



KEY FEATURES

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

APPLICATIONS

- Cryogenic Environment Application
- Test & Measurement
- Speed data systems
- Instrumentation
- Precision Measurement
- 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 interconnection of coaxial components or subsystems. The cable construction includes silver-plated, copper-clad center conductor which maintains the new shape after bending. The outer shield is tin-soaked copper braid which not only minimizes signal leakage but remains flexible for easy bending. Connectors are nickel-free, gold-plated BeCu.

ABSOLUTE MAXIMUM RATINGS

ELECTRICAL SPECIFICATIONS¹

Operating Frequency (GHz)	18
Impedance (Ω)	50
Velocity of Propagation (%)	69.5
Shielding Effectiveness Min. (dB/m)	100
Voltage Withstand Max. (VDC)	1900
Return Loss Typ. [VSWR]	32.26 dB [1.05:1]
Return Loss Max. [VSWR]	17.69 dB [1.3:1]

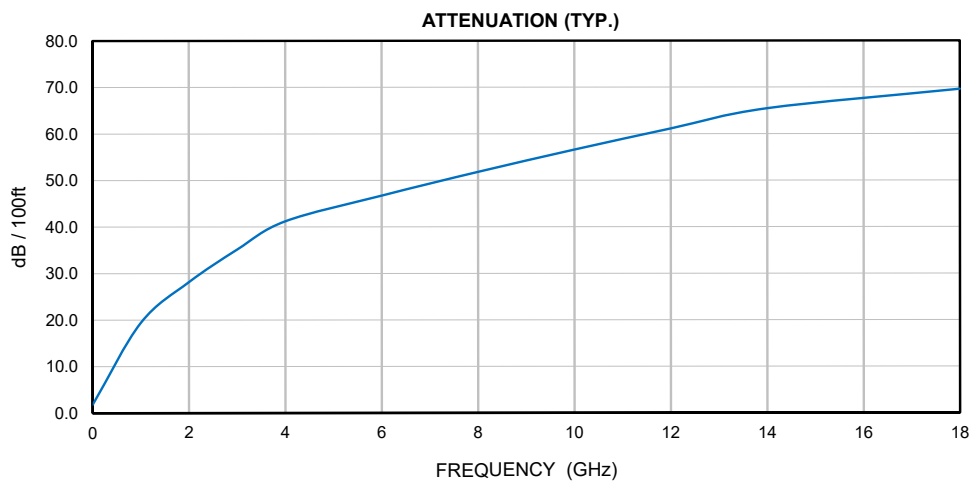
1.,2. Permanent damage may occur if these limits are exceeded.

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS²

Operating Case Temperature ³	-45 °C to +125 °C
Storage Temperature	-45 °C to +125 °C
Bend Radius: Installation mm [in]	8 [0.31]
Bend Radius: Repeated mm [in]	40 [1.57]
Cable Weight ⁴ (g/m) [lbs/1000ft]	14 [9.4087]

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

4. Total connector weight is 3.3 g per cable.

ABSOLUTE MAXIMUM RATINGS (CONT.)⁵

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

$$\text{Calculate Max Attenuation}^5 = [K1 * \sqrt{FMHz} + K2 * FMHz] * 1.1 \text{ dB}^6$$

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

5,.6. For cable only, include 0.5 dB loss for connectors

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

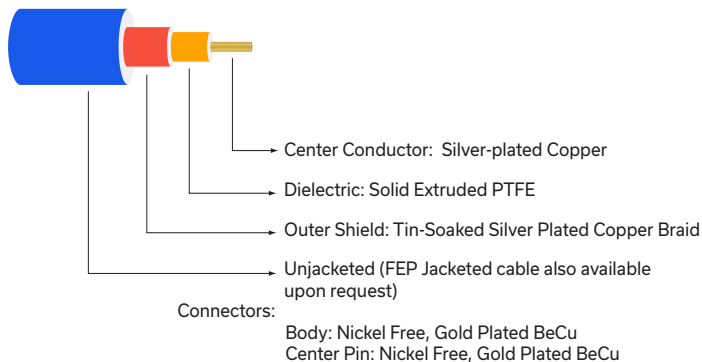
Frequency (MHz)	1000	2000	3000	4000	6000	8000	10000	12000	14000	18000
Avg. Power (kW)	0.280	0.195	0.160	0.140	0.110	0.095	0.85	0.080	0.74	0.065



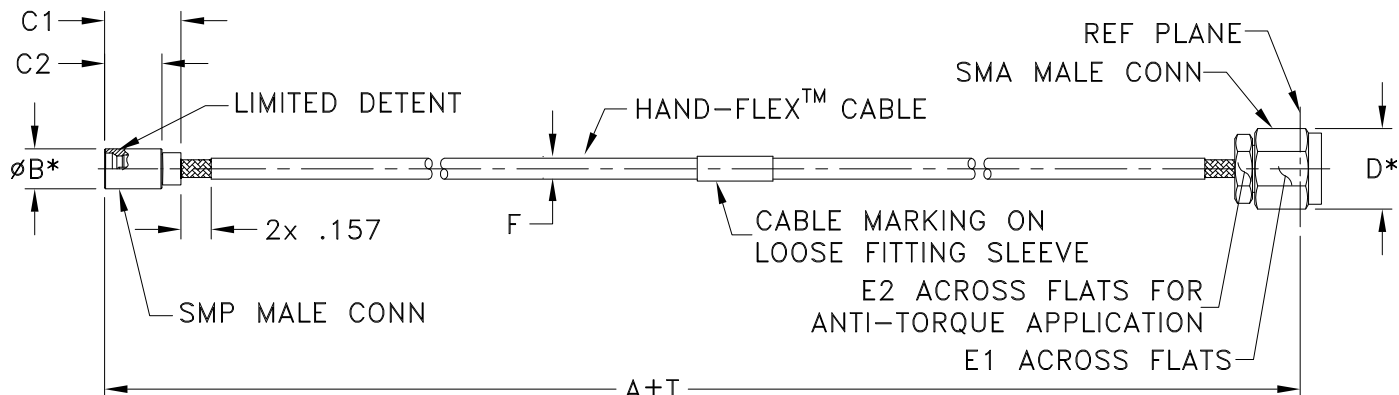
COAXIAL CONNECTIONS

Description	Connector 1	Connector 2
Connector Type	SMP 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	.18 (4.60)	.346 (8.80)	.260 [6.60]	.36 (9.14)	.315 (8.00)	.250 (6.35)	.091 (2.31)	±.05	±1.27	5.90
7.87	200								±.10	±2.54	7.50
11.81	300								±.10	±2.54	9.10
19.69	500								±.15	±3.81	12.31

PRODUCT MARKING*: 86N-XXCSMPMSM+

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



ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

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Performance Data & Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	KP3757
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