

Series: LL071, Microwave Cable Assembly, 50 Ω



Part Number:

**LL071-XXXX-XXXXXX-XXXX-X-XX**

END 1 CONNECTOR

- 18SP: 1.85mm Plug
- 18BJ: 1.85mm Bulkhead Jack
- 92SP: 2.92mm Plug

END 2 CONNECTOR

- 18SP: 1.85mm Plug
- 18BJ: 1.85mm Bulkhead Jack
- 92SP: 2.92mm Plug

OVERALL ASSEMBLY LENGTH

- XXXX (MILLIMETERS)
- (0100 MIN)

NO. OF PHASE MATCHING CABLES

- XX: (XX CABLE FOR THIS PART NUMBER)
- (XX CAN BE 02 TO 16)
- BLANK: 1 CABLE FOR THIS PART NUMBER, ONLY AVAILABLE WITH NO PHASE MATCHING OPTION

PHASE MATCHING SPEC (RANGE)

- 1: 1 PICO-SECOND
- 2: 2 PICO-SECONDS
- 5: 5 PICO-SECONDS
- BLANK: NO PHASE MATCHING

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**CABLE CONSTRUCTION**

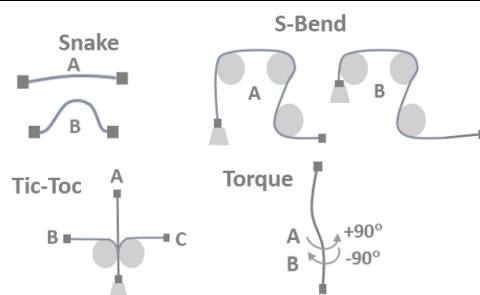
Center Conductor	Solid, Silver Plated Copper Alloy
Dielectric	Low-Density PTFE
Inner Shield	SPC Flat Wire
Dynamic Performance Layer	Tape Wrapped PTFE
Outer Shield	SPC Braid
Jacket	Orange FEP

**MECHANICAL DATA**

Max Outer Diameter	2.46 mm (0.097 inch)
Min. Static Bend Radius <sup>1</sup>	3.18 mm (0.125 inch)
Min. Dynamic Bend Radius	44.45 mm (1.75 inch)
Max. Weight (cable only)	16.1 g/m (0.173 oz/ft)
Pull Strength <sup>2</sup>	3.63 kg (8 lbs.)
Compression Resistance <sup>3</sup>	40 lbs./inch
Flex Life	
Snake <sup>2</sup>	250,000 cycles
S-Bend <sup>2</sup>	10,000 cycles
Tic-Toc <sup>4</sup>	6,000 cycles
Torque Life <sup>2</sup>	250,000 cycles

Mechanical Notes:

<sup>1</sup>360-degree bend,  $\leq 0.5 \Omega$  change in  $Z_0$ 
<sup>2</sup>per IEC 60966-1:2019, paragraphs 9.1,9.3,9.5 & 9.6 as applicable,  
 $\leq 10\% \Delta$  Insertion Loss

<sup>3</sup>per IEC 60966-1:2019, paragraph 9.4,  $\leq 0.5 \Omega \Delta Z_0$ 
<sup>4</sup>per MIL-T-81490, paragraph 3.6.5.4,  $\leq 10\% \Delta$  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 <sup>5</sup>	EIA-364-27 Condition C (100 G Peak)
Random Vibration <sup>5</sup>	EIA-364-28 Condition VB (7.56 gRMS, 2 hrs/axis)

Environmental Notes:

<sup>5</sup>Includes Nanosecond Event Detection

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**ELECTRICAL DATA<sup>6</sup>**

Impedance	50 Ω
Frequency Range <sup>7</sup>	DC - 71 GHz
Velocity of Propagation	76.5 %
Time Delay	1.33 ns/ft
Capacitance	26.5 pF/ft
Shielding Effectiveness <sup>8</sup>	90 dB
Insulation Resistance	12.2 MΩ/km (40 MΩ/1000 ft)
Insertion Loss <sup>9</sup>	<i>See Graph</i>
VSWR <sup>10</sup>	<i>See Connector Table</i>
Power Handling <sup>10</sup>	<i>See Graph</i>
Phase vs. Temperature	<i>See Graph</i>
Phase vs. Bending <sup>11</sup>	< 0.2°x F(GHz)
Insertion Loss vs. Bending <sup>12</sup>	< 0.02 dB to 71.0 GHz

Electrical Notes:

<sup>6</sup>Unless otherwise specified at Temperature=25°C

<sup>7</sup>May be further limited by connectors. See Connector Options.

<sup>8</sup>per IEC 61000-4-21 (Mode Stir, 2-18 GHz) Connector options can affect shielding performance.

