HAND FLEX™

Coaxial Cable

141-4SBSM+

50Ω DC to 18 GHz

The Big Deal

- SMA-M to SMA-F bulkhead connector
- Hand-formable with 8mm min. bend radius
- Excellent return loss
- Low insertion loss

CASE STYLE: KQ1688-4

Product Overview

141-SBSM+ series Hand-Flex coaxial cables are ideal for integrating coaxial components and sub-assemblies in tight spaces and dense system configurations. SMA-female bulkhead connector at one end is equipped with a nickel-plated brass flange for secure connections directly to equipment housing panels. SMA-male connector has a passivated stainless-steel coupling nut over a gold-plated connector body. The outer shield is tin-soaked copper braid, which minimizes signal leakage with high flexibility for easy bending, and dielectric is low loss PTFE. 141-SBSM+ series Hand-Flex coaxial cables are available in various lengths for different system requirements.

Key Features

Feature	Advantages
Single SMA-female bulkhead connector	Eliminates the need for a bulkhead adapter and connects directly to the front panel of rack-mounted equipment, improving reliability and reducing system cost.
Hand-formable	Hand-Flex cables avoid the need for special cable bending tools, alleviating the risk of damage during bending processes used in semi-rigid cable assemblies.
8mm bend-radius	Ideal for making connections in tight spaces and dense system layouts.
Excellent return loss	Ideal for connecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables and connectors.
Good power handling capability • 546W at 0.5 GHz • 90W at 18 GHz	141-SBSM+ coaxial cables can support medium to high RF power levels and can be used in the transmit path. (Power rating at sea-level).
Built-in anti-torque nut on SMA-male connector	Anti-torque feature supports the SMA connector body during installation, preventing stress to the connector/cable interface.
Good power handling • 211W at 0.5 GHz • 35W at 18 GHz	Supports medium to high RF power levels used in transmit paths.

HAND FLEX™

Coaxial Cable

141-4SBSM+

50Ω 4 inch DC to 18 GHz

CASE STYLE: KQ1688-4

Connectors	Model
SMA-Female Bulkhead / SMA-Male	141-4SBSM+

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to 105°C	
Storage Temperature	-55°C to 105°C	
Power Handling at 25°C, Sea Level	546W	at 0.5 GHz
	387W	at 1 GHz
	273W	at 2 GHz
	156W	at 6 GHz
	121W	at 10 GHz
	90W	at 18 GHz

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

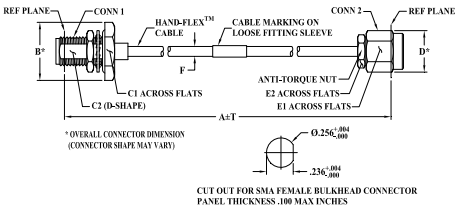
Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.25 dB at 18 GHz
- Excellent Return Loss, 30 dB at 18 GHz
- Hand formable to almost any custom shape without special bending tools
- 8mm bend radius for tight installations
- Anti-torque nut prevents cable stress during installation
- Insulated outer jacket standard[1]
- **Ideal for interconnect of assembled systems**

Applications

- Replacement for custom bent 0.141" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

Outline Drawing

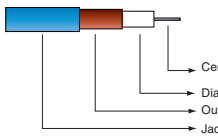


Outline Dimensions (inch / mm)

A	B	C1	C2	D
4.0	.51	.438	.232	.36
101.60	12.95	11.13	5.89	9.14

E1	E2	F	T	wt
.313	.250	.163±.004	.05	grams
7.95	6.35	4.14	1.27	10.17

Cable Construction



Center Conductor: Silver Plated Copper Clad Steel

Dielectric: Solid PTFE

Outer Shield: Copper braid, tin soaked

Jacket: FEP, Blue (Unjacketed cable also available upon request)

SMA Male Connector: Coupling Nut: Stainless Steel Passivated
Body: Stainless Steel Gold Plated
Center Pin: Silver Plated Copper Clad Steel

SMA Female Bulkhead Connector: Body & Hex Nut: Stainless Steel, Gold Plated
Center Contact: Beryllium copper Gold Plated

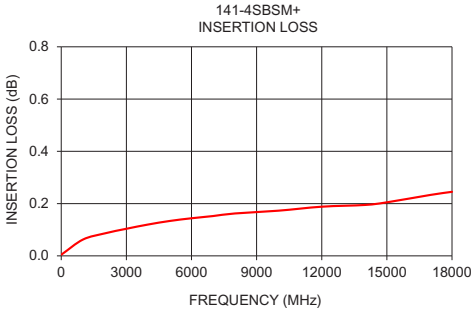
Electrical Specifications at 25°C

