### IEEE-std-287 Conformed

**Precision Coaxial Connectors**

#### Coaxial Adapters, Within Series

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1mm/1mm</td>
<td>Up to 110 GHz</td>
</tr>
<tr>
<td>1.85mm/1.85mm</td>
<td>Up to 65 GHz</td>
</tr>
<tr>
<td>2.4mm/2.4mm</td>
<td>Up to 50 GHz</td>
</tr>
<tr>
<td>2.92mm/2.92mm</td>
<td>Up to 40 GHz</td>
</tr>
<tr>
<td>3.5mm/3.5mm</td>
<td>Up to 26.5 GHz</td>
</tr>
</tbody>
</table>

#### Coaxial Adapters, Between Series

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85mm/1mm</td>
<td>Up to 67 GHz</td>
</tr>
<tr>
<td>2.4mm/1.85mm</td>
<td>Up to 50 GHz</td>
</tr>
<tr>
<td>2.92mm/1.85mm</td>
<td>Up to 40 GHz</td>
</tr>
<tr>
<td>2.92mm/2.4mm</td>
<td>Up to 40 GHz</td>
</tr>
<tr>
<td>3.5mm/2.4mm</td>
<td>Up to 26.5 GHz</td>
</tr>
</tbody>
</table>

#### Panel Adapters, Within

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85mm</td>
<td>Up to 65GHz</td>
</tr>
<tr>
<td>2.92mm</td>
<td>Up to 40GHz</td>
</tr>
</tbody>
</table>

#### Front Panel Adapters

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85mm</td>
<td>Up to 65GHz</td>
</tr>
<tr>
<td>2.92mm</td>
<td>Up to 40GHz</td>
</tr>
</tbody>
</table>

#### 2-Hole Flange Launchers & Glass Beads

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1mm</td>
<td>Up to 110GHz</td>
</tr>
<tr>
<td>1.85mm</td>
<td>Up to 65GHz</td>
</tr>
<tr>
<td>2.92mm</td>
<td>Up to 40GHz</td>
</tr>
</tbody>
</table>

#### Hermetic Adapters, Within

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85mm/1.85mm</td>
<td>Up to 65GHz</td>
</tr>
<tr>
<td>2.92mm/2.92mm</td>
<td>Up to 40GHz</td>
</tr>
</tbody>
</table>

#### Semirigid Cable Assemblies

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Frequency Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1mm</td>
<td>Up to 110GHz</td>
</tr>
<tr>
<td>1.85mm</td>
<td>Up to 60/65GHz</td>
</tr>
<tr>
<td>2.4mm</td>
<td>Up to 50GHz</td>
</tr>
<tr>
<td>2.92mm</td>
<td>Up to 40GHz</td>
</tr>
</tbody>
</table>

Distributed from (except Japan)

[SHF Communication Technologies AG](http://www.shf.de/)

Manufactured by:
Kawashima Manufacturing Co., Ltd.
[URL](https://kmco.co.jp/en/)
**DESCRIPTION**

"KPC100MF, FF, and MM" are small size, low SWR, and low loss coaxial adapters. They are designed for ultra-broadband (up to sub-millimeter wave) measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 110 GHz
- SWR: < 1.3 (*), < 1.5 (**)  
- Insertion Loss: 0.5 dB (typ.)
- Electrical Length: 11.6 mm (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 45 N-cm (Nominal)
- Connect/Disconnect Life: > 500 Cycles (Estimate)

NOTE: All dimensions are in millimeters. 
(*) Calibration as insertable-device  
(**) Calibration as non-insertable-device

Specifications Subject to Change Without Notice

Rev. 04 July 2020
**DESCRIPTION**

"KPC185MF, FF, and MM" are small size, low SWR, and low loss coaxial adapters. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- **Frequency Range:** DC - 65 GHz
- **SWR:** < 1.3
- **Insertion Loss:** < 0.35 dB
- **Electrical Length:** 17.5 mm (Nominal)
- **Temperature Range:** -55 to +125 °C

**Mechanical:**
- **Body and Outer Conductor:** Passivated Stainless Steel
- **Inner Conductor:** Gold Plated Beryllium Copper and Brass
- **Coupling Torque:** 90 N-cm (Nominal)
- **Connect/Disconnect Life:** > 1,000 Cycles

---

**Typical Performance**

**SWR**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>SWR</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>20</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>30</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>40</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>50</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>60</td>
<td>&lt; 1.3</td>
</tr>
<tr>
<td>65</td>
<td>&lt; 1.3</td>
</tr>
</tbody>
</table>

**Insertion Loss**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Insertion Loss (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>20</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>30</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>40</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>50</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>60</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>65</td>
<td>&lt; 0.35</td>
</tr>
</tbody>
</table>

---

**Note:** Calibration as non-insertable-device.

---

**Production Status**

2 Weeks Lead-Time for Shipping

---

**Interface Mating Dimensions of KPC185 (1.85 mm Connectors <->)**

<-> Matable with 2.4 mm connectors

---

**RoHS Compliant**

**REACH Compliant**

---

Specifications Subject to Change Without Notice

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
### DESCRIPTION
"KPC240MF, FF, and MM" are small size, low SWR, and low loss coaxial adapters. They are designed for broadband measurement, instrument, and system applications.

### SPECIFICATIONS

**Electrical:**
- Frequency Range: DC - 50 GHz
- SWR: < 1.25
- Insertion Loss: < 0.3 dB
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

Production Status: 2 Weeks Lead-Time for Shipping

### Typical Performance

<table>
<thead>
<tr>
<th>SWR</th>
<th>Insertion Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data File: SPE5205</td>
<td>Data File: SPE5205</td>
</tr>
</tbody>
</table>

Note: terminated with broadband load

### Interface Mating Dimensions of KPC240 (2.4 mm Connectors _<*>_

<table>
<thead>
<tr>
<th>Gender</th>
<th>Reference Plane</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.85 mm connectors</td>
<td>M7x0.75-6H</td>
<td>M7x0.75-6H</td>
<td>M7x0.75-6H</td>
</tr>
</tbody>
</table>

**NOTE:**
All dimensions are in millimeters.

---

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
DESCRIPTION
"KPC292MF, FF, and MM" are small size, low SWR, and low loss coaxial adapters. They are designed for broadband measurement, instrument, and system applications.