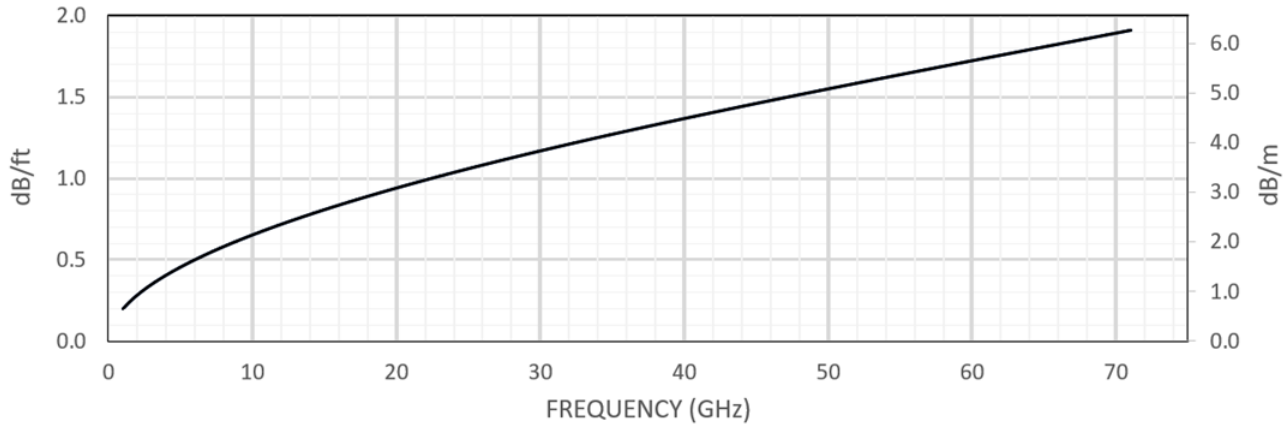
<sup>9</sup>Insertion loss graph does not include connectors; loss for each connector  $\approx 0.045 \times \sqrt{F(\text{GHz})}$ 
<sup>10</sup>Power Handling should be further derated for higher altitudes and temperatures.

<sup>11</sup>per IEC 60966-1:2019, paragraph 8.6, Method 2 (360° Bend,  $\phi$  95.2mm (3.75 in) mandrel

<sup>12</sup>per IEC 60966-1:2019, paragraph 8.6, Method 1 ( $\pm 180^\circ$  Bend,  $\phi$  95.2mm (3.75 in) mandrel

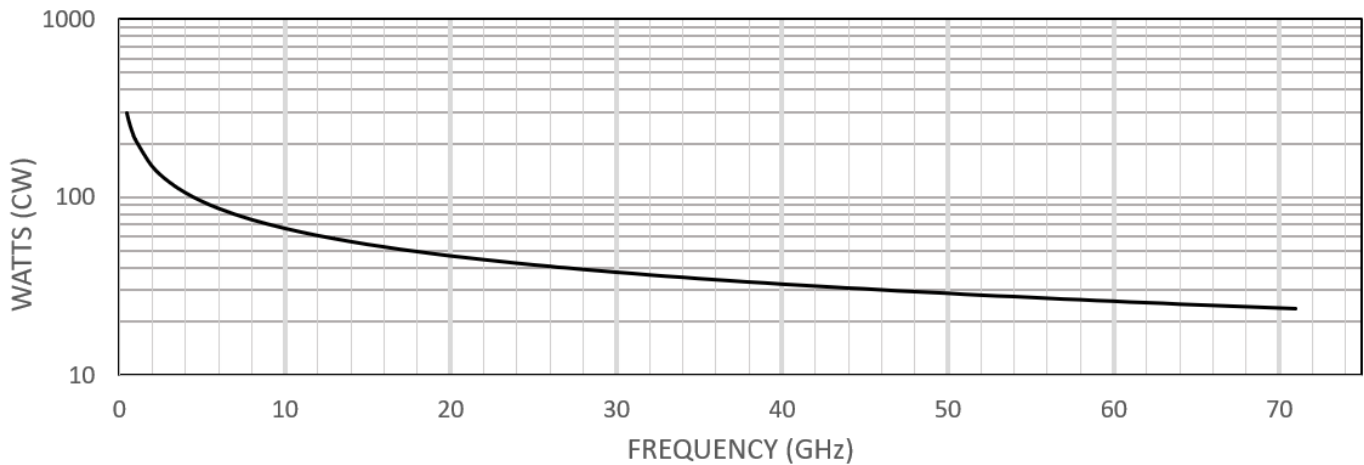
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**MAXIMUM INSERTION LOSS @ T=25°C<sup>9</sup>**



$$IL_{dB/ft} = \frac{19.8167 \times \sqrt{F_{GHz}} + 0.2771 \times F_{GHz} + 0.000000172 \times F_{GHz}^4}{100}$$

**TYPICAL POWER HANDLING @ T=25°C, SEA LEVEL<sup>10</sup>**



**TYPICAL PHASE VS. TEMPERATURE**

