



COAXIAL

# Non-Magnetic Flex Cables

**141N SERIES**

50Ω DC to 6 GHz SMP-Male to SMA-Male

## KEY FEATURES

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

## APPLICATIONS

- Cryogenic Environment Application
- Test & Measurement
- High-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 141N Series Hand-Flex™ Coaxial Cables are ideal for interconnection of coaxial components or sub-systems. The construction includes an unjacketed silver-plated copper-clad center conductor which maintains the shape after bending. The outer shield is tin soaked, silver plated copper braid which minimizes signal leakage and at the same time flexible for easy bending. Connectors have passivated stainless-steel coupling nut over a gold plated connector body and gold plated, brass center conductor.



### ELECTRICAL SPECIFICATIONS<sup>1</sup>

Operation Frequency (GHz)	18
Impedance (Ω)	50
Velocity of Propagation (%)	69.5
Shielding Effectiveness Min. (dB/m)	100
Voltage Withstand Max. (VDC)	2000
Return Loss Typ. [VSWR]	30.65 dB [1.06:1]
Return Loss Max. [VSWR]	20.08 dB [1.22:1]

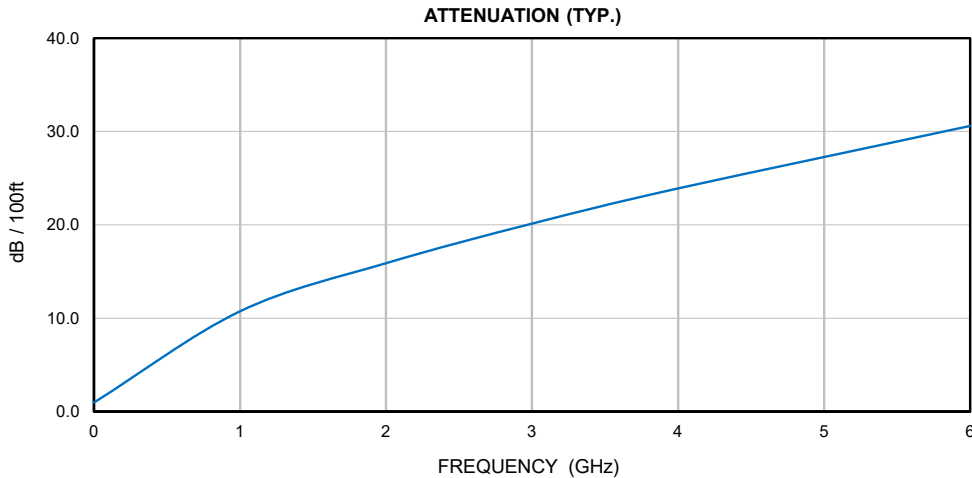
1. Permanent damage may occur if any of these limits are exceeded.

### MECHANICAL & ENVIRONMENTAL SPECIFICATIONS<sup>1</sup>

Operating Case Temperature <sup>2</sup>	-45 °C to +125 °C
Storage Temperature	-45 °C to +125 °C
Bend Radius: Installation mm [in]	10 [0.39]
Bend Radius: Repeated mm [in]	40 [1.57]
Cable Weight <sup>3</sup> (g/m) [lbs/1000 ft]	39 [26.2]

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

3. Total Connector weight is 3.78 g per cable.



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

Frequency (MHz)	1000	2000	3000	4000	5000	6000
dB / 100 m	35.27	25.19	66.09	78.42	89.76	100.39
dB / 100 ft	10.75	15.91	20.14	23.90	27.35	30.59

Calculate Max Attenuation<sup>4</sup> =  $[K1 * \sqrt{FMHz} + K2 * FMHz] * 1.1 \text{ dB}$

dB / 100 m	K1 =	0.99081	K2 =	0.00394
dB / 100 ft	K1 =	0.30200	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	5000	6000
Avg. Power (kW)	0.560	0.395	0.320	0.280	0.250	0.225



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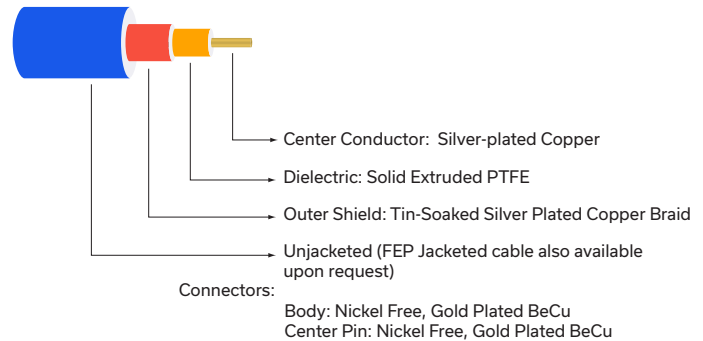
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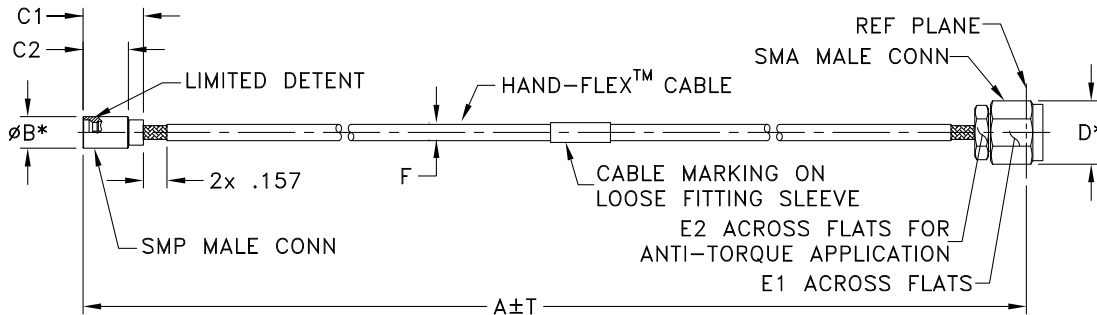
### COAXIAL CONNECTIONS

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

### CABLE CONSTRUCTION



### CASE STYLE DRAWING



\* OVERALL CONNECTOR DIMENSION  
 [CONNECTOR SHAPE MAY VARY]

A		B	C1	C2	D	E1	E2	F	T		Wt. (grams)
Inch	mm								Inch	mm	
3.94	100	0.18 (4.60)	0.346 (8.80)	0.260 (6.60)	0.36 (9.14)	.315 (8.00)	.250 (6.35)	.141 (2.31)	±0.05	±1.27	7.68
7.87	200								±0.10	±2.54	11.58
11.81	300								±0.10	±2.54	15.48
19.69	500								±0.15	±3.81	23.28

### PRODUCT MARKING\*: 141N-XXCSMPMSM

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



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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

<b>Performance Data &amp; Graphs</b>	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
<b>Case Style</b>	KQ3755
<b>RoHS Status</b>	Compliant
<b>Environmental Ratings</b>	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.
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