COAXIAL

Non-Magnetic Flex Cables

141N SERIES

50Ω DC to 18 GHz SMA-Male to SMA-Male

KEY FEATURES

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

Generic photo used for illustration purposes only

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

PRODUCT OVERVIEW

The 141N 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 a gold-plated connector bodies and gold plated, brass center conductors.

COAXIAL

Non-Magnetic Flex Cables

141N SERIES

50Ω DC to 18 GHz SMA-Male to SMA-Male

ELECTRICAL SPECIFICATIONS[1]

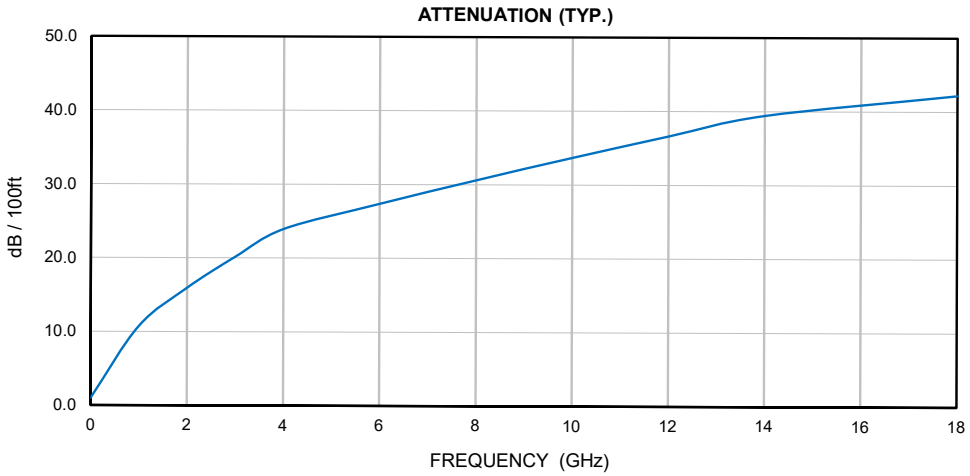
Operating Frequency (GHz)	18
Impedance (Ω)	50
Velocity of Propagation (%)	70
Shielding Effectiveness Min. (dB/m)	100
Voltage Withstand Max. (VDC)	2000
Return Loss Typ. [VSWR]	30.65 dB [1.06:1]
Return Loss Max. [VSWR]	20.08 dB [1.22:1]

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

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS[1]

Operating Case Temperature[2]	-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[3] (g/m) [lbs/1000 ft]	39 [26.2]

2. Temperature extremes are not intended for continuous normal operation.
3. Total connector weight is 5.6 g per cable.



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

Frequency (MHz)	1000	2000	3000	4000	6000	8000	10000	12000	14000	18000
dB / 100 m	35.27	25.19	66.09	78.42	100.39	120.14	138.48	155.82	172.39	52.53
dB / 100 ft	10.75	15.91	20.14	23.90	30.59	36.61	42.20	47.48	52.53	62.12

Calculate Max Attenuation[4] = $[K1 * \sqrt{FMHz} + K2 * FMHz] * 1.1$ 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	6000	8000	10000	12000	14000	18000
Avg. Power (kW)	0.560	0.395	0.320	0.280	0.225	0.195	0.175	0.165	0.150	0.130

COAXIAL

Non-Magnetic Flex Cables

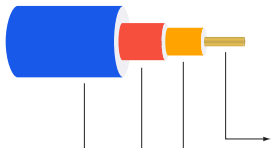
141N SERIES

50Ω DC to 18 GHz SMA-Male to SMA-Male

COAXIAL CONNECTIONS

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

CABLE CONSTRUCTION



Center Conductor: Silver-plated Copper

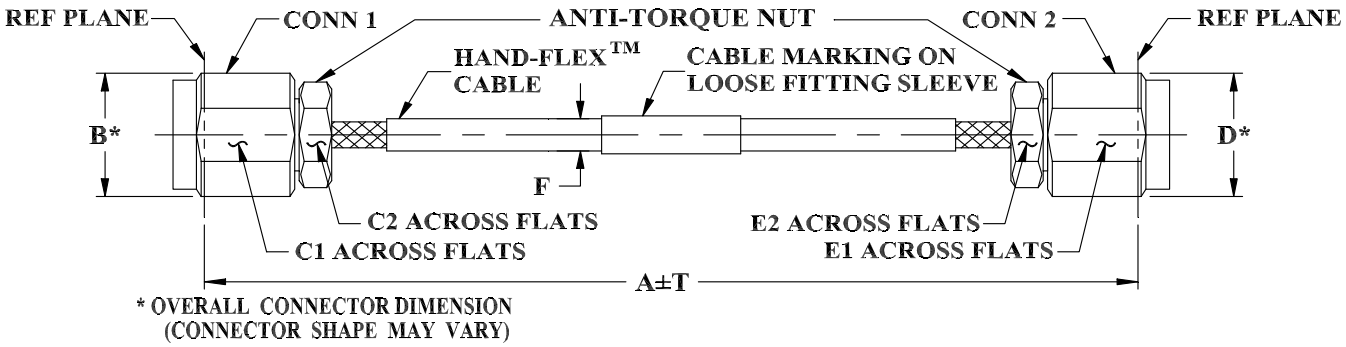
Dielectric: Solid Extruded PTFE

Outer Shield: Tin-Soaked Silver Plated Copper Braid

Unjacketed (FEP Jacketed cable also available upon request)

Connectors:
Body: Nickel Free, Gold Plated BeCu
Center Pin: Nickel Free, Gold Plated BeCu

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)	0.36 (9.14)	.315 (8.00)	0.250 (6.35)	.141 (2.31)	±0.05	±1.27	9.50
7.87	200								±0.10	±2.54	13.40
11.81	300								±0.10	±2.54	17.30
19.69	500								±0.15	±3.81	25.10

PRODUCT MARKING*: 141N-XXCSM

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

Non-Magnetic Flex Cables

141N SERIES

50Ω DC to 18 GHz SMA-Male to SMA-Male

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	KQ1506
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