

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

Ω 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



CENTER CONDUCTOR

Silver Plated Copper
Clad Steel

DIELECTRIC

PTFE

SHIELD

Silver Plated Copper
Clad Steel

OUTER BRAID

Silver Plated Copper
Clad Steel

JACKET

Blue FEP

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		

INSTABEND™ 047

High Performance Microwave Assemblies



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:

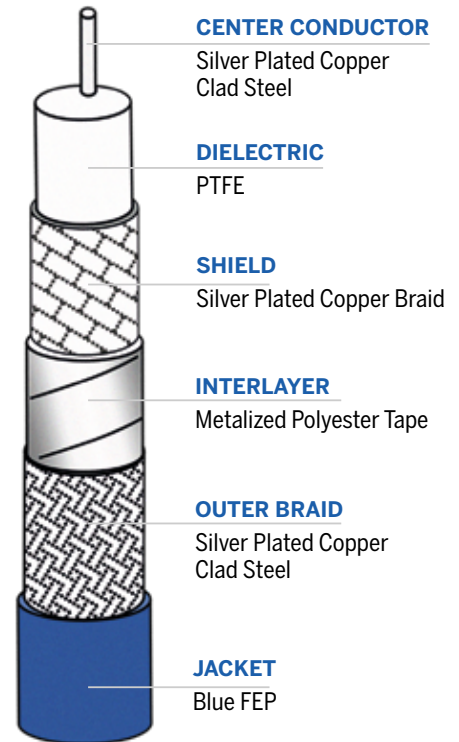
- Readily available
- Extreme bending from the back of the connector for minimal footprint
- 90° torque resistance
- Highly stable VSWR
- Ruggedized backend

Specifications

Ω 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

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

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

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		

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.



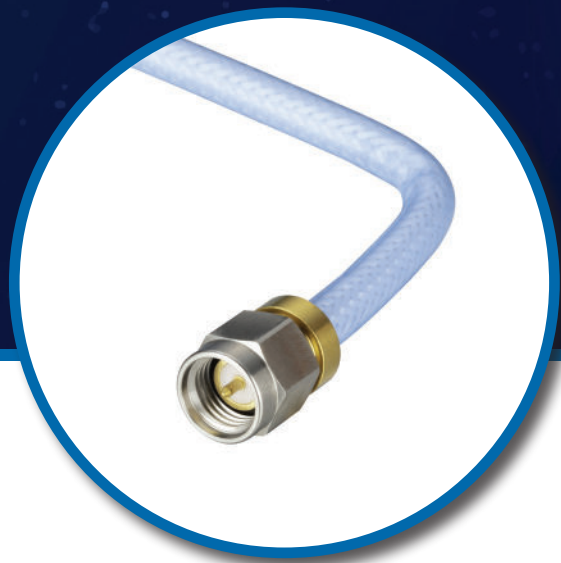
Heritage—in the air and on the ground, thousands of assemblies built over decades.



Assembled and tested assemblies provide assured performance.

InstaBend® 141

High Performance Microwave Assemblies



InstaBend® are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable has the ability to bend behind the connector, simplifying cable routing.

Features:

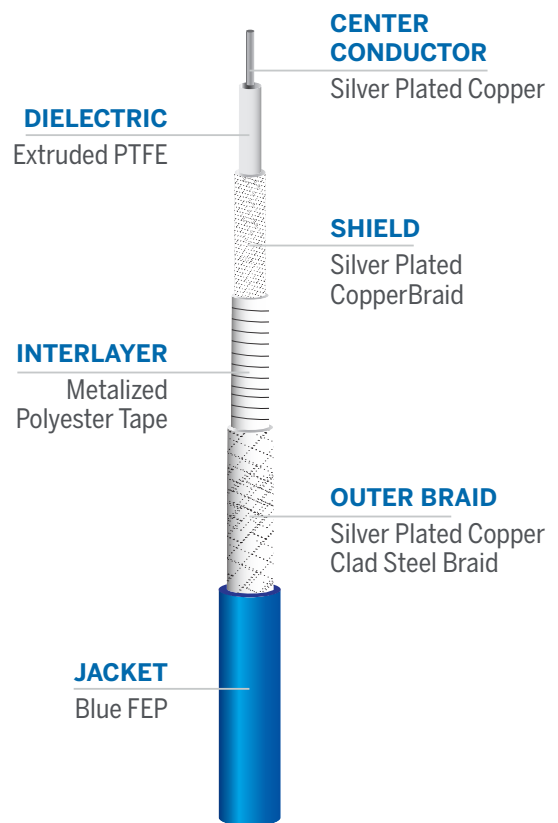
- Readily available
- Low-profile bending for minimal footprint
- Weight savings vs. semi-rigid
- Highly ruggedized

Specifications

Ω Impedance
50 Ohms
Units

Op Temp
-85 to 257°F
-65 to 125°C

Diameter	in (mm)	0.163 (4.14)
Weight	lb/ft (g/m)	0.028 (41.7)
Minimum Bend Radius	in (mm)	0.5 (12.7)
Maximum Frequency	GHz	27
Maximum Operating Voltage	VACrms	250
Velocity of Propagation	%	70
Capacitance	pF/ft (pF/m)	29.3 (98.1)
Delay	ns/ft (ns/m)	1.45 (4.77)
Shielding	dB	-90



Calculation

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

Cable Insertion Loss
f = Frequency (MHz)

Use **K** values with
matching length unit

K values	dB/ft	db/m
K1	0.003626	0.011897
K2	0.000013	0.000043

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		

InstaBend® 141

High Performance Microwave Assemblies

Ordering Guide

IB141 -XX XX- X.X CM
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 - Connector A Connector B - Length in / cm

CODE	Part Number	Description	VSWR max
SM	47404	SMA Male Straight	1.2 @ DC - 12 GHz 1.3 @ 12 - 27 GHz



Global manufacturing capability: US, and Asia.



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