°C) | ≤ 750 PPM     |

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

|                                                              |
|--------------------------------------------------------------|
| Calculation Formula: $IL = K1 * \sqrt{F\_MHz} + K2 * F\_MHz$ |
| Constants: $K1 = 0.518199$   $K2 = 0.000544$                 |

| Frequency (MHz) | Attenuation (dB/100m) | Power Handling (W)                  |
|-----------------|-----------------------|-------------------------------------|
| 300             | 9.14                  | 2048 <span>Model: PS850L-18G</span> |
| 500             | 11.86                 | 2048                                |
| 1000            | 16.93                 | 1105                                |
| 2400            | 26.69                 | 701                                 |
| 3000            | 30.02                 | 624                                 |
| 6000            | 43.40                 | 431                                 |
| 8000            | 50.70                 | 369                                 |
| 10000           | 57.26                 | 327                                 |
| 12400           | 64.45                 | 290                                 |
| 15000           | 71.63                 | 261                                 |
| 18000           | 79.32                 | 236                                 |

4. MECHANICAL & ENVIRONMENTAL PERFORMANCE

| Property                     | Value / Requirement |
|------------------------------|---------------------|
| Min Bending Radius (Static)  | 36.00 mm            |
| Min Bending Radius (Dynamic) | 85.00 mm            |
| Weight                       | 0.162 kg/m          |
| Operating Temperature Range  | -55 ~ +85 °C        |