

# INSTABEND™ 047

High Performance Microwave Assemblies



INSTABEND™ are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable can be bent very closely behind the connector, simplifying cable routing.

## Features:

- Readily Available
- Low-profile bending close to the connector back-end for minimal footprint
- Lightweight

## Specifications

$\Omega$  Impedance  
50 Ohms  
Units

Op Temp  
-85 to +257°F  
-65 to +125°C

Diameter	in (mm)	0.061 (1.55)
Weight	lb/ft (g/m)	0.004 (6.0)
Minimum Bend Radius	in (mm)	0.130 (3.30)
Maximum Frequency	GHz	50
Maximum Operating Voltage	VACrms	100
Capacitance	pF/ft (pF/m)	29.9 (98.1)
Delay	ns/ft (ns/m)	1.45 (4.76)
Shielding	dBc	-90



## Calculation

$$IL = \underbrace{(K1 \times v(f) + K2 \times f)}_{\text{Cable Insertion Loss}} \times \underbrace{\text{Cable Length}}_{\text{Length unit must match K value unit}} + \text{Connector Loss}$$

↓  
k values

k values	dB/ft	db/m
K1	0,01195	0,03920795
K2	0,000013	0,000042653

## Typical Connector Loss

Frequency (MHz)	dB/pr	Frequency (MHz)	dB/pr
500	0.04	10000	0.19
1000	0.06	12000	0.21
2000	0.08	14000	0.22
4000	0.12	16000	0.24
6000	0.15	18000	0.25
8000	0.17		

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## Ordering Guide

**IB047**   **- CODE**   **CODE -**   **10.0**   **CM**

- Connector A   Connector B -   Length   Units of measure  
CM - Centimeters  
IN - Inches

CODE	Part Number	Description	VSWR max
SMPF	47432	SMP Female Straight	1.35 @ DC-12.4 GHz 1.50 @ 12.4- 18 GHz
SM	47396	SMA Male Straight	1.25 @ DC-27 GHz
KM	47425	2.92 Male Straight	1.25 @ DC-27 GHz 1.40 @ 27-40 GHz



Global manufacturing capability: US, and Asia.



Heritage—in the air and on the ground, thousands of assemblies built over decades.



Assembled and tested assemblies provide assured performance.



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# INSTABEND™ 086

High Performance Microwave Assemblies



INSTABEND™ are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable can be bent very closely behind the connector, simplifying cable routing.

## Features:

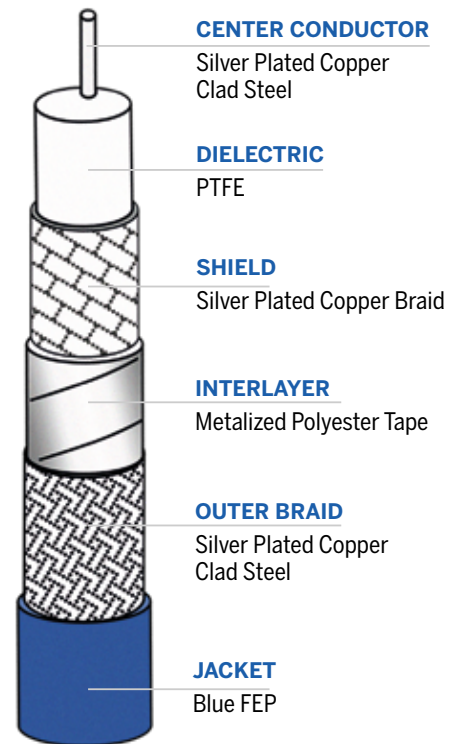
- Readily available
- Extreme bending from the back of the connector for minimal footprint
- 90° torque resistance
- Highly stable VSWR
- Ruggedized backend

## Specifications

$\Omega$  Impedance  
50 Ohms  
Units

Op Temp  
-85 to 257°F  
-65 to 125°C

Diameter	in (mm)	0.105 (2.67)
Weight	lb/ft (g/m)	0.013 (0.19)
Minimum Bend Radius	in (mm)	0.25 (6.35)
Maximum Frequency	GHz	50
Maximum Operating Voltage	VACrms	100
Velocity of Propagation	%	70
Capacitance	pF/ft (pF/m)	29 (95.1)
Delay	ns/ft (ns/m)	1.45 (4.76)
Shielding	dB	-90



## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length} + \text{Connector Loss}$$

$\downarrow$  Cable Insertion Loss  
 $f = \text{Frequency (MHz)}$

$\downarrow$  Use K values with matching length unit

K values	dB/ft	db/m
K1	0.006446	0.021148
K2	0.000013	0.000043

## Typical Connector Loss

Frequency (MHz)	dB/pair	Frequency (MHz)	dB/pair
500	0.04	10000	0.19
1000	0.06	12000	0.21
2000	0.08	14000	0.22
4000	0.12	16000	0.24
6000	0.15	18000	0.25
8000	0.17		

High Performance Microwave Assemblies

## Ordering Guide

**IB086 - CODE CODE - 10.0 CM**

CODE
CODE
10.0
CM

- Connector A
Connector B -
Length / 3 dig
in / cm

CODE	Part Number	Description	VSWR max
SMPF	47389	SMP Female Straight	1.35 @ DC-12.4 GHz 1.50 @ 12.4- 18 GHz 1.70 @ 18- 40 GHz
SM	47388	SMA Male Straight	1.25 @ DC-27 GHz
KM	47393	2.92 Male Straight	1.25 @ DC-27 GHz 1.40 @ 27-40 GHz



Global manufacturing capability: US, and Asia.



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