SPECIFICATIONS

Electrical:
- Frequency Range: DC - 40 GHz
- SWR: < 1.15 (MF&MM), < 1.20 (FF)
- Insertion Loss: < 0.2 dB
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125 °C

Mechanical:
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

Typical Performance

Note: SWR is combined with a through-line adapter for the calibration.

Interface Mating Dimensions of KPC292 (2.92 mm Connectors)

Note: All dimensions are in millimeters.

Production Status
2 Weeks Lead-Time for Shipping

Specifications Subject to Change Without Notice
**3.5 mm/3.5 mm**

**DC - 26.5 GHz, Coaxial Adapters, In-Series**

**DESCRIPTION**

"KPC350MF, FF, and MM" are small size, low SWR, and low loss coaxial adapters. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- **Frequency Range:** DC - 26.5 GHz (Moding: 34 GHz)
- **SWR:** < 1.15
- **Insertion Loss:** < 0.2 dB
- **Electrical Length:** 17.5 mm (Nominal)
- **Temperature Range:** -55 to +125 °C

**Mechanical:**
- **Body and Outer Conductor:** Passivated Stainless Steel
- **Inner Conductor:** Gold Plated Beryllium Copper and Brass
- **Coupling Torque:** 90 N-cm (Nominal)
- **Connect/Disconnect Life:** > 1,000 Cycles

**Typical Performance**

**SWR**

![SWR Graph]

**Insertion Loss**

![Insertion Loss Graph]

**Interface Mating Dimensions of KPC350 (3.5 mm Connectors)"**

**NOTE:**

All dimensions are in millimeters.

"Matable with 2.92 mm connectors and SMA

**RoHS Compliant**

**REACH Compliant**

Specifications Subject to Change Without Notice

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>

Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-ikuta, Tama-ku
Kawasaki 214-0031 JAPAN

TEL: +81-44-911-7073  FAX: +81-44-911-9621
e-mail: sales@kmco.co.jp

ISO9001:14001 Certified

* Data File: 03013005
  * Data File: 03012102
  * Data File: 03012909

Production Status
2 Weeks Lead-Time for Shipping
### DESCRIPTION
"KPC185F100F, KPC185F100M, KPC185M100F, and KPC185M100M" coaxial adapters between 1.85 mm and 1.00 mm are small size, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

### SPECIFICATIONS

**Electrical:**
- Frequency Range: DC - 67 GHz
- SWR: < 1.4 (1)
- Insertion Loss: 0.8 dB (typ.) (1)
- Electrical Length: 14.6 mm (Nominal)
- Temperature Range: -55 to +125˚C

**Mechanical:**
- Body and Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm for KPC185 (Nominal) 
  - 45 N-cm for KPC100 (Nominal)
- Connect/Disconnect Life: > 500 Cycles (Estimate)

NOTE:
- All dimensions are in millimeters.
- (1) 1 mm ports were measured for the measurement of return and insertion loss of the adapters with 1.8 mm ports mated as an interface.

#### Performance Test Configuration

![Performance Test Configuration Diagram](image)

#### Typical Performance

![Typical Performance Graph](image)

#### Interface Mating Dimensions

**KPC185 (1.85 mm Connectors)**

![KPC185 Dimensions Diagram](image)

**KPC100 (1 mm Connectors)**

![KPC100 Dimensions Diagram](image)

NOTE:
- All dimensions are in millimeters.
- (1) 1 mm ports were measured for the measurement of return and insertion loss of the adapters with 1.8 mm ports mated as an interface.
**DESCRIPTION**

"KPC240F185F, KPC240F185M, KPC240M185F, and KPC240M185M" coaxial adapters between 2.4 mm and 1.85 mm are small size, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 50 GHz
- SWR: < 1.25 (**)  
- Insertion Loss: < 0.4 dB (**)
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium, Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

**Typical Performance**

Note: Measured from 1.85 mm port and terminated with 2.4 mm broadband load.

These adapters are designed to eliminate SWR degradation as shown in the below chart. This 2.4 mm/2.4 mm coaxial adapter is mated to 1.85 mm test port cables (Example: KMCO "KPC240MF").

**Interface Mating Dimensions of KPC240 (2.4 mm Connectors) and KPC185 (1.85 mm Connectors)**

**NOTE:**
All dimensions are in millimeters.

---

Production Status
2 Weeks Lead-Time for Shipping

RoHS Compliant
REACH Compliant
**2.92 mm/1.85 mm**

**DC - 40 GHz, Coaxial Adapters, Between-Series**

**DESCRIPTION**
"KPC292F185F, KPC292F185M, KPC292M185F, and KPC292M185M" coaxial adapters between 2.92 mm and 1.85 mm are small size, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 40 GHz
- SWR: < 1.3
- Insertion Loss: < 0.35 dB
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125°C

**Mechanical:**
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

**Typical Performance**

<table>
<thead>
<tr>
<th>SWR</th>
<th>GHz</th>
<th>0.4</th>
<th>10</th>
<th>30</th>
<th>50</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interface Mating Dimensions**

<table>
<thead>
<tr>
<th>Type</th>
<th>Female</th>
<th>Male</th>
<th>1/4-36 UNS-2A</th>
<th>Reference Plane</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPC292 (2.92 mm Connectors)</td>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
<tr>
<td>KPC185 (1.85 mm Connectors)</td>
<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
<td><img src="image7.png" alt="Image" /></td>
<td><img src="image8.png" alt="Image" /></td>
</tr>
</tbody>
</table>

<*> Matable with 2.4 mm connectors

**Production Status**
2 Weeks Lead-Time for Shipping

**Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved>**
**DESCRIPTION**

"KPC292F240F, KPC292F240M, KPC292M240F, and KPC292M240M" coaxial adapters between 2.92 mm and 2.4 mm are small size, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 40 GHz
- SWR: < 1.22
- Insertion Loss: < 0.25 dB
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

