

10 M Fire Rated Type N to Type N M/F Bulkhead  
SPF-250 Low PIM Cable Jumper



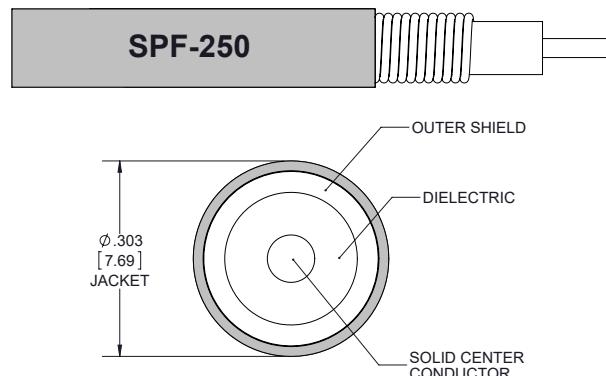
## CASPF250017-10M

### Configuration

- Connector 1: N Male
- Connector 2: N Female Bulkhead
- Cable Type: SPF-250

### Features

- Max Frequency 5.8 GHz
- Low PIM: -160 dBc Max
- FRPE Jacket
- Shielding Effectivity > 100 dB
- 100% Tested with PIM Test Results Marked on Cable
- 1.25 Inch Minimum Bend Radius
- Low Loss with Excellent VSWR



### Applications

- Distributed Antennas Systems (DAS)
- Low PIM Applications
- Fire Rated Installations
- Multi-Carrier Communication Systems

### Description

PolyPhaser CASPF250017-10M is a 10 M Fire Rated Type N to Type N M/F Bulkhead SPF-250 Low PIM Cable Jumper built using high quality components by skilled technicians to ensure a reliable product. The Type N Male to Type N Female Bulkhead jumper connections are designed to industry standard interface dimensions to ensure superior performance. These low PIM corrugated cable assemblies are durable and fire rated for applications that require these parameters. All PolyPhaser cable assemblies are available for same day shipment to fulfill your urgent needs. This high-quality RF coaxial assembly is perfect in many RF Interconnect applications such as low PIM applications, fire rated installations, distributed antenna systems (DAS), and many other RF systems. The CASPF250017-10M Type N to Type N low PIM cable assembly is the perfect companion to PolyPhaser line of products, particularly when used as an antenna jumper.

The quarter inch low PIM fire rated coax used in these Type N to Type N assemblies is a .250 inch diameter copper corrugated coax with a black FRPE jacket. This cable's foam PE dielectric is low loss material with a phase velocity of 83% and offers excellent passive intermodulation (PIM) performance better than -160 dBc. The construction of the quarter inch copper corrugated jumper results in a minimum bend radius of 1.25 inches. The cable assembly's combination of Type N to Type N M/F Bulkhead and Times Microwave's SPF-258 low PIM plenum rated cable supports a maximum operation frequency of 5.8 GHz. Each cable assembly is installed with heat shrink booting on each end and a PIM label with the measured PIM level. You can find detailed performance specifications in the product datasheet. All PolyPhaser assemblies are tested and inspected prior to shipping.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications:  
[10 M Fire Rated Type N to Type N M/F Bulkhead SPF-250 Low PIM Cable Jumper CASPF250017-10M](#)

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## CASPF250017-10M

### Electrical Specifications

| Description             | Minimum | Typical      | Maximum | Units        |
|-------------------------|---------|--------------|---------|--------------|
| Frequency Range         | DC      |              | 5.8     | GHz          |
| VSWR                    |         |              | 1.4:1   |              |
| Velocity of Propagation |         | 83           |         | %            |
| Passive Intermodulation |         |              | -160    | dBc          |
| Capacitance             |         | 24 [78.74]   |         | pF/ft [pF/m] |
| Inductance              |         | 0.054 [0.18] |         | uH/ft [uH/m] |

