LOW LOSS

Coaxial Cables

L235-XXNM+ SERIES

50Ω DC to 18 GHz N-Type Male to N-Type Male

KEY FEATURES

- Wideband Frequency Coverage DC to 18 GHz
- Low Insertion Loss
- Excellent Return Loss
- 35 mm Bend Radius for Tight Installations
- Insulated Outer Jacket Standard
- Connector Interface Meets MIL-STD-348
- Straight N-Type Male Connector With Coupling Nut



Generic photo used for illustration purposes only

APPLICATIONS

- Communication Receivers and Transmitters
- Telecom Systems
- Test and Measurement Systems
- SATCOM

PRODUCT OVERVIEW

The L235-xxNM+ series coaxial cables are ideal for telecom and SATCOM applications and for connecting subsystems. The construction includes a low-loss 0.235-inch coaxial cable with a silver-plated copper center conductor. The dielectric is tape-wrapped PTFE. The connector body is passivated stainless steel, and the contacts are gold-plated BeCu. These cables are available in standard lengths of 0.5, 1, 2, and 3 feet. For custom lengths, please contact Mini-Circuits Sales.

ELECTRICAL SPECIFICATIONS[1]

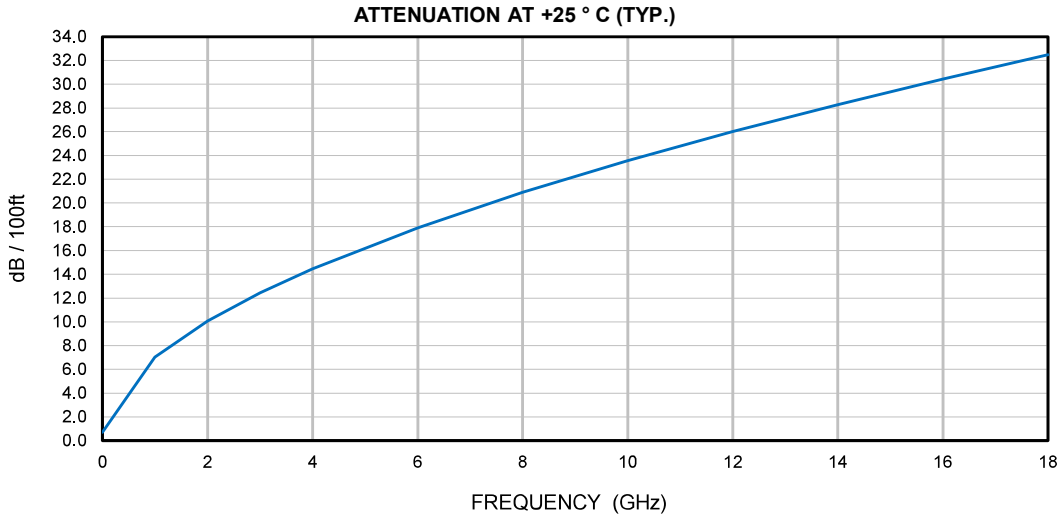
Operating Frequency (GHz)	18
Impedance (Ω)	50
Velocity of Propagation (%)	70
Shielding Effectiveness Min. (dB)	100
Voltage Withstand Max. (VDC)	6600
Return Loss Typ. [VSWR]	32 dB [1.05:1]
Return Loss Max. [VSWR]	18 dB [1.3:1]

1. Permanent damage may occur if any of these limits are exceeded

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS[1]

Operating Case Temperature[2]	-45 °C to +125 °C
Storage Temperature	-45 °C to +125 °C
Bend Radius: Installation mm [in]	350.52 [13.8]
Bend Radius: Repeated mm [in]	35.05 [1.38]
Cable Weight (g/m) [lbs/1000ft]	90 [60]

2. Temperature extremes are not intended for continuous normal operation.
3. Total connector weight is 75 g per cable.



Attenuation (Typical @ +25 °C & VSWR = 1.0:1) dB

Frequency (MHz)	1000	2000	4000	6000	8000	10000	12000	14000	16000	18000
dB / 100 m	23.09	33.02	47.43	58.77	68.53	77.27	85.29	92.77	99.82	106.51
dB / 100 ft	7.04	10.07	14.46	17.92	20.90	23.56	26.01	28.29	30.44	32.48