**Typical Performance**

**Data File 0212205**

Note: Terminated with 2.4 mm broadband load
Type: KPC292M240F

**Data File 02122201**

Note: Includes 2.4 to 2.92mm adapter loss for output port connection
Type: KPC292M240F

**Interface Mating Dimensions**

**KPC292 (2.92 mm Connectors)**

**KPC240 (2.4 mm Connectors)**

**NOTE:**
All dimensions are in millimeters.

**Specifications Subject to Change Without Notice**

Rev. 03 June 2017

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>

Kawashima Manufacturing Co., Ltd. 1-3-5-Higashi-ikuta, Tama-ku, Kawasaki 214-0031 JAPAN TEL: +81-44-911-7073 FAX: +81-44-911-9621 https://kmco.co.jp/en/ e-mail: sales@kmco.co.jp
**3.5 mm/2.4 mm**

**DC - 26.5 GHz, Coaxial Adapters, Between-Series**

**DESCRIPTION**
"KPC350F240F, KPC350F240M, KPC350M240F, and KPC350M240M" coaxial adapters between 3.5 mm and 2.4 mm are small size, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 26.5 GHz (Moding: 34GHz)
- SWR: < 1.2
- Insertion Loss: < 0.3 dB
- Electrical Length: 17.5 mm (Nominal)
- Temperature Range: -55 to +125˚C

**Mechanical:**
- Body and Outer Conductor: Passivated Stainless Steel
- Inner Conductor: Gold Plated Beryllium and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

**NOTE:**
All dimensions are in millimeters. Specifications Subject to Change Without Notice

**Production Status**
2 Weeks Lead-Time for Shipping

---

**Typical Performance**

![Typical Performance Chart](chart.jpg)

**Interface Mating Dimensions**

![Interface Mating Dimensions](dimensions.png)

**Note:**
- Terminated with 2.4 mm broadband load Type: KPC350M240M
- Includes for output port connection 2.4 to 3.5 mm adapter loss Type: KPC350F240M

---

**RoHS Compliant**

**REACH Compliant**

---

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. All rights reserved.

Kawashima Manufacturing Co., Ltd.

1-3-5 Higashi-ikuta, Tama-ku,
Kawasaki 214-0031 JAPAN

mailto: sales@kmco.co.jp
1.85 mm/1.85 mm Panel Adapter, In-Series
DC - 65 GHz, Coaxial Panel Adapters for Front Access Ports

DESCRIPTION
"KPC185MF FPA" coaxial front panel adapter is easy to mate, low SWR, and low insertion loss. It is designed for frequently connected/disconnected broadband measurement, instrument, and system applications.

SPECIFICATIONS
Electrical:
- Frequency Range: DC - 65 GHz
- SWR: < 1.3
- Insertion Loss: < 0.5 dB
- Electrical Length: Shown below (Nominal)
- Temperature Range: -55 to +125 °C

Mechanical:
- Body: Passivated Stainless Steel (*)
- Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

NOTE:
All dimensions are in millimeters.

(*) Toothed lockwasher is nickel-plated steel.

Specifications Subject to Change Without Notice
Rev. 03 June 2017
Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-kikita, Tama-ku, Kawasaki 214-0031 JAPAN
TEL: +81-44-911-7073 FAX: +81-44-911-9621
https://kmco.co.jp/en/ e-mail: sales@kmco.co.jp

Production Status
3 Weeks Lead-Time for Shipping

TYPE: KPC185MF FPA
1.85 mm Male/1.85 mm Female

Interface Mating Dimensions of KPC185MF FPA (1.85 mm Connectors <->)

Number of Samples: 13 pcs

Typical Performance

RoHS Compliant
REACH Compliant

<-> Matable with 2.4 mm connectors
**2.92 mm/2.92 mm Panel Adapter, In-Series**

**DC - 40 GHz, Coaxial Panel Adapters for Front Access Ports**

**DESCRIPTION**

"KPC292MF FPA" coaxial front panel adapter is easy to mate, good return loss, and low insertion loss. It is designed for frequently connected/disconnected broadband measurement, instrument, and system applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 40 GHz
- SWR: < 1.15
- Insertion Loss: < 0.3 dB
- Electrical Length: Shown below (Nominal)
- Temperature Range: -55 to +125°C

**Mechanical:**
- Body: Passivated Stainless Steel (*)
- Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

---

**Interface Mating Dimensions of KPC292MF FPA (2.92 mm Connectors)**

**Production Status**

3 Weeks Lead-Time for Shipping

---

**Typical Performance**

Number of Samples: 7 pcs

**Return Loss (dB)**

Frequency (GHz)

-60 -50 -40 -30 -20 -10 0 10 20 30 40

**Insertion Loss (dB)**

-0.50 -0.40 -0.30 -0.20 -0.10 0.00 0.10 0.20 0.30 0.40 0.50

**Electrical Length (mm)**


**Delay Aperture: 10%**

Frequency (GHz)

-55 to +125°C

**IEEE 8 HEX.**

7.95

Across Flats

16.8 HEX.

7.45

Reference Plane

<Electrical Length: 31.3 mm>

**M10xP1-6g**

16.6

4 10

2

7.4

10.3

15.9 (Dia.)

14 Across Flats

8 HEX.

7.95

Reference Plane

30.91 (Reference Plane)

35.8

<Electrical Length: 31.3 mm>

**Metric 1/4-36 UNS-2A**

7.95

Across Flats

16.8 HEX.

7.95

Reference Plane

30.91 (Reference Plane)

35.8

<Electrical Length: 31.3 mm>

**NOTE:**

All dimensions are in millimeters.

(*) Toothed lockwasher is nickel-plated steel.

