Series: LL043, Microwave Cable Assembly, 50 Ω

Part Number:

LL043-XXXX-XXXX-XXXX

END 1 CONNECTOR
-24SP: 2.4mm Plug
-24BJ: 2.4mm Jack
-92SP: 2.92mm Plug
-92BJ: 2.92mm Jack
-01SP: SMA Plug
-01BJ: SMA Jack

END 2 CONNECTOR
-24SP: 2.4mm Plug
-24BJ: 2.4mm Jack
-92SP: 2.92mm Plug
-92BJ: 2.92mm Jack
-01SP: SMA Plug
-01BJ: SMA Jack

OVERALL ASSEMBLY LENGTH (OAL)
XXXX (MILLIMETERS)
(0100 MIN)

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CABLE CONSTRUCTION

Center Conductor	Solid SPC
Dielectric	Low-Density PTFE
Inner Shield	SPC Flat Wire
Interlayer	Tape Wrapped PTFE
Outer Shield	SPC Braid
Jacket	Orange FEP

MECHANICAL DATA

Max Outer Diameter	3.69 mm (0.145 inch)
Min. Static Bend Radius[1]	6.35 mm (0.250 inch)
Min. Dynamic Bend Radius	47.6 mm (1.875 inch)
Max. Weight (cable only)	35.8 g/m (0.385 oz/ft)
Pull Strength[2]	4.54 kg (10 lbs)
Compression Resistance[3]	700 N/100mm (40 lbs./inch)
Flex Life Snake[2] S-Bend[2] Tic-Toc[4]	 400,000 cycles 22,500 cycles 7,000 cycles
Torque Life[2]	1,000,000 cycles

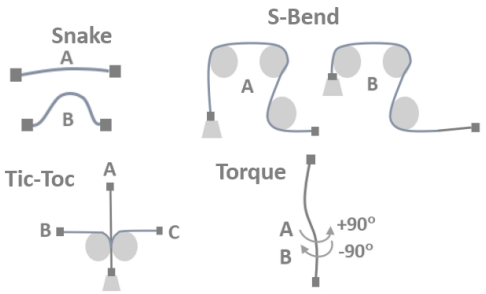
Mechanical Notes:

[1]360-degree bend, <= 0.5 Ω change in Z_o

[2]per IEC 60966-1:2019, paragraphs 9.1,9.3,9.5 & 9.6 as applicable, <=10% Δ Insertion Loss

[3]per IEC 60966-1:2019, paragraph 9.4, <=0.5 Ω Δ Z_o

[4]per MIL-T-81490, paragraph 3.6.5.4, <=10% Δ Insertion Loss



ENVIRONMENTAL DATA

Operating Temperature	-65°C to +125°C
Thermal Shock	20 cycles, -65°C to +125°C
Humidity	EIA-364-31 Method III, Condition B (240 Hours)
Flammability	AS4373 Method 801
Mechanical Shock[5]	EIA-364-27 Condition C (100 G Peak)
Random Vibration[5]	EIA-364-28 Condition VB (7.56 gRMS, 2 hrs/axis)

Environmental Notes:

[5]Includes Nanosecond Event Detection

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ELECTRICAL DATA[6]

Impedance	50 Ω
Frequency Range	DC - 43.5 GHz[7]
Velocity of Propagation	77 %
Time Delay	4.36 ns/m (1.33 ns/ft)
Capacitance	86.9 pF/m (26.5 pF/ft)
Shielding Effectiveness[8]	100 dB Minimum
Insulation Resistance	1.31 MΩ/m (400 MΩ/1000 ft)
Insertion Loss[9]	***See Graph***
VSWR	***See Connector Table***
Power Handling[10]	***See Graph***
Phase vs. Temperature	***See Graph***
Phase vs. Bending[11]	< 0.2° x F(GHz)
Insertion Loss vs. Bending[12]	< 0.002 dB

Electrical Notes:

[6]Unless otherwise specified at Temperature=25°C

[7]may be further limited by connectors. See Connector Options.

[8]per IEC 61000-4-21 (Mode Stir, 2-18 GHz) Connector options can affect shielding performance.