Calculate Max Attenuation[4] = $[K1 \times \sqrt{FMHz} + K2 \times FMHz] \times 1.1$ dB

dB / 100 m	K1 =	0.71070	K2 =	0.00062
dB / 100 ft	K1 =	0.21662	K2 =	0.00019

4. For cable only, include 0.5 dB loss for connectors

Max Power (VSWR = 1.0; +25 °C; Sea Level), W

Frequency (MHz)	1000	2000	4000	6000	8000	10000	12000	14000	16000	18000
Avg. Power (W)	971	675	469	379	326	290	263	242	227	213

LOW LOSS

Coaxial Cables

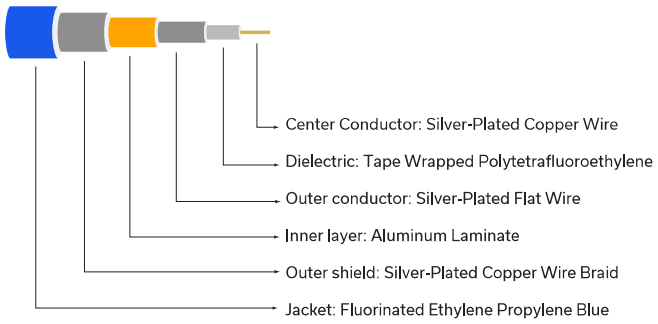
L235-XXNM+ SERIES

50Ω DC to 18 GHz N-Type Male to N-Type Male

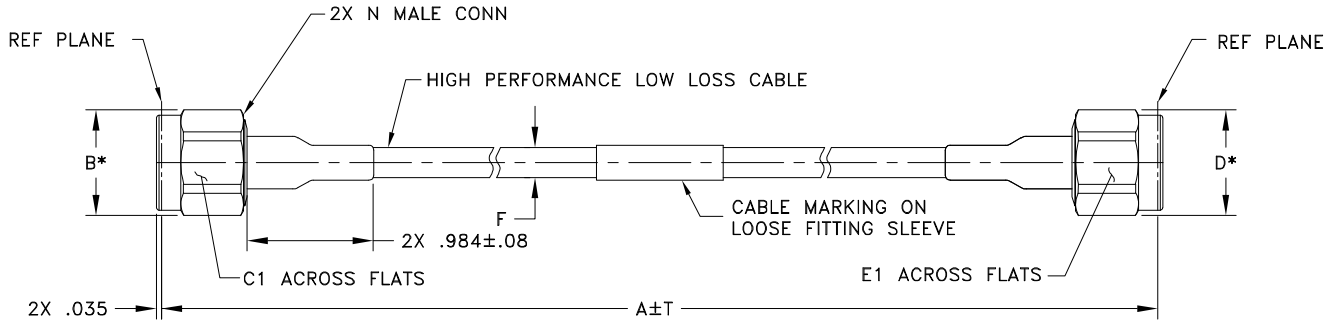
COAXIAL CONNECTIONS

Description	Connector 1	Connector 2
Connector Type	N-Type Male	N-Type Male
Orientation	Straight	Straight
Body Material/ Plating	Stainless Steel/Passivated	Stainless Steel/Passivated
Center Pin Material/ Plating	BeCu/Gold	BeCu/Gold

CABLE CONSTRUCTION



CASE STYLE DRAWING



*OVERALL CONNECTOR DIMENSION
[CONNECTOR SHAPE MAY VARY]

Dimensions are in inches [mm]

A		B	C1	C2	D	E1	F	T		Wt. grams
Feet	Meters							Feet	Meters	
0.5	0.15	88 [22.35]	.748 [19.00]	.22 [5.6]	.88 [22.35]	.748 [19.00]	.236 [6.00 NOM]	± .008	± .002	99.00
1	0.3							± .010	± .003	114.00
2	0.61							± .013	± .004	144.00
3	0.91							± .025	± .008	174.00

PRODUCT MARKING*: L235-XXNM+

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

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	BCA3871
RoHS Status	Compliant
Environmental Ratings	ENV157

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-Circuits' 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