<*> Matable with 3.5 mm connectors and SMA

---

RoHS Compliant

REACH Compliant

---

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. All rights reserved.
Panel Adapter, In Series
1.85 mm for DC - 65 GHz, 2.92 mm for 40 GHz Coaxial Panel Adapters

DESCRIPTION
"KPC185FFPA and KPC292FFPA" coaxial panel adapters are 9.5 mm "D"-holed panel mountable, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

SPECIFICATIONS
Electrical:  
- Frequency Range: DC - 65 GHz (1.85 mm), DC - 40 GHz (2.92 mm)
- SWR: < 1.3 (1.85 mm), < 1.15 (2.92 mm)
- Insertion Loss: < 0.4 dB (1.85 mm), < 0.25 dB (2.92 mm)
- Electrical Length: Shown below (Nominal)

Temperature Range: -55 to +125 °C

Mechanical:  
- Body: Passivated Stainless Steel (*)
- Outer Conductor: Passivated Stainless Steel (1.85 mm) (*)
- Inner Conductor: Gold Plated Stainless Steel (2.92 mm)
- Gold Plated Beryllium Copper and Brass (1.85 mm)
- Gold Plated Beryllium Copper (2.92 mm)
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

NOTE: All dimensions are in millimeters.
(*)Toothed lockwasher is chromate-converted zinc-plated steel.

Specifications Subject to Change Without Notice

Production Status
2 Weeks Lead-Time for Shipping

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
DC - 65 GHz/40 GHz Panel Adapters, Between

1.85 mm/SMPM and 2.92 mm/SMPM Panel Adapters

DESCRIPTION
"KPC185F-SMPM-FD-PA and "KPC292F-SMPM-FD-PA" coaxial panel adapters are 9.5 mm "D"-holed panel mountable, low SWR, and low loss. They are designed for broadband measurement, instrument, and system applications.

Connector Interfaces
- 1.85 mm and 2.92 mm connectors conform to IEEE-Std-287.
- SMPM male full detent interface is as per MIL-STD-348A 328.2.

SPECIFICATIONS

Electrical:
- Frequency Range
  - DC - 65 GHz (1.85 mm)
  - DC - 40 GHz (2.92 mm)
- SWR < 1.5
- Insertion Loss < 0.7 dB
- Temperature Range -55 to +125 °C

Mechanical:
- Body and Outer Conductor: Passivated Stainless Steel (*)
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 100 Cycles (Estimate for SMPM)

NOTE: All dimensions are in millimeters.
(*) Tinned lockwasher is chromate-converted zinc-plated steel.

Production Status
2 Weeks Lead-Time for Shipping

Specifications Subject to Change Without Notice

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
DESCRIPTION
"SMA-FFPA" coaxial panel adapter is 9.5 mm “D”-holed panel mountable. It is designed for telecommunication systems and test equipment.

Connector Interface Standard:
- MIL-C-39012
- MIL-STD-348A
- IEC Std-169-15

SPECIFICATIONS

Electrical:
- Frequency Range: DC - 20 GHz (*)
- SWR: < 1.2
- Insertion Loss: < 0.1 dB
- Input Power: 10 W (max)
- Temperature Range: -55 to +85 °C

Mechanical:
- Outer Conductor: Passivated Stainless Steel (**)  
- Inner Conductor: Gold Plated Beryllium Copper
- Coupling Torque: 56 N-cm (Nominal)
- Connect/Disconnect Life: > 5,000 Cycles (***)

NOTE:
All dimensions are in millimeters.
(*) Moding frequency: 24.7 GHz (theoretically)
(**) Toothed lockwasher is chromate (trivalent) converted zinc-plated steel  
(***) Connect/disconnect speed: 10 cycles per minute (conforms to MIL-C-39012/60)  
(****) Recommended tightening torque: 300 to 420 N-cm

Specifications Subject to Change Without Notice
Rev. 03 June 2017
Copyright© 2002-2021 Kawashima Manufacturing Co., Ltd.  All rights reserved.
90 degree Angled-Swept Adaptor, Male to Female

SMA Coaxial Adapters

DESCRIPTION
"SMA-525S" 90 degree angled-swept adaptor is designed for telecommunication systems and test equipment.

Connector Interface Standard:
- MIL-C-39012
- MIL-STD-348A
- IEC Std-169-15

SPECIFICATIONS
Electrical:
- Frequency Range
  - DC - 24.6 GHz (*)
  - < 1.25 (to 20 GHz)
  - < 1.5 (to 24.6 GHz)
- SWR
  - < 0.15 dB (to 20 GHz)
  - < 0.23 dB (to 24.6 GHz)
- Input Power
  - 10 W (max)
- Temperature Range
  - -55 to +85 °C

Mechanical:
- Outer Conductor
  - Nickel Plated Stainless Steel
- Inner Conductor
  - Gold Plated Beryllium Copper
- Coupling Torque
  - 56 N·cm (Nominal)
- Connect/Disconnect Life
  - > 500 Cycles (**)

NOTE:
All dimensions are in millimeters.
(*) Moding frequency: 24.7 GHz (theoretically)
(**) Connect/disconnect speed: 10 cycles per minute (conforms to MIL-C-39012/60)

Specifications Subject to Change Without Notice
Rev. 03 June 2017
Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. All rights reserved.

Kawashima Manufacturing Co., Ltd.
1-3-5-Higashi-Ikuta, Tama-ku, Kawasaki 214-0031 JAPAN
TEL: +81-44-911-7073 FAX: +81-44-911-9621
https://kmco.co.jp/en/ e-mail: sales@kmco.co.jp
**DESCRIPTION**

"KPC185FFHA" is hermetically sealed 1.85 mm to 1.85 mm coaxial adapter that is;
- Low SWR and low loss
- Hermetic RF interface between vacuum and atmosphere environment
- Small mounting space
It is designed for broadband devices, instrument, and component testing applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 65 GHz
- SWR: < 1.5
- Insertion Loss: < 0.7 dB
- Electrical Length: Shown below (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper
- Inner and Outer Conductor for Seal: Gold Plated Fe/Ni/Co Alloy (KOVAR)
- Insulator for Seal: #7070 Glass (Corning)
- Gasket for Flange Seal: Fluoroelastomer "O" Ring
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles
- He Leak Rate (*): < 1x10^-10 Pam^3/sec (< 1x10^-9 atm cc/sec)

**Typical Performance**

- Insertion Loss (dB)
- Return Loss (dB)

