

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

| | 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 |

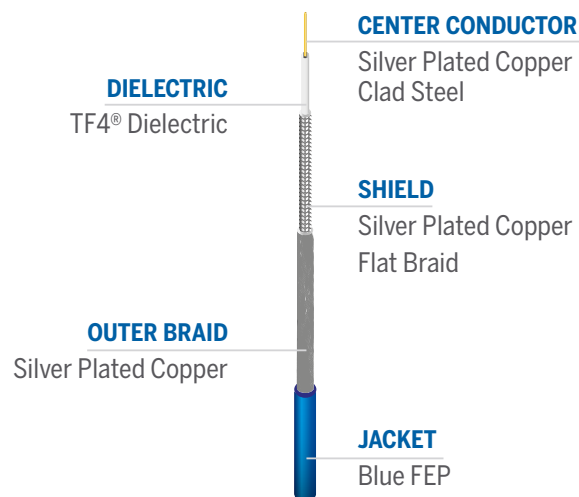
Calculation

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

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 |

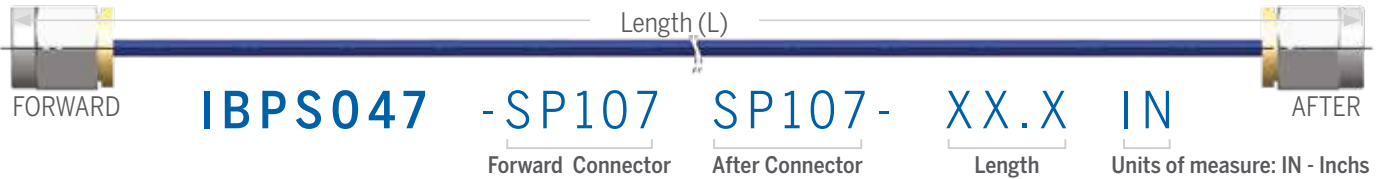


Insertion loss & VSWR

| 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 |

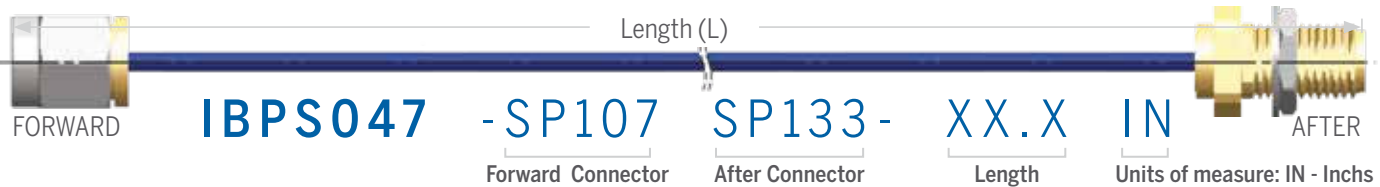
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Ordering Guide



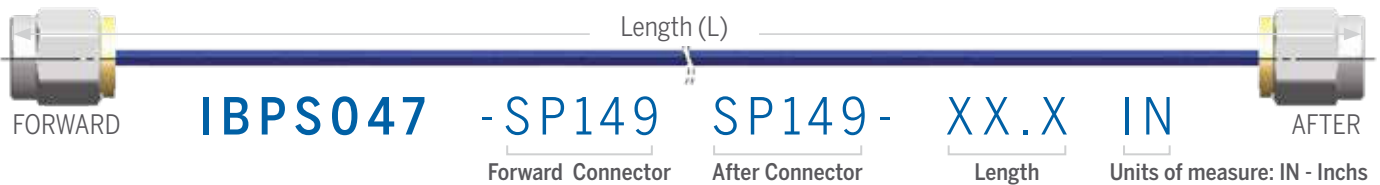
| Stock Code | Part-Number | Length (L) in inch |
|-------------|---------------------|--------------------|
| IE-00419-01 | IBPS047-KMKM-4.0IN | 4 |
| IE-00419-02 | IBPS047-KMKM-6.0IN | 6 |
| IE-00419-03 | IBPS047-KMKM-8.0IN | 8 |
| IE-00419-04 | IBPS047-KMKM-10.0IN | 10 |
| IE-00419-05 | IBPS047-KMKM-12.0IN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