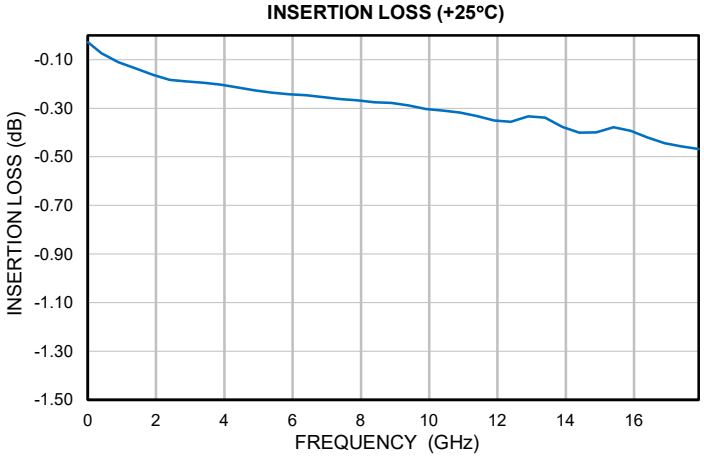
Low loss N Type Male to N Type Male — L235-1FTNM+

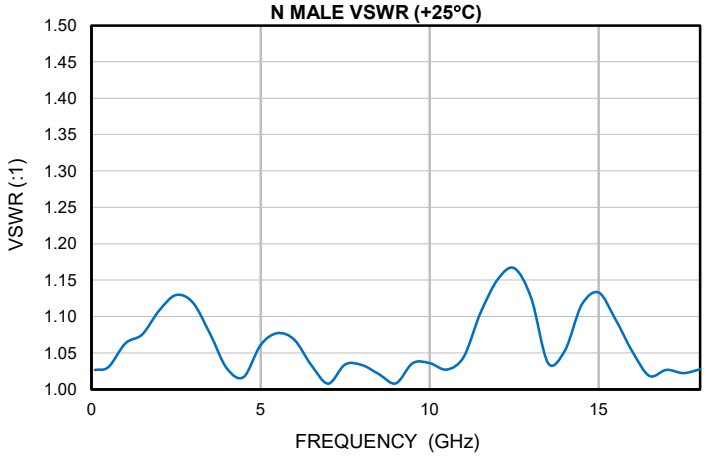
Typical Performance Data

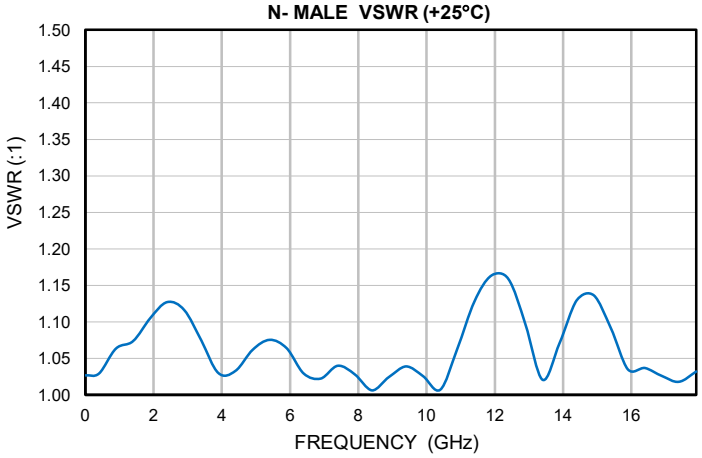
FREQ.	INSERTION LOSS	N - MALE VSWR	N - MALE VSWR
(GHz)	(dB)	(:1)	(:1)
0.1	-0.03	1.03	1.03
0.50	-0.07	1.03	1.03
1.00	-0.11	1.06	1.06
1.50	-0.13	1.08	1.07
2.00	-0.16	1.11	1.11
2.50	-0.18	1.13	1.13
3.00	-0.19	1.12	1.12
3.50	-0.19	1.08	1.07
4.00	-0.20	1.03	1.03
4.50	-0.21	1.02	1.03
5.00	-0.23	1.06	1.06
5.50	-0.24	1.08	1.08
6.00	-0.24	1.07	1.06
6.50	-0.25	1.03	1.03
7.00	-0.25	1.01	1.02
7.50	-0.26	1.03	1.04
8.00	-0.27	1.03	1.03
8.50	-0.27	1.02	1.01
9.00	-0.28	1.01	1.02
9.50	-0.29	1.04	1.04
10.00	-0.30	1.04	1.03
10.50	-0.31	1.03	1.01
11.00	-0.32	1.04	1.06
11.50	-0.33	1.10	1.13
12.00	-0.35	1.15	1.16
12.50	-0.36	1.17	1.16
13.00	-0.33	1.13	1.10
13.50	-0.34	1.04	1.02
14.00	-0.38	1.05	1.07
14.50	-0.40	1.12	1.13
15.00	-0.40	1.13	1.14
15.50	-0.38	1.10	1.09
16.00	-0.39	1.05	1.04
16.50	-0.42	1.02	1.04
17.00	-0.44	1.03	1.03
17.50	-0.46	1.02	1.02
18.00	-0.47	1.03	1.03

Low loss N Type Male to N Type Male L235-1FTNM+

Typical Performance Curves



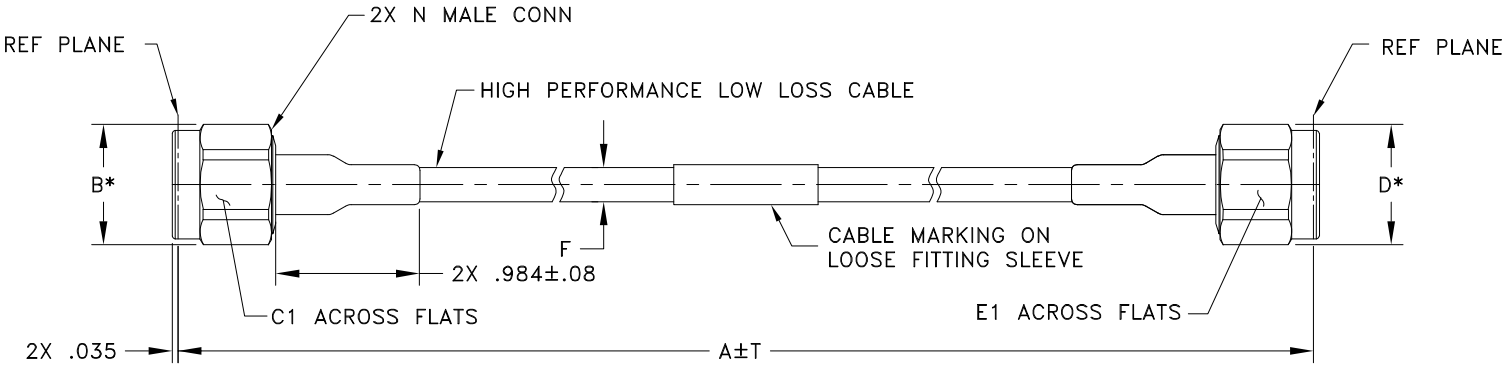




Case Style BCA

Outline Dimensions

BCA3871



* OVERALL CONNECTOR DIMENSION
[CONNECTOR SHAPE MAY VARY]

Case Style #	A		B	C1	C2	D	E1	E2	F		G	H	T		WT.
	FEET	METERS							L235U-XXNM+	L235-XXNM+			FEET	METERS	GRAMS
BCA3871-.5	0.50	0.15	.88 [22.35]	.748 [19.00]	– –	.88 [22.35]	.748 [19.00]	– –	.191±.002 [4.85±.05]	.236 NOM [6.00 NOM]	– –	– –	.008	.003	99.00
BCA3871-1	1.00	0.30											.010	.003	114.00
BCA3871-2	2.00	0.61											.013	.004	144.00
BCA3871-3	3.00	0.91											.025	.008	174.00

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

Notes:
1. High Performance Low-Loss Coaxial Cable.
2. "A" Represents Length of Cable.

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Environmental Specifications **ENV157**

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-45° C to 125° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-45° C to 125° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 125°C, 100 Cycles	MIL-STD-202, Method 107G
Multiple Bend Radius	40 mm, 5 times for 141 series cables 30 mm, 5 times for 086 series cables	
Single Bend Radius	8 mm for 141 series cables 6 mm for 086 series cables	
Connector Durability	500 mating/unmating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12

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