**Recommended Mounting Hole and Installation**

- Single or Separated Multi Port Installation
- Spaced “13 mm” Multi Port Installation

**Interface Mating Dimensions of KPC185 (1.85 mm Connectors <->)**

NOTE:
All dimensions are in millimeters.
1. Corners: < 0.05 x 0.05 mm
2. "Smooth surface" required
3. (*) As Per MIL-STD-883E, METHOD1014.10, Test Condition A4

**Production Status**
4 Weeks Lead-Time for Shipping

**RoHS Compliant**
**REACH Compliant**
**DESCRIPTION**

"KPC292FFHA" is hermetically sealed 2.92 mm to 2.92 mm coaxial adapter that is;
- Low SWR and low loss
- Hermetic RF interface between vacuum and atmosphere environment
- Small mounting space

It is designed for broadband devices, instrument, and component testing applications.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 40 GHz
- SWR: < 1.5
- Insertion Loss: < 0.45 dB
- Electrical Length: Below (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Gold Plated Stainless Steel and Brass
- Inner Conductor: Gold Plated Beryllium Copper
- Inner and Outer Conductor for Seal: Gold Plated Fe/Ni/Co Alloy (KOVAR)
- Insulator for Seal: #7070 Glass (Corning)
- Gasket for Flange Seal: Fluoroelastomer "O" Ring
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles
- He Leak Rate (*): < 1x10⁻¹⁰ Pam³/sec (< 1x10⁻⁹ atm cc /sec)

**TYPE: KPC292FFHA**

2.92 mm Female/2.92 mm Female

**Recommended Mounting Hole and Installation**

Single or Separated Multi Port Installation

Spaced "13 mm" Multi Port Installation

**Interface Mating Dimensions of KPC292 (2.92 mm Connectors <>)**

**Typical Performance**

Number of samples: 5 pcs

**RoHS Compliant**

**REACH Compliant**

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
DC - 110 GHz, Flange Launchers

**DESCRIPTION**

"KPC100F311 and KPC100M311" flange launchers are designed for ultra-broadband devices and units with coaxial I/O interfaces.

**SPECIFICATIONS**

**Electrical:**
- Frequency Range: DC - 110 GHz
- SWR: < 1.5 (*)
- Insertion Loss: 1 dB (typ.) (*)
- Electrical Length: 11.1 mm (Nominal)
- Temperature Range: -55 to +125 °C

**Mechanical:**
- Body and Outer Conductor: Gold Plated Stainless Steel
- Inner Conductor: Gold Plated Beryllium Copper and Brass
- Coupling Torque: 45 N·cm (Nominal)
- Connect/Disconnect Life: > 500 Cycles (Estimate)

**NOTE:**
All dimensions are in millimeters.

(1) The tip of the pin contacts with "pin convex" in a final assembly.

Specifications Subject to Change Without Notice

Rev. 05 July 2020

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>

Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-ikuta, Tama-ku, Kawasaki 214-0031 JAPAN
https://kmco.co.jp/en/
e-mail: sales@kmco.co.jp
DESCRIPTION
"KPC185M302 and KPC185F302" two-hole flange launchers and "GB185" glass beads are designed for broadband devices and units with coaxial I/O interfaces.

SPECIFICATIONS

Connectors
Electrical:
- Frequency Range: DC - 65 GHz
- SWR: < 1.5 (*)
- Temperature Range: -55 to +125 °C

Mechanical:
- Body and Inner Conductor: Gold Plated (** Fe/Ni/Co Alloy (KOVAR)
- Inner Conductor: Gold Plated Beryllium
- Body and Outer Conductor: Passivated Stainless Steel #7070 Glass (Corning)
- Coupling Torque: 90 N-cm (Nominal)
- Connect/Disconnect Life: > 1,000 Cycles

Glass Bead
Electrical:
- Frequency Range: DC - 65 GHz
- Temperature Range: -55 to +125 °C

Mechanical:
- Body and Inner Conductor: Gold Plated (** Fe/Ni/Co Alloy (KOVAR)
- Insulator: #7070 Glass (Corning)

Others:
- Soldering Temperature: 330°C (max)
- He Leak Rate: < 1x10^-10 Pam³/sec

**NOTE:** All dimensions are in millimeters.

(**) Thermo-sonic wire bondable gold plating

Specifications Subject to Change Without Notice

Production Status
2 Weeks Lead-Time for Shipping

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd.   <All rights reserved.>
2.92 mm
DC - 40 GHz, Two-Hole Flange Launchers & Glass Beads

DESCRIPTION
“KPC292F302” two-hole flange launchers and “GB292” glass beads are designed for broadband devices and units with coaxial I/O interfaces.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Glass Bead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical:</td>
<td>Electrical:</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>Frequency Range</td>
</tr>
<tr>
<td>DC - 40 GHz</td>
<td>DC - 40 GHz</td>
</tr>
<tr>
<td>SWR</td>
<td>&lt; 1.5 (*)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>Temperature Range</td>
</tr>
<tr>
<td>-55 to +125 °C</td>
<td>-55 to +125 °C</td>
</tr>
<tr>
<td>Mechanical:</td>
<td>Mechanical:</td>
</tr>
<tr>
<td>Body and Outer Conductor</td>
<td>Body and Inner Conductor</td>
</tr>
<tr>
<td>Passivated Stainless Steel</td>
<td>Gold Plated (**) Fe/Ni/Co Alloy (KOVAR)</td>
</tr>
<tr>
<td>Inner Conductor</td>
<td>Insulator</td>
</tr>
<tr>
<td>Gold Plated Beryllium</td>
<td>#7070 Glass (Corning)</td>
</tr>
<tr>
<td>Coupling Torque</td>
<td>Others:</td>
</tr>
<tr>
<td>90 N-cm (Nominal)</td>
<td>Soldering Temperature</td>
</tr>
<tr>
<td></td>
<td>330 °C (max)</td>
</tr>
<tr>
<td>Connect/Disconnect Life</td>
<td>He Leak Rate</td>
</tr>
<tr>
<td>&gt; 1,000 Cycles</td>
<td>&lt; 1x10⁻¹⁰ Pam³/sec</td>
</tr>
</tbody>
</table>

