

## Fire Rated Low PIM N Male to N Female Bulkhead Cable SPF-250 Coax Using Times Microwave Parts

The type N male to type N female bulkhead 50 cm cable using SPF-250 coax, part number FMCA2547-50CM, from Fairview Microwave is in-stock and ships same day. This Fairview type N to type N cable assembly has a male to female gender configuration with 50 ohm corrugated SPF-250 coax. Fairview Microwave's corrugated RF cable assemblies are ideal for applications where durability and high power are needed. Our low PIM design offers excellent passive intermodulation performance with PIM levels better than -160 dBc. The FMCA2547-50CM type N male to type N female cable assembly operates to 5.8 GHz. Our RF cable assembly with type N bulkhead interface allows designers to create external connections on their product enclosures, and can be used in a variety of other rack mount and panel mount applications.

Custom versions of most RF cable assemblies can be built and shipped same day. Custom cable assembly lengths can be obtained by specifying the desired length on the web site at time of order or by contacting a sales representative. Other RF cable assembly value added services including connector orientation or clocking, heat shrink booting and labeling are also available. RF testing can also be performed to document the electrical performance of your cable assembly.

### Electrical Specifications

| Description             | Min | Typ          | Max   | 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] |

### Performance by Frequency

| Description           | F1   | F2   | F3   | F4   | F5   | Units |
|-----------------------|------|------|------|------|------|-------|
| Frequency             | 0.25 | 0.5  | 1    | 2.5  | 5.8  | GHz   |
| Insertion Loss (Typ.) | 0.15 | 0.22 | 0.31 | 0.49 | 0.76 | dB    |

#### Electrical Specification Notes:

The Insertion Loss data above is based on the performance specifications of the coax and connectors used in this assembly. The Insertion Loss includes an estimated insertion loss of  $0.1 * \sqrt{FGHz}$  dB per connector.

### Mechanical Specifications

#### Cable Assembly

Length\* 19.68 in [499.87 mm]  
Weight 0.359 lbs [162.84 g]

#### Cable

Cable Type SPF-250  
Impedance 50 Ohms  
Inner Conductor Type Solid



### Configuration:

- N Male
- N Female Bulkhead
- SPF-250

### Features:

- Max Frequency 5.8 GHz
- Low PIM: -160 dBc Max
- 83% Phase Velocity
- FRPE Jacket
- 100% Tested with PIM Test Results Marked on Cable
- Lightweight and Extremely Flexible
- Low Loss with Excellent VSWR
- IP67 (when mated)
- Using Times Microwave Components

### Applications:

- General Purpose
- Laboratory Use
- Low PIM Applications
- CMR Riser Rated Applications
- Distributed Antenna Systems (DAS)
- Multi-Carrier Communication Systems
- PIM Testing

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|                                      |                       |
|--------------------------------------|-----------------------|
| Inner Conductor Material and Plating | Copper Clad Aluminum  |
| Dielectric Type                      | Foam PE               |
| Number of Shields                    | 1                     |
| Outer Conductor Material and Plating | Copper                |
| Jacket Material                      | FRPE, Black           |
| Jacket Diameter                      | 0.303 in [7.7 mm]     |
| One Time Minimum Bend Radius         | 1.25 in [31.75 mm]    |
| Bending Moment                       | 0.5 lbs-ft [0.68 N-m] |

### Connectors

| Description                     | Connector 1             | Connector 2             |
|---------------------------------|-------------------------|-------------------------|
| Type                            | N Male                  | N Female                |
| Mount Method                    |                         | Bulkhead                |
| Impedance                       | 50 Ohms                 | 50 Ohms                 |
| Contact Material & Plating      | Phosphor Bronze, Silver | Phosphor Bronze, Silver |
| Contact Plating Spec.           | 196 µin                 | 196 µin                 |
| Dielectric Type                 | PTFE                    | PTFE                    |
| Outer Cond Material & Plating   |                         | Brass, Tri-Metal        |
| Outer Cond Plating Spec.        |                         | 118 µin                 |
| Body Material & Plating         | Brass, Tri-Metal        | Brass, Tri-Metal        |
| Body Plating Spec.              | 118 µin                 | 118 µin                 |
| Coupling Nut Material & Plating | Brass, Tri-Metal        |                         |
| Coupling Nut Plating Spec.      | 118 µin                 |                         |
| Torque                          | 7.08 in-lbs 0.8 Nm      | 6 in-lbs 0.68 Nm        |

### Environmental Specifications

#### Temperature

Operating Range -40 to +85 deg C

**Compliance Certifications** (see [product page](#) for current document)

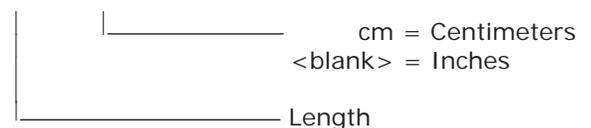
### Plotted and Other Data

Notes:

### How to Order

Part Number Configuration:

**FMCA2547 - xx uu**



Example: FMCA2547-12 = 12 inches long cable  
FMCA2547-100cm = 100 cm long cable

Fire Rated Low PIM N Male to N Female Bulkhead Cable SPF-250 Coax Using Times Microwave Parts from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

