

## Phaseline Series High Performance Phase Stable Test Cable

PL40/3.5mm Male /3.5mm Female/DC-33 GHz

Model: PL40-3.5M3.5F-L

### Features:

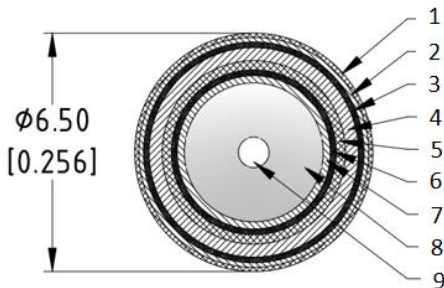
- Max Frequency 33 GHz
- VSWR max of 1.30
- Velocity of Propagation of 76%



### Applications:

- Test & Measurement equipment
- Manufacturing lab
- WAN system equipment

### Cable Cross Section:



- 1—编织护套 PTFE Braiding Jacket  
2—外扎带 Outer tie  
3—耐扭转编织层 Torsion-resistant braid  
4—抗压保护层 Compression protective layer  
5—电缆护套 Cable Jacket  
6—外屏蔽层 Outer Shield  
7—内屏蔽层 Inner Shield  
8—绝缘介质 Insulator PTFE  
9—芯线 Inner conductor

### Electrical Characteristics:

| Parameter                             | Min | Typ   | Max  | Units |
|---------------------------------------|-----|-------|------|-------|
| Frequency Range                       | DC  |       | 33   | GHz   |
| VSWR                                  |     | 1.20  | 1.30 | :1    |
| Velocity of propagation               |     | 76%   |      |       |
| Shielding Effectiveness               | 90  |       |      | dB    |
| Capacitance                           |     |       | 87   | pF/m  |
| Phase Stability Vs. Flexure@33GHz     |     | ±4    |      | °     |
| Amplitude Stability Vs. Flexure@33GHz |     | ±0.03 |      | dB    |

### Envrionmental And Physical Characteristics:

| Description           | Parameter   | Units |
|-----------------------|-------------|-------|
| Cable Diameter        | 6           | mm    |
| Cable Jacket          | PTFE        |       |
| Min. Bending Radius   | 65          | mm    |
| Typical Flex life     | 50000       |       |
| Operating Temperature | -55 to +150 | °C    |
| Storage Temperature   | -55 to +165 | °C    |

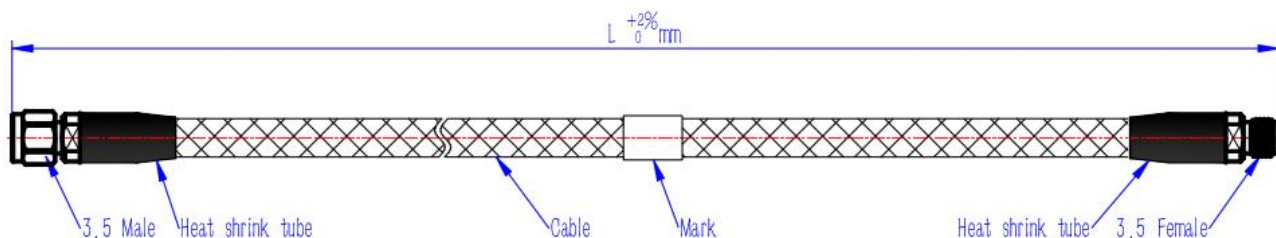
### Cable Performance By Frequency

| Frequency                  | 2 GHz | 4 GHz | 6 GHz | 8 GHz | 12 GHz | 16 GHz | 18 GHz | 26.5 GHz | 40GHz |
|----------------------------|-------|-------|-------|-------|--------|--------|--------|----------|-------|
| Insertion Loss (dB/m Max ) | 0.62  | 0.88  | 1.09  | 1.26  | 1.35   | 1.80   | 1.92   | 2.35     | 2.92  |
| RF Power CW (W Max.)       | 230   | 162   | 132   | 114   | 110    | 79     | 75     | 61       | 49    |

## Connectors:

| Description                  | Connector 1                | Connector 2                |
|------------------------------|----------------------------|----------------------------|
| Type                         | 3.5mm Straight Male        | 3.5mm Straight Female      |
| Contact Material And Plating | Beryllium Copper, Gold     | Beryllium Copper, Gold     |
| Dielectric Type              | PEI                        | PEI                        |
| Body Material And Plating    | Passivated Stainless Steel | Passivated Stainless Steel |
| Insertion Loss (dB Max)      | $0.05 * \sqrt{f\_GHz}$     | $0.05 * \sqrt{f\_GHz}$     |

## Outline Drawing:



## Ordering Information:

| Base Number   | Lenth | Armour                     | Phase/delay Matched (optional)                     |
|---------------|-------|----------------------------|----------------------------------------------------|
| PL40-3.5M3.5F | -L    | Purple black braided armor | -XXPS( $\leq \pm XX$ PS)<br>-XX°( $\pm XX^\circ$ ) |

## Typical Performance Data:

Model: PL40-3.5M3.5F-1m

| Frequency           | 2 GHz |      | 6 GHz |      | 12 GHz |      | 18 GHz |      | 26.5 GHz |      | 33GHz |      |
|---------------------|-------|------|-------|------|--------|------|--------|------|----------|------|-------|------|
|                     | Typ   | Max  | Typ   | Max  | Typ    | Max  | Typ    | Max  | Typ      | Max  | Typ   | Max  |
| Insertion Loss (dB) | 0.69  | 0.76 | 1.21  | 1.33 | 1.73   | 1.90 | 2.13   | 2.24 | 2.61     | 2.86 | 2.83  | 3.10 |
| VSWR                | 1.02  | 1.10 | 1.03  | 1.20 | 1.05   | 1.20 | 1.10   | 1.25 | 1.10     | 1.30 | 1.20  | 1.30 |

