

Commercial Space Line

InstaBend® PhaseStable 047

IBPS-047 is a low-loss, highly flexible, foam-core micro coaxial cable. Originally designed for space satellite programs, this high-performance cable has many applications across multiple markets. It has a broad frequency range and strong durability making it ideal for medical, test equipment, and many other RF applications.

Features

- Phase stable performance over temperature
- Sold as cable assemblies
- Low outgassing materials per ASTM E595
- Class 100,000 clean room manufacturing
- Vented connectors, if applicable
- Optimized for lowest attenuation
- Ultra stable performance with flexure
- Superior shielding effectiveness (>90 dB)
- Radiation Resistance: 30 MRads

Specifications

	Ω Impedance 50 Ohms	Op Temp -65 to 150°C
	Units	
Diameter	in (mm)	0.062 (1.58)
Weight	lb/ft (g/m)	0.031 (46)
Minimum Bend Radius	in (mm)	0.25 (6.5)
Maximum Frequency	GHz	40
Velocity of Propagation	%	76
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Delay	ns/ft (ns/m)	1.25 (4.10)
Shielding	dB	>80

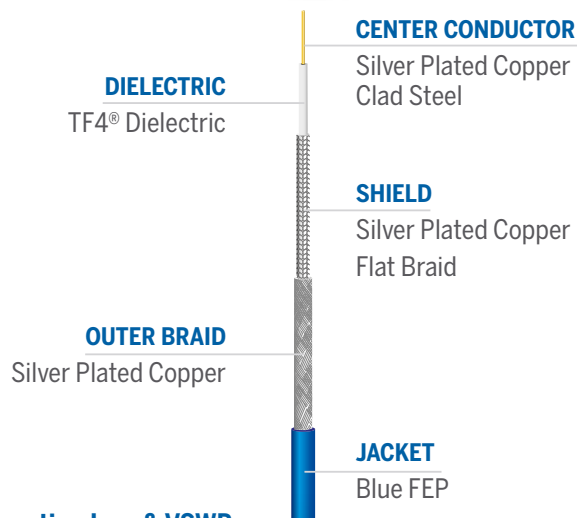
Calculation

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

Cable Insertion Loss
f = Frequency (MHz)

Use K values with
matching length unit

K values	dB/ft	dB/m
K1	0.01176752	0.03860924
K2	0.00000775	0.00002543

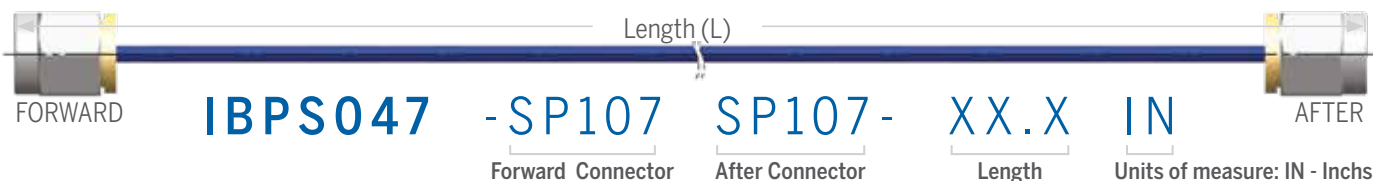


Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00419-01	1.45	1.40
IE-00419-02	1.94	1.40
IE-00419-03	2.43	1.40
IE-00419-04	2.92	1.40
IE-00419-05	3.43	1.40
	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00420-01	1.45	1.40
IE-00420-02	1.94	1.40
IE-00420-03	2.43	1.40
IE-00420-04	2.92	1.40
IE-00420-05	3.43	1.40
	Max. Insertion Loss in dB @ 27GHz	Max. VSWR @ 27GHz
IE-00421-01	1.17	1.35
IE-00421-02	1.56	1.35
IE-00421-03	1.96	1.35
IE-00421-04	2.35	1.35
IE-00421-05	2.76	1.35

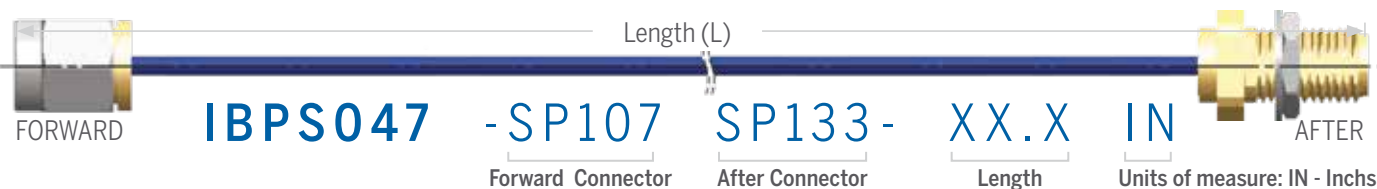
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Ordering Guide



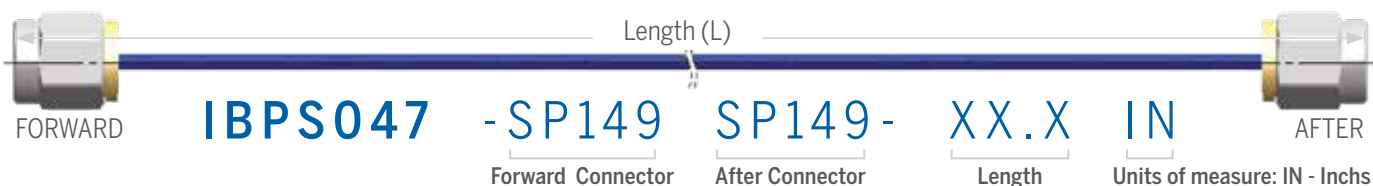
Stock Code	Part-Number	Length (L) in inch
IE-00419-01	IBPS047-KMKM-4.0IN	4
IE-00419-02	IBPS047-KMKM-6.0IN	6
IE-00419-03	IBPS047-KMKM-8.0IN	8
IE-00419-04	IBPS047-KMKM-10.0IN	10
IE-00419-05	IBPS047-KMKM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP107	Type K (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x v(f) (GHz)



Stock Code	Part-Number	Length (L) in inch
IE-00420-01	IBPS047-KMKF-4.0IN	4
IE-00420-02	IBPS047-KMKF-6.0IN	6
IE-00420-03	IBPS047-KMKF-8.0IN	8
IE-00420-04	IBPS047-KMKF-10.0IN	10
IE-00420-05	IBPS047-KMKF-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP133	Type K (F) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x v(f) (GHz)



Stock Code	Part-Number	Length (L) in inch
IE-00421-01	IBPS047-SMSM-4.0IN	4
IE-00421-02	IBPS047-SMSM-6.0IN	6
IE-00421-03	IBPS047-SMSM-8.0IN	8
IE-00421-04	IBPS047-SMSM-10.0IN	10
IE-00421-05	IBPS047-SMSM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP149	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x v(f) (GHz)

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