[9]Insertion loss graph does not include connectors; loss for each connector ≈ 0.045x$\sqrt{F(GHz)}$

[10]Power Handling should be further derated for higher altitudes and temperatures.

[11]per IEC 60966-1:2019, paragraph 8.6, Method 2 (360° Bend, ϕ 95.2mm (3.75 in) mandrel

[12]per IEC 60966-1:2019, paragraph 8.6, Method 1 (±180° Bend, ϕ 95.2mm (3.75 in) mandrel

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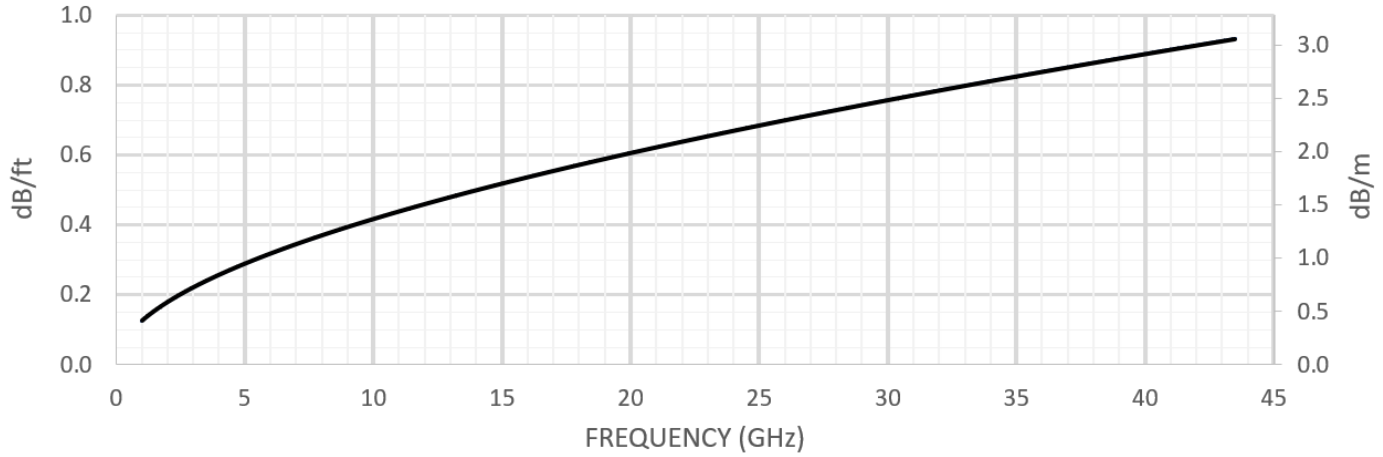
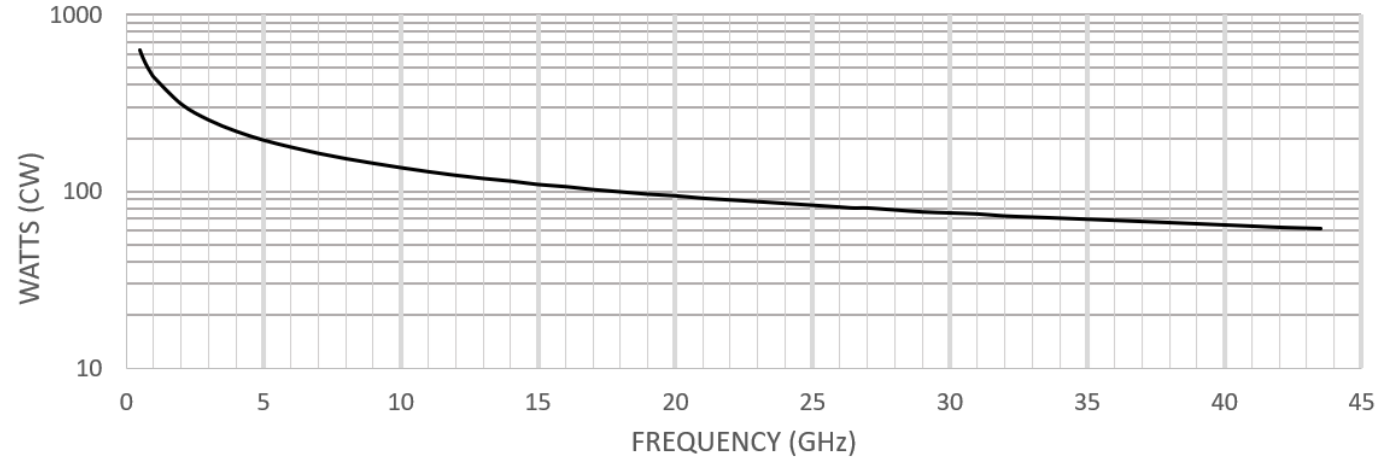
MAXIMUM INSERTION LOSS @ T=25°C[9]