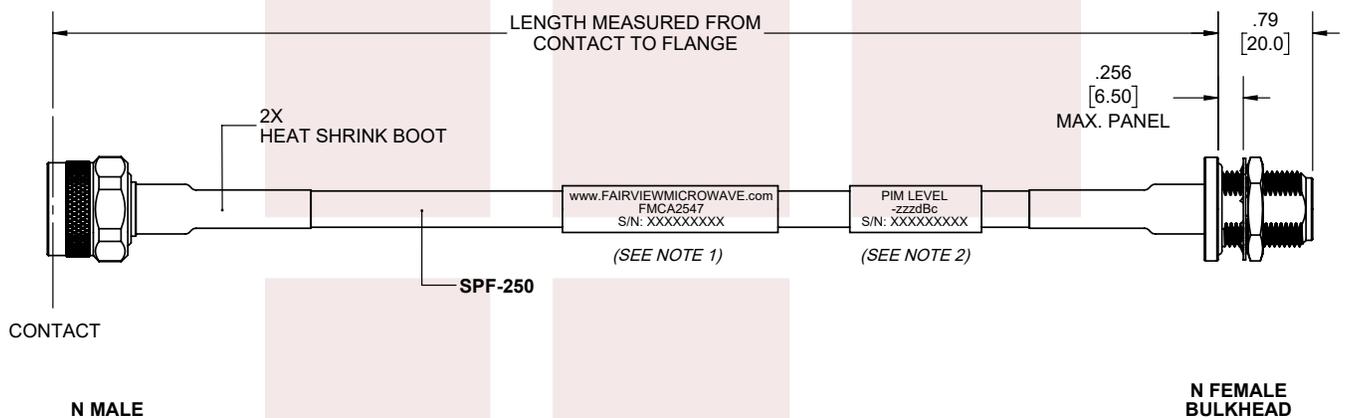
Click the following link to obtain additional part information: [Fire Rated Low PIM N Male to N Female Bulkhead Cable SPF-250 Coax Using Times Microwave Parts FMCA2547-50CM](#)

URL: <https://www.fairviewmicrowave.com/fire-rated-low-pim-n-male-to-n-female-bulkhead-cable-spf-250-coax-using-times-microwave-parts-fmca2547-50cm-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

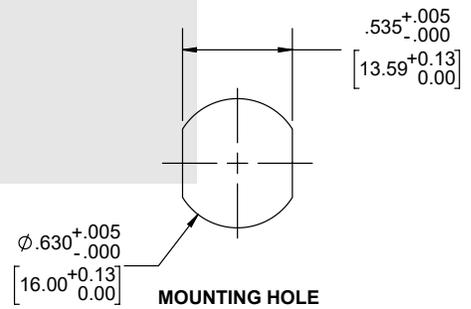


| REVISIONS |                 |           |            |
|-----------|-----------------|-----------|------------|
| REV.      | DESCRIPTION     | DATE      | APPROVED   |
| A         | INITIAL RELEASE | 9/21/2021 | A. GANWANI |



**NOTES:**

1. CABLES 84" AND UNDER HAVE 1 LABEL CENTERED. CABLES OVER 84" HAVE 2 LABELS, ONE AT EACH END 12.0" FROM THE END OF THE CONNECTOR.
2. 6" FROM CABLE END 1 PLACE FOR ALL LENGTHS OF CABLE.



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|   |   |   |                                       |           |                             |                    |        |   |                      |             |  |  |  |   |  |  |                            |  |
|---|---|---|---------------------------------------|-----------|-----------------------------|--------------------|--------|---|----------------------|-------------|--|--|--|---|--|--|----------------------------|--|
| <p><b>Fairview Microwave</b><br/>an INFINIT<sup>®</sup> brand</p>   | <p>UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES<br/>DIMENSIONS IN [ ] ARE MILLIMETERS</p> <p>TOLERANCES: CABLE LENGTH (L) TOLERANCES:</p> <table border="0"> <tr> <td>.X = ± .2 [ .08]</td> <td>FRACTIONS</td> <td>L ≤ 12 [305] = +1 [25] / -0</td> </tr> <tr> <td>.XX = ± .02 [ .51]</td> <td>± 1/32</td> <td>12 [305] &lt; L ≤ 60 [1524] = +2 [51] / -0</td> </tr> <tr> <td>.XXX = ± .005 [ .13]</td> <td>ANGLES ± 1°</td> <td>60 [1524] &lt; L ≤ 120 [3048] = +4 [102] / -0</td> </tr> <tr> <td></td> <td></td> <td>120 [3048] &lt; L ≤ 300 [7620] = +6 [152] / -0</td> </tr> <tr> <td></td> <td></td> <td>300 [7620] &lt; L = +5%L / -0</td> </tr> </table> |   | .X = ± .2 [ .08]                      | FRACTIONS | L ≤ 12 [305] = +1 [25] / -0 | .XX = ± .02 [ .51] | ± 1/32 | 12 [305] < L ≤ 60 [1524] = +2 [51] / -0 | .XXX = ± .005 [ .13] | ANGLES ± 1° | 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0 |  |  | 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 |  |  | 300 [7620] < L = +5%L / -0 | <p>THIRD-ANGLE PROJECTION</p> <p>THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.</p> |
|   | .X = ± .2 [ .08]  | FRACTIONS                                   | L ≤ 12 [305] = +1 [25] / -0           |           |                             |                    |        |   |                      |             |  |  |  |   |  |  |                            |  |
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| <p>TITLE</p> <p>Fire Rated Low PIM N Male to N Female Bulkhead Cable SPF-250 Coax Using Times Microwave Parts</p> | <p>ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.</p>   |   | <p>SHEET 1 OF 1</p> <p>SCALE N/A</p>  |           |                             |                    |        |   |                      |             |  |  |  |   |  |  |                            |  |
| <p>SIZE A</p>   | <p>CAGE CODE 3FKR5</p>  | <p>DRAWN BY K.DANG</p>                      | <p>ITEM NO. FMCA2547</p> <p>REV A</p> |           |                             |                    |        |   |                      |             |  |  |  |   |  |  |                            |  |

T-Rev.D