Production Status
2 Weeks Lead-Time for Shipping

Interface Mating Dimensions of KPC292 (2.92 mm Connectors)

Typical Performance
Note: (*) As Standard DUT Configuration

Test configuration
Standard DUT:
Cascaded KPC292M302 (Customized Product, On request), GB292 and KPC292F302

RoHS Compliant
REACH Compliant

NOTE:
All dimensions are in millimeters.
(**) Thermo-sonic wire bondable gold plating

Specifications Subject to Change Without Notice
Rev. 03 June 2017

Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-ikuta, Tama-ku, Kawasaki 214-0031 JAPAN
https://kmco.co.jp/en/
e-mail: sales@kmco.co.jp
Re-Formable Semirigid Cable Assemblies, In-Series
Connector Interface 1 mm for DC - 110 GHz

DESCRIPTION
“CA100FF, MF, and MM” re-formable semirigid cable assemblies are up to 110 GHz and easy to install with bending by hand at your lab/site. They are designed for broadband measurement, instrument, and system applications.

All materials are "lead free".

SPECIFICATIONS
See below table.

CABLE PROPERTIES
- Outer Conductor: 1.19 mm Diameter Copper with Cu/Sn/Zn Plated
- Center Conductor: Silver Plated Copper
- Insulator: PTFE
- Moding Frequency: 112 GHz (Approx.)
- Delay Time: 0.476 ns/100 mm
- Inside Bending Radius: 3 mm (min)

"Non-Magnetic" [*]

Please specify length (L: see following table) when you order this item.
For example: CA100MM0035 (Length: 35 mm)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA100FF</td>
<td>Female/Female</td>
<td>1 mm</td>
<td>DC-110 GHz</td>
<td>&gt; 17 dB</td>
<td>See Fig.1</td>
<td>30 to 300 mm</td>
</tr>
<tr>
<td>CA100MF</td>
<td>Male/Female</td>
<td>1 mm</td>
<td>DC-110 GHz</td>
<td>&gt; 17 dB</td>
<td>See Fig.1</td>
<td>30 to 300 mm</td>
</tr>
<tr>
<td>CA100MM</td>
<td>Male/Male</td>
<td>1 mm</td>
<td>DC-110 GHz</td>
<td>&gt; 17 dB</td>
<td>See Fig.1</td>
<td>30 to 300 mm</td>
</tr>
</tbody>
</table>

[-] Please specify length (L: see following table) when you order this item. For example: CA100MM0035 (Length: 35 mm)

Specifications Subject to Change Without Notice
Rev. 03 June 2017

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>
Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-ku, Tama-ku, Kawasaki 214-0031 JAPAN
TEL: +81-44-911-7073 FAX: +81-44-911-9621
https://kmco.co.jp/en/ e-mail: sales@kmco.co.jp

RoHS Compliant
REACH Compliant
Re-Formable Semirigid Cable Assemblies, In-Series
Connector Interface 1.85 mm for DC - 60 GHz,
2.4 mm for DC - 50 GHz, 2.92 mm for DC - 40 GHz

DESCRIPTION
"CA185/240/292FF, MF, and MM" re-formable semirigid cable assemblies are up to 40, 50 and 60 GHz, and easy to install with bending by hand at your lab/site. They are designed for broadband measurement, instrument, and system applications.
All materials are "lead free".

SPECIFICATIONS
Electrical:
See below table.

CABLE PROPERTIES

<table>
<thead>
<tr>
<th>Type</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA185FF</td>
<td>Male/Female</td>
<td>1.85 mm</td>
<td>DC-60 GHz</td>
<td>&gt; 18 dB</td>
<td>-55 to +100 °C</td>
<td>35 to 300 mm</td>
</tr>
<tr>
<td>CA185MF</td>
<td>Male/Female</td>
<td>2.4 mm</td>
<td>DC-50 GHz</td>
<td>&gt; 18 dB</td>
<td></td>
<td>13.9 to 15.1 mm</td>
</tr>
<tr>
<td>CA240FF</td>
<td>Male/Female</td>
<td>2.92 mm</td>
<td>DC-40 GHz</td>
<td>&gt; 20 dB</td>
<td></td>
<td>14.3 to 15.4 mm</td>
</tr>
</tbody>
</table>

NOTE: All dimensions are in millimeters.

[*] Please specify length (L: see following table) when you order this item.
For example: CA185MM0035 (Length: 35 mm)

CAUTION:
When you install the cable assembly, please support the section of the cable close to the connector with your fingers before tightening the nut. This cable is composed of a thin copper tube and could be easily damaged by applying a twist stress.

CAUTION:
When you install the cable assembly, please support the section of the cable close to the connector with your fingers before tightening the nut. This cable is composed of a thin copper tube and could be easily damaged by applying a twist stress.

CAUTION:
When you install the cable assembly, please support the section of the cable close to the connector with your fingers before tightening the nut. This cable is composed of a thin copper tube and could be easily damaged by applying a twist stress.

Hand Bender 2200
for Re-Forming (R3.2/7 mm)

CAUTION:
Bending of the Cable Using Hand Bender 2200
In order to prevent any damage in the joint part of the cable and the connector, please bend the cable about 4 mm away from the joint part.

RoHS Compliant

REACH Compliant

Connector Interface Mating Dimensions

KPC185 (1.85 mm Connectors)

KPC240 (2.4 mm Connectors)

KPC292 (2.92 mm Connectors)
**DESCRIPTION**
"CA185F100F, CA185F100M, CA185M100F, and CA185M100M" re-formable semirigid cable assemblies, Between, are up to 67 GHz and easy to install with *bending by hand* at your lab/site. They are designed for broadband measurement, instrument, and system applications.

All materials are "lead free".

---

**SPECIFICATIONS**

**Electrical:**
See below table.

**CABLE PROPERTIES**

- **Outer Conductor:** 1.19 mm Diameter Copper with Cu/Sn/Zn Plated
- **Center Conductor:** Silver Plated Copper
- **Insulator:** PTFE
- **Moding Frequency:** 112 GHz (Approx.)
- **Delay Time:** 0.476 ns/100 mm
- **Inside Bending Radius:** 3 mm (min)
- All materials are "lead free".

