



COAXIAL

Phase-Stable Flex Cables

CBN Series

50Ω DC to 26.5 GHz SMA-Male to SMA-Male

KEY FEATURES

- Broadband
- Low Loss Dielectric
- Exceptional Phase & Amplitude Stability
- Extremely Flexible

APPLICATIONS

- Test & Measurement
- High-Speed Data Systems
- Instrumentation
- Precision Measurement
- High-Volume Production Test
- R&D Labs & Device Characterization
- Circuit Level Breadboarding
- Equipment Rack & Stack Interconnects
- Tight & Limited Spacing Applications



Generic photo used for illustration purposes only

PRODUCT OVERVIEW

The CBN series carries on the Mini-Circuits commitment to quality, consistency, performance, and value. While achieving the design goal of extreme flexibility, the CBN design has largely eliminated flex resistance as well as spring-back. Difficult routing challenges have been greatly simplified while maintaining improved attenuation and unparalleled RF stability.

Whether your application is packaged device characterization on the bench, circuit-level breadboarding, the interconnection of RF equipment in a lab or production environment, or deliverable products where space limitations exist, CBN is the correct choice when extreme flexibility and RF stability is of primary concern.

The CBN-XX-SMSM+ SMA-Male to SMA-Male cable family is ideal for interconnecting coaxial components and subassemblies in a wide range of systems, including test and measurement, instrumentation, and more. This flexible cable provides excellent phase and amplitude stability as well as flexibility. These cables are presently available from 1 to 15 feet long; for custom lengths, please contact the Mini-Circuits Sales Department.



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ELECTRICAL SPECIFICATIONS¹

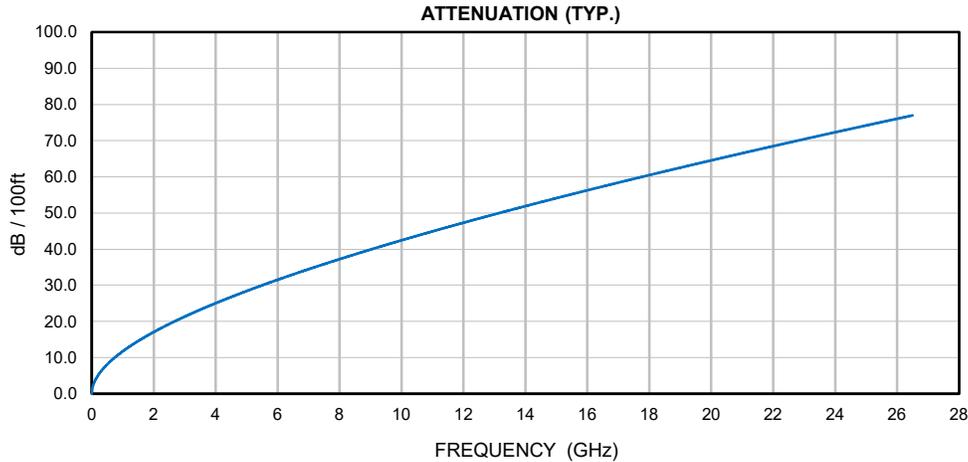
Operation Frequency (GHz)	26.5
Impedance (Ω)	50
Velocity of Propagation (%)	74
Shielding Effectiveness (dB)	90
Voltage Withstand Min. (VDC)	2000
Bending Phase ² Max. (deg.)	±6 @ 26.5 GHz
Return Loss Typ. [VSWR]	17.5 dB [1.30:1]
Return Loss Max. [VSWR]	35.0 dB [1.04:1]

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS¹

Operating Case Temperature ³	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Bend Radius: Installation (mm) [in]	16 [0.64]
Bend Radius: Repeated (mm) [in]	50 [1.97]
Weight (g/m) [lbs/1000ft] @ A < 2ft	(50 + 17)*A ± 15 [(33.57 + 11.4)*A ± 10.1]
Weight (g/m) [lbs/1000ft] @ A > 2ft	(50 + 18)*A ± 15 [(33.57 + 12.1)*A ± 10.1]

3. Temperature extremes are not intended for continuous normal operation.

- 1. Permanent damage may occur if any of these limits are exceeded
- 2. Phase & Amplitude stability specs guaranteed from 18-inch cable lengths. For cables shorter than 18 inches, no degradation in performance is expected.