### Specifications by Frequency

| Description           | F1    | F2    | F3    | F4    | F5   | Units |
|-----------------------|-------|-------|-------|-------|------|-------|
| Frequency             | 0.45  | 0.7   | 1     | 2.5   | 5.8  | GHz   |
| Insertion Loss (Max.) | 15.92 | 19.79 | 25.68 | 40.93 | 65.9 | dB    |

#### Electrical Specification Notes:

The Insertion Loss data above is based on the performance specifications of the coax cable and connectors used in this assembly. Insertion Loss is estimated as  $0.1 * \text{SQRT}(F\text{GHz})$  dB for the male connector and 0.1 for the female connector.

### Mechanical Specifications

#### Size

|          |                     |
|----------|---------------------|
| Length   | 393.7 in [10 m]     |
| Diameter | 0.94 in [23.88 mm]  |
| Weight   | 2.03 lbs [920.79 g] |

#### Cable

|                                      |                                  |
|--------------------------------------|----------------------------------|
| Cable Type                           | SPF-250                          |
| Impedance                            | 50 Ohms                          |
| Inner Conductor Type                 | Solid                            |
| Inner Conductor Material and Plating | Copper Clad Aluminum             |
| Dielectric Type                      | Foam PE                          |
| Number of Shields                    | 1                                |
| Shield Layer 1                       | Helically Corrugated Copper Tube |
| Outer Conductor Material and Plating | Copper                           |
| Outer Conductor Diameter             | 0.252 in [6.4 mm]                |
| Jacket Material                      | FRPE, Black                      |
| Jacket Diameter                      | 0.303 in [7.7 mm]                |

|                              |                    |
|------------------------------|--------------------|
| One Time Minimum Bend Radius | 1.25 in [31.75 mm] |
|------------------------------|--------------------|

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Bending Moment 0.5 lbs-ft [0.68 N-m]

### Connectors

| Description                           | Connector 1             | Connector 2             |
|---------------------------------------|-------------------------|-------------------------|
| Type                                  | N Male                  | N Female Bulkhead       |
| Impedance                             | 50 Ohms                 | 50 Ohms                 |
| Contact Material and Plating          | Phosphor Bronze, Silver | Phosphor Bronze, Silver |
| Contact Plating Specification         | 196 $\mu$ in            | 196 $\mu$ in            |
| Dielectric Type                       | PTFE                    | PTFE                    |
| Outer Conductor Material and Plating  |                         | Brass, Tri-Metal        |
| Outer Conductor Plating Specification |                         | 118 $\mu$ in            |
| Body Material and Plating             | Brass, Tri-Metal        | Brass, Tri-Metal        |
| Body Plating Specification            | 118 $\mu$ in            | 118 $\mu$ in            |
| Coupling Nut Material and Plating     | Brass, Tri-Metal        |                         |
| Coupling Nut Plating Specification    | 118 $\mu$ in            |                         |
| Torque                                | 9.74 in-lbs [1.1 Nm]    | 10 in-lbs [1.13 Nm]     |

### Environmental Specifications

#### Temperature

Operating Range -40 to +85 deg C  
Storage Range -40 to +85 deg C

Environmental Specification Notes:  
CMR (Riser) Fire Rated

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## CASF250017-10M

### Compliance Certifications

#### Plotted and Other Data

Notes:

- Values at 25°C, sea level.

PolyPhaser protects and increases the reliability of global RF communications networks, including transportation, telecommunications, defense, security and industrial applications, with superior RF surge protection technologies including DC Block, DC Pass and Ultra Low PIM. Backed by responsive service and expert technical support PolyPhaser continually expands its product offering and services to serve engineers' urgent needs for RF components in mission critical communication networks.

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URL: <https://www.polyphaser.com/10-m-fire-rated-type-n-to-type-n-m-f-bulkhead-spf-250-low-pim-cable-jumper-p.aspx>

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## CASPF250017-10M CAD Drawing