[-] Please specify length (L: see following table) when you order this item.

- **CA185F100F**
- **CA185F100M**
- **CA185M100F**
- **CA185M100M**

For example: CA185M100M0035 (Length: 35 mm)

**Connector Interface Matting Dimensions**

- **KPC100 (1 mm Connectors)**
- **KPC185 (1.85 mm Connectors <->)**

*RoHS Compliant* | *REACH Compliant*

---

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA185F100F</td>
<td>Female/Female</td>
<td>1.85 mm /1 mm</td>
<td>DC-67 GHz</td>
<td>&gt; 15 dB</td>
<td>See Fig. 1</td>
<td>-55 to +100 °C</td>
</tr>
<tr>
<td>CA185F100M</td>
<td>Female/Male</td>
<td>1.85 mm /1 mm</td>
<td>DC-67 GHz</td>
<td>&gt; 15 dB</td>
<td>See Fig. 1</td>
<td>-55 to +100 °C</td>
</tr>
<tr>
<td>CA185M100F</td>
<td>Male/Female</td>
<td>1.85 mm /1 mm</td>
<td>DC-67 GHz</td>
<td>&gt; 15 dB</td>
<td>See Fig. 1</td>
<td>-55 to +100 °C</td>
</tr>
<tr>
<td>CA185M100M</td>
<td>Male/Male</td>
<td>1.85 mm /1 mm</td>
<td>DC-67 GHz</td>
<td>&gt; 15 dB</td>
<td>See Fig. 1</td>
<td>-55 to +100 °C</td>
</tr>
</tbody>
</table>

**NOTE:** All dimensions are in millimeters.

**Production Status**

2 Weeks Lead-Time for Shipping

---

---
Re-Formable Semirigid Cable Assemblies, Between
Connector Interface 2.4 mm/1.85 mm for DC - 50 GHz and 2.92 mm/1.85 mm, 2.92 mm/2.4 mm for DC - 40 GHz

DESCRIPTION
The Re-Formable Semirigid Cable Assemblies, Between, are up to 40 and 50 GHz, and easy to install with bending by hand at your lab/site. They are designed for broadband measurement, instrument, and system applications.

All materials are "lead free".

SPECIFICATIONS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA240F185F</td>
<td>Male/Male</td>
<td>2.4 mm/1.85 mm</td>
<td>DC-50 GHz</td>
<td>&gt; 18 dB</td>
<td>See Fig. 1</td>
<td>35 to 300 mm</td>
</tr>
<tr>
<td>CA240F185M</td>
<td>Female/Female</td>
<td>2.4 mm/1.85 mm</td>
<td>DC-50 GHz</td>
<td>&gt; 18 dB</td>
<td>See Fig. 1</td>
<td>35 to 300 mm</td>
</tr>
<tr>
<td>CA240M185F</td>
<td>Male/Female</td>
<td>2.92 mm/1.85 mm</td>
<td>DC-40 GHz</td>
<td>&gt; 18 dB</td>
<td>See Fig. 1</td>
<td>35 to 300 mm</td>
</tr>
<tr>
<td>CA240M185M</td>
<td>Male/Male</td>
<td>2.92 mm/1.85 mm</td>
<td>DC-40 GHz</td>
<td>&gt; 18 dB</td>
<td>See Fig. 1</td>
<td>35 to 300 mm</td>
</tr>
</tbody>
</table>

Electrical:
- Outer Conductor: 2.2 mm Diameter Copper with Cu/Sn/Zn Plated
- Center Conductor: Silver Plated Copper
- Insulator: Solid PTFE
- Moding Frequency: 61 GHz (Approx.)
- Delay Time: 0.476 ns/100 mm
- Inside Bending Radius: "Non-Magnetic"

CAUTION:
- When installing the cable assembly, please support the section of the cable close to the connector with your fingers before tightening the nut. This cable is composed of a thin copper tube and could be easily damaged by applying a twist stress.

CAUTION:
- The cable could be damaged by applying excessive force.

CAUTION:
- Please apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.

CAUTION:
- Do not apply a twist stress to the cable when forming the cable.
Re-Formable Semirigid Cable Assemblies, Between
Connectors: 1.85 mm, 2.4 mm, 2.92 mm, and SMPM

DESCRIPTION
The Re-Formable Semirigid Cable Assemblies, Between, are up to 65 GHz and easy to install with bending by hand at your lab/site. They are designed for broadband measurement, instrument, and system applications. All materials are "lead free". *SMPM: conforms to MIL-STD-348A 328.1

SPECIFICATIONS
Electrical: See below table.

CABLE PROPERTIES
Outer Conductor 1.19 mm Diameter Copper with Cu/Sn/Zn Plated
Center Conductor Silver Plated Copper
Insulator PTFE
Moding Frequency 111 GHz (Approx.)
Delay Time 0.476 ns/100 mm
Inside Bending Radius 3 mm (min)
"Non-Magnetic"

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA185F119SMPM</td>
<td>Female/SMPM Female</td>
<td>1.85 mm</td>
<td>DC-65 GHz</td>
<td>&lt; 13 GHz &gt; 22 dB</td>
<td>+55 to +100 °C</td>
<td>25 to 300 mm</td>
</tr>
<tr>
<td>CA240F119SMPM</td>
<td>Male/SMPM Female</td>
<td>2.4 mm</td>
<td>DC-50 GHz</td>
<td>&lt; 13 GHz &gt; 22 dB</td>
<td>See Fig. 1</td>
<td>25 to 300 mm</td>
</tr>
<tr>
<td>CA292F119SMPM</td>
<td>Female/SMPM Female</td>
<td>2.92 mm</td>
<td>DC-40 GHz</td>
<td>&lt; 13 GHz &gt; 22 dB</td>
<td>See Fig. 1</td>
<td>25 to 300 mm</td>
</tr>
</tbody>
</table>

* Please specify length (L: see following table) when you order this item.