Attenuation (Typical @ 25°C & VSWR = 1.0) dB

Frequency (MHz)	1000	2000	3000	4000	6000	8000	10000	12000	14000	18000	20000	26500
dB / 100 m	38.49	55.91	69.87	82.03	103.25	121.94	139.00	154.91	169.65	198.08	211.40	252.14
dB / 100 ft	11.73	17.04	21.30	25.00	31.47	37.17	42.37	47.22	51.80	60.38	64.43	76.85

Calculate Attenuation = $K1 * \sqrt{FMHz} + K2 * FMHz + 0.02 * \sqrt{FGHz}$ dB

dB / 100 m	K1 =	1.1370000	K2 =	0.0025300
dB / 100 ft	K1 =	0.3465576	K2 =	0.0007711

Power (VSWR = 1.0; 25°C; Sea Level) W

Frequency (MHz)	1000	2000	3000	4000	6000	8000	10000	12000	14000	18000	20000	26500
Avg. Power (kW)	0.473	0.362	0.261	0.222	0.176	0.149	0.131	0.118	0.107	0.092	0.086	0.072





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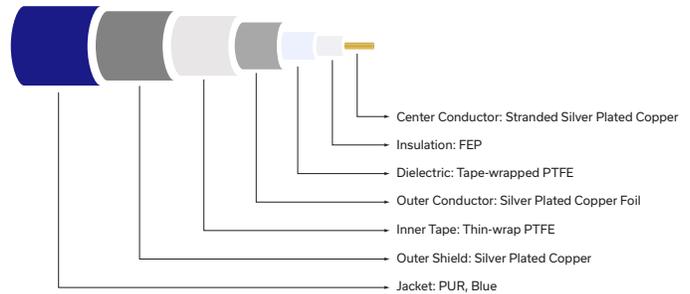
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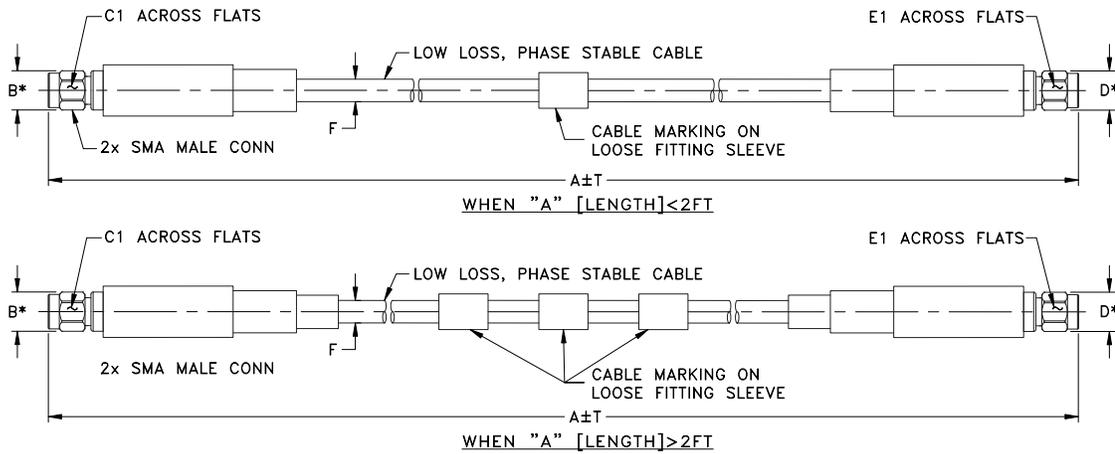
COAXIAL CONNECTIONS

Description	Connector 1	Connector 2
Connector Type	SMA-Male	SMA-Male
Orientation	Straight	Straight

CABLE CONSTRUCTION



CASE STYLE DRAWING



Unless Otherwise Specified dimensions are in inches [mm], Tolerances: 2 PL ±0.03; 3 PL ±0.015 inches

A		B	C1	D	E1	F	T		Wt. grams
Feet	Meters						Feet	Meters	
1.00	0.30	.36 (9.14)	.315 (8.00)	.36 (9.14)	.315 (8.00)	.205 (5.20)	+04/-0	+01/-0	32.0
1.50	0.46						+04/-0	+01/-0	40.0
2.00	0.61						+04/-0	+01/-0	48.0
2.50	0.76						+04/-0	+01/-0	56.0
3.00	0.91						+06/-0	+02/-0	63.5
3.28	1.00						+07/-0	+02/-0	68.0
3.50	1.07						+07/-0	+02/-0	71.5
4.00	1.22						+08/-0	+02/-0	79.0
5.00	1.52						+10/-0	+03/-0	94.0
6.00	1.83						+12/-0	+04/-0	109.5
6.56	2.00						+13/-0	+04/-0	118.0
10.00	3.05						+20/-0	+06/-0	170.5
15.00	4.57						+30/-0	+09/-0	246.5

PRODUCT MARKING*: CBN-XX-SMSM+

*Marking may contain other features or characters for internal lot control.





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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	GM3711
RoHS Status	Compliant
Environmental Ratings	ENV149

NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