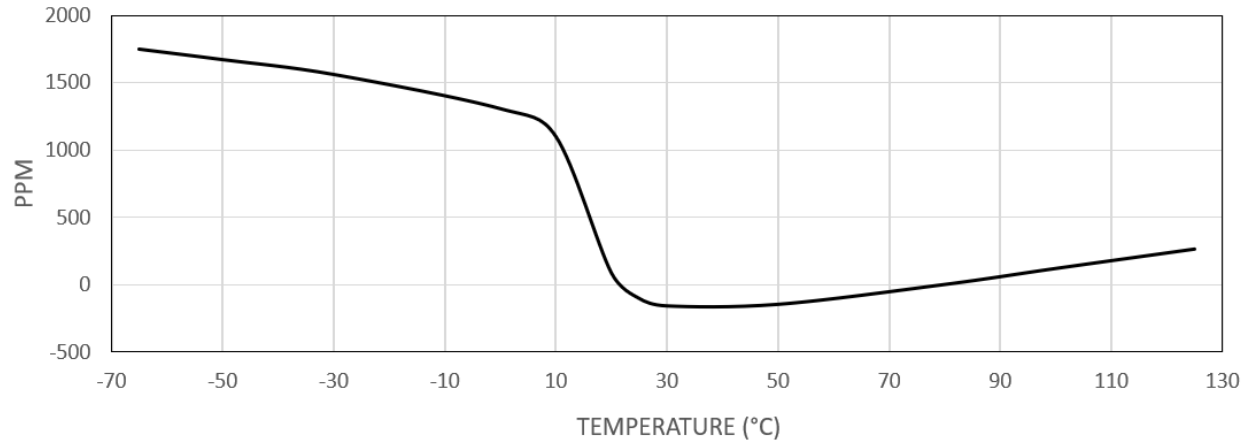


$$IL_{dB/ft} = \frac{12.3286 \times \sqrt{F_{GHz}} + 0.2771 \times F_{GHz}}{100}$$

TYPICAL POWER HANDLING @ T=25°C, SEA LEVEL[10]



TYPICAL PHASE VS. TEMPERATURE



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CONNECTOR OPTIONS

End Option	Description	Max. VSWR per Connector	Drawing
01SP	SMA Plug	1.162:1 @ DC – 26.5 GHz	PRF01-P-C-EP-043B-SS
01BJ	SMA Bulkhead Jack	1.162:1 @ DC – 26.5 GHz	PRF01-J-C-EP-043B-BS
92SP	2.92mm Plug	1.162:1 @ DC – 26.5 GHz 1.183:1 @ >26.5 – 43.5 GHz	PRF92-P-C-EP-043B-SS
92BJ	2.92mm Bulkhead Jack	1.162:1 @ DC – 26.5 GHz 1.183:1 @ >26.5 – 43.5 GHz	PRF92-J-C-EP-043B-BS
24SP	2.4mm Plug	1.162:1 @ DC – 26.5 GHz 1.183:1 @ >26.5 – 43.5 GHz	PRF24-P-C-EP-043B-SS
24BJ	2.4mm Bulkhead Jack	1.162:1 @ DC – 26.5 GHz 1.183:1 @ >26.5 – 43.5 GHz	PRF24-J-C-EP-043B-BS

ADDITIONAL INFORMATION

	Link
Cable Assembly Drawing	LL043-XXXX-XXXXXX-XXXX

USE OF PRODUCT SPECIFICATION SHEET

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