For example: CA185F119SMPM0025 (Length: 25 mm)

---CAUTION---
When you install the cable assembly, please support the section of the cable close to the connector with your fingers before tightening the nut. This cable is composed of a thin copper tube and could be easily damaged by applying a twist stress.

---Hand Bender 1200 for Re-Forming (R3/6 mm)---

---Removal Tool for SMPM---

Specifications Subject to Change Without Notice
Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. All rights reserved.
Rev. 03 June 2017
Semi-Flexible Cable Assemblies, In-Series

Connector Interface 1 mm for DC - 110 GHz

DESCRIPTION
“SFCA100FF, MF, and MM” semi-flexible cable assemblies are up to 110 GHz and easy to install in a narrow space with hand form at your lab/site. They are designed for broadband measurement, instrument, and system use.

All materials are "lead free".

SPECIFICATIONS

Electrical:
See below table.

CABLE PROPERTIES

Outer Conductor
1.19 mm Diameter
Tin-Soaked Copper Wire Braid

Center Conductor
Silver Plated Copper

Insulator
Solid PTFE

All materials are "lead free".

Moding Frequency
112 GHz (Approx.)

Delay Time
0.476 ns/100 mm

Inside Bending Radius
2 mm (min)

"Non-Magnetic" [*]

Please specify length (L: see following table) when you order this item.
For example: SFCA100MM0050 (Length: 50 mm)

SFCA100FF
Female/Female

SFCA100MF
Male/Female

SFCA100MM
Male/Male

(*) Jacket (UL certified heat shrink tube) for cable braid protection

NOTE:
All dimensions are in millimeters.

Specifications Subject to Change Without Notice
Rev. 04 Oct 2019

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd. <All rights reserved.>

Kawashima Manufacturing Co., Ltd.
1-3-5 Higashi-ikuta, Tama-ku, Kawasaki 214-0031 JAPAN
TEL: +81-44-911-7073 FAX: +81-44-911-9621
https://kmco.co.jp/en/ e-mail: sales@kmco.co.jp

[*] Please specify length (L: see following table) when you order this item.
For example: SFCA100MM0050 (Length: 50 mm)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFCA100FF</td>
<td>Female/Female</td>
<td>DC-110 GHz</td>
<td>&gt; 15 dB</td>
<td>See Fig. 1</td>
<td>-30 to +100 °C</td>
<td>30 to 150 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Over 150 mm</td>
</tr>
</tbody>
</table>

Note for Installation:
When tightening the nut, it is recommended to use the hold wrench with a torque wrench to prevent any damage by twisting the cable.

Interface Mating Dimensions of KPC100 (1 mm Connectors)

RoHS Compliant
REACH Compliant
**Semi-Flexible Cable Assemblies**

1.85 mm/SMPM for DC - 65 GHz, 2.92 mm/SMPM for DC - 40 GHz

**DESCRIPTION**

The Semi-Flexible Cable Assemblies are up to 40 and 65 GHz, and easy to install at your lab/site. They are designed for broadband measurement, instrument, and system use.

All materials are "lead free". *SMPM: conforms to MIL-STD-348A NOTICE 5 328.1. SMPM female interface*

**SPECIFICATIONS**

**Electrical:**

See below table.

**CABLE PROPERTIES**

- **Outer Conductor**: 1.19 mm Diameter Tin-Soaked Copper Wire Braid
- **Center Conductor**: Silver Plated Copper
- **Insulator**: Solid PTFE

All materials are "lead free".

- **Moding Frequency**: 112 GHz (Approx.)
- **Delay Time**: 0.476 ns/100 mm
- **Inside Bending Radius**: 2 mm (min)

"Non-Magnetic"

**NOTE**: Please specify length (L: see following table) when you order this item. For example: SFCA185MM0035 (Length: 35 mm) SFCA185MM0035J (Length: 35 mm, with Jacket)

**TYPE**

<table>
<thead>
<tr>
<th>Connector Interface</th>
<th>Frequency Range</th>
<th>Return Loss</th>
<th>Insertion Loss</th>
<th>Temperature Range</th>
<th>Length (L)</th>
<th>With Jacket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female/Female</td>
<td>1.85 mm</td>
<td>DC-65 GHz (Within)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>2.92 mm</td>
<td>DC-40 GHz (Within)</td>
<td>-55 to +100 ˚C</td>
<td>2 Weeks Lead-Time for Shipping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male/Female</td>
<td>2.92 mm</td>
<td>DC-40 GHz (Between)</td>
<td>&lt; 13 dB</td>
<td>13-48 GHz: &gt; 16 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>2.92 mm</td>
<td>DC-40 GHz (Between)</td>
<td>&gt; 16 dB</td>
<td>Available (UL Certified Heat Shrink Tube)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>1.85 mm/SMPM</td>
<td>DC-65 GHz (Between)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>1.85 mm/SMPM</td>
<td>DC-65 GHz (Between)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>1.85 mm/SMPM</td>
<td>DC-65 GHz (Between)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>2.92 mm/SMPM</td>
<td>DC-40 GHz (Between)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
<tr>
<td>Male/Male</td>
<td>2.92 mm/SMPM</td>
<td>DC-40 GHz (Between)</td>
<td>&gt; 17 dB</td>
<td>35 to 150 mm</td>
<td>Over 150 mm: Negotiable</td>
<td></td>
</tr>
</tbody>
</table>

**Typical Performance**

Fig. 1 Frequency vs Insertion Loss. L=1000 mm

**Removal Tool for SMPM**

Specifications Subject to Change Without Notice

Copyright(C) 2002-2021 Kawashima Manufacturing Co., Ltd.  All rights reserved.

Kawashima Manufacturing Co., Ltd.

1-3-5 Higashi-kata, Tama-ku.
Kawasaki 214-0031 JAPAN

TEL: +81-44-911-7073  FAX: +81-44-911-9621

https://kmco.co.jp/en/  e-mail: sales@kmco.co.jp

RoHS Compliant

REACH Compliant

Rev. 04 Oct 2019