



COAXIAL

Non-Magnetic Flex Cables

86N SERIES

50Ω DC to 18 GHz SMA-Male to SMA-Male

KEY FEATURES

- Nickel-Free Construction, Non-Magnetic
- Broadband
- Reliable Performance

APPLICATIONS

- Cryogenic Environment Applications
- Test & Measurement
- High-Speed Data Systems
- Instrumentation
- Precision Measurements
- Quantum Computing Applications
- High-Volume Production Test
- R&D Labs & Device Characterization
- Circuit-Level Breadboarding



Generic photo used for illustration purposes only

PRODUCT OVERVIEW

The 86N Series Hand-Flex™ coaxial cables are ideal for interconnecting coaxial components or sub-systems. The construction includes an unjacketed silver-plated copper-clad center conductor which maintains its shape after bending. The outer shield is a tin-soaked, silver-plated copper braid which minimizes signal leakage while remaining flexible for easy bending. Connectors have passivated stainless-steel coupling nuts over gold-plated connector bodies and gold-plated brass center conductors.



ELECTRICAL SPECIFICATIONS¹

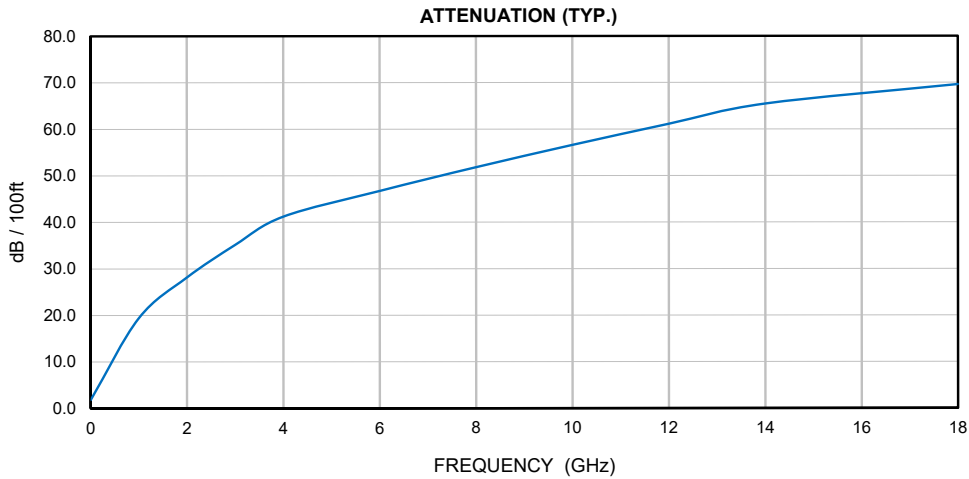
Operating Frequency (GHz)	18
Impedance (Ω)	50
Velocity of Propagation (%)	70
Shielding Effectiveness Min. (dB/m)	100
Voltage Withstand Max. (VDC)	2000
Return Loss Typ. [VSWR]	32.26 dB [1.05:1]
Return Loss Max. [VSWR]	17.69 dB [1.3:1]

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS¹

Operating Case Temperature ²	-45 °C to +125 °C
Storage Temperature	-45 °C to +125 °C
Bend Radius: Installation mm [in]	6 [0.64]
Bend Radius: Repeated mm [in]	30 [1.97]
Cable Weight ³ (g/m) [lbs/1000ft]	14 [9.408]

2. Temperature extremes are not intended for continuous normal operation.
 3. Total connector weight is 6.0 g per cable.

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



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

Frequency (MHz)	1000	2000	3000	4000	6000	8000	10000	12000	14000	18000
dB / 100 m	70.07	101.63	126.86	148.81	187.03	220.60	251.22	279.73	306.64	356.91
dB / 100 ft	21.36	30.98	38.66	45.35	56.99	67.23	76.56	85.25	93.45	108.77

Calculate Max Attenuation⁴ = [K1 * √FMHz + K2 * FMHz] * 1.1 dB

dB / 100 m	K1 =	1.8898	K2 =	0.00394
dB / 100 ft	K1 =	0.57600	K2 =	0.00120

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	3000	4000	6000	8000	10000	12000	14000	18000
Avg. Power (kW)	0.280	0.195	0.160	0.140	0.110	0.095	0.85	0.080	0.74	0.065



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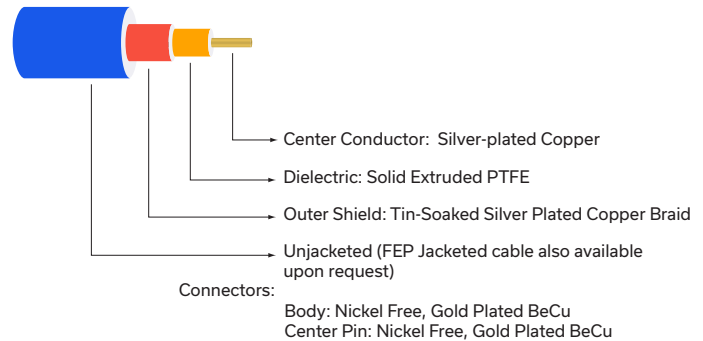
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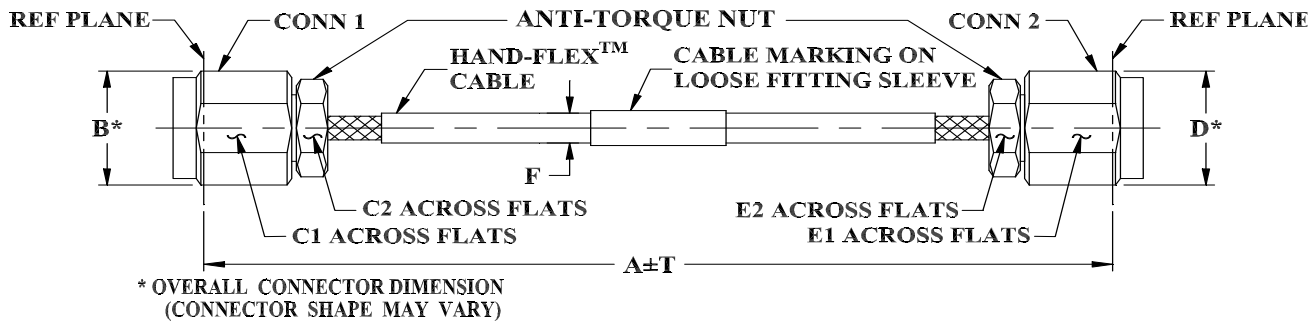
COAXIAL CONNECTIONS

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

CABLE CONSTRUCTION



CASE STYLE DRAWING



A		B	C1	C2	D	E1	E2	F	T		Wt. grams
Inch	MM								Inch	MM	
3.94	100	.36 (9.14)	.315 (8.00)	250 (6.35)	.36 (9.14)	.315 (8.00)	.250 (6.35)	.091 (2.31)	±.05	±1.27	7.40
7.87	200								±.10	±2.54	8.80
11.81	300								±.10	±2.54	10.20
19.69	500								±.15	±3.81	13.00

PRODUCT MARKING*: 86N-XXCSM

*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	KP1505
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-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

