

## 1.85mm Male to 1.85mm Male Cable 12 Inch Length Using FM-103FLEX Coax

The 1.85mm male to 1.85mm male 12 inch cable using FM-103FLEX coax, part number FMCA1978-12, from Fairview Microwave is in-stock and ships same day. This Fairview 1.85mm to 1.85mm cable assembly has a male to male gender configuration with 50 ohm flexible FM-103FLEX coax. Fairview Microwave's flexible RF cable assemblies are ideal for applications where tight bends and continual flexure are required. The FMCA1978-12 1.85mm male to 1.85mm male cable assembly operates to 65 GHz. The triple shielding of this Fairview cable assembly provides excellent shielding effectiveness of better than 90 dB.

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  |             | 65    | GHz          |
| VSWR                    |     |             | 1.4:1 |              |
| Velocity of Propagation |     | 76          |       | %            |
| RF Shielding            | 90  |             |       | dB           |
| Capacitance             |     | 26 [85.3]   |       | pF/ft [pF/m] |
| Inductance              |     | 65 [213.25] |       | uH/ft [uH/m] |
| Input Power (Peak)      |     |             | 550   | Watts        |

### Performance by Frequency

| Description           | F1   | F2   | F3   | F4   | F5   | Units |
|-----------------------|------|------|------|------|------|-------|
| Frequency             | 5    | 10   | 20   | 40   | 65   | GHz   |
| Insertion Loss (Max.) | 0.84 | 1.12 | 1.55 | 2.2  | 2.85 | dB    |
| Insertion Loss (Typ.) | 0.78 | 1.04 | 1.43 | 2.02 | 2.61 | dB    |

### Mechanical Specifications

#### Cable Assembly

|          |                    |
|----------|--------------------|
| Length*  | 12 in [304.8 mm]   |
| Diameter | 0.375 in [9.53 mm] |

#### Cable

|                                      |                      |
|--------------------------------------|----------------------|
| Cable Type                           | FM-103FLEX           |
| Impedance                            | 50 Ohms              |
| Inner Conductor Type                 | Stranded             |
| Inner Conductor Material and Plating | Copper, Silver       |
| Dielectric Type                      | PTFE                 |
| Number of Shields                    | 3                    |
| Shield Layer 1                       | Silver Plated Copper |
| Shield Layer 2                       | Conductive Tape      |



### Configuration:

- 1.85mm Male
- 1.85mm Male
- FM-103FLEX

### Features:

- Max Frequency 65 GHz
- Shielding Effectivity > 90 dB
- 76% Phase Velocity
- Triple Shielded
- ETFE Jacket

### Applications:

- General Purpose
- Laboratory Use

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|                 |                      |
|-----------------|----------------------|
| Shield Layer 3  | Silver Plated Copper |
| Jacket Material | ETFE, Gray           |
| Jacket Diameter | 0.103 in [2.62 mm]   |

|                              |                    |
|------------------------------|--------------------|
| One Time Minimum Bend Radius | 0.32 in [8.13 mm]  |
| Repeated Minimum Bend Radius | 0.96 in [24.38 mm] |
| Typical Flex Cycles          | 500,000            |

### Connectors

| Description                     | Connector 1                                     | Connector 2                |
|---------------------------------|-------------------------------------------------|----------------------------|
| Type                            | 1.85mm Male                                     | 1.85mm Male                |
| Impedance                       | 50 Ohms                                         | 50 Ohms                    |
| Contact Material & Plating      | Beryllium Copper, Gold                          | Beryllium Copper, Gold     |
| Contact Plating Spec.           | ASTM-B488 50µ In. Min ASTM-B488 50µ In. Minimum |                            |
| Dielectric Type                 | PPO                                             | PPO                        |
| Body Material & Plating         | Passivated Stainless Steel                      | Passivated Stainless Steel |
| Body Plating Spec.              | SAE-AMS-2700                                    | SAE-AMS-2700               |
| Coupling Nut Material & Plating | Passivated Stainless Steel                      | Passivated Stainless Steel |
| Coupling Nut Plating Spec.      | SAE-AMS-2700                                    | SAE-AMS-2700               |
| Hex Size                        | 5/16 Inch                                       | 5/16 Inch                  |
| Torque                          | 8 in-lbs 0.9 Nm                                 | 8 in-lbs 0.9 Nm            |

### Mechanical Specification Notes:

\*All cable assemblies have a length tolerance of 1.5% or  $\pm 3/8"$ , whichever is greater.

### Environmental Specifications

#### Temperature

Operating Range -45 to +125 deg C

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

### Plotted and Other Data

#### Notes:

- Values at 25°C, sea level.

### How to Order

Part Number Configuration:

**FMCA1978 - xx uu**

\_\_\_\_\_ cm = Centimeters  
 \_\_\_\_\_ <blank> = Inches  
 \_\_\_\_\_ Length

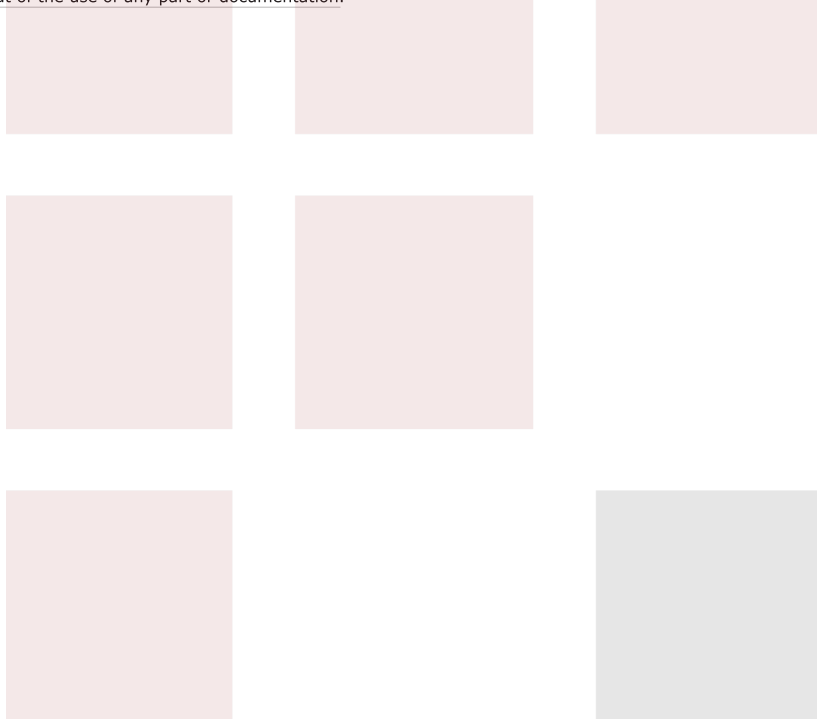
Example: FMCA1978-12 = 12 inches long cable  
 FMCA1978-100cm = 100 cm long cable

1.85mm Male to 1.85mm Male Cable 12 Inch Length Using FM-103FLEX Coax from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and fiber optic products maintain a 99% availability and are part of the broadest selection in the industry.

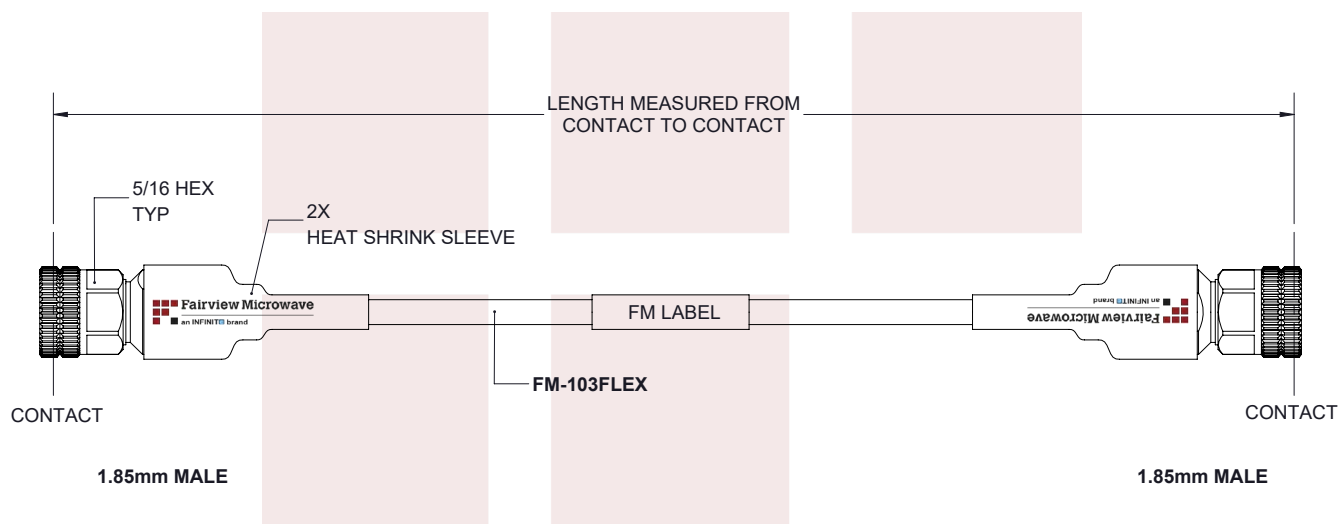
Click the following link to obtain additional part information: [1.85mm Male to 1.85mm Male Cable 12 Inch Length Using FM-103FLEX Coax FMCA1978-12](https://www.fairviewmicrowave.com/1.85mm-male-1.85mm-male-FM-103FLEX-cable-assembly-FMCA1978-12-p.aspx)

URL: <https://www.fairviewmicrowave.com/1.85mm-male-1.85mm-male-FM-103FLEX-cable-assembly-FMCA1978-12-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 | 11/08/19 | S.ELLIS  |



FM LABEL:

www.FAIRVIEWMICROWAVE.com  
FMCA1978

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TITLE

1.85mm Male to 1.85mm Male Cable 12 Inch Length  
Using FM-103FLEX Coax

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ±.2 [5.08] FRACTIONS  
.XX = ±.02 [.51] ± 1/32  
.XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0  
12 [305] < L ≤ 60 [1524] = +2 [51] / -0  
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0  
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0  
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

SCALE

N/A

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

| SIZE | CAGE CODE | DRAWN BY | PART NUMBER | REV |
|------|-----------|----------|-------------|-----|
| A    | 3FKR5     | K.DANG   | FMCA1978    | A   |

T-Rev.D

# Mouser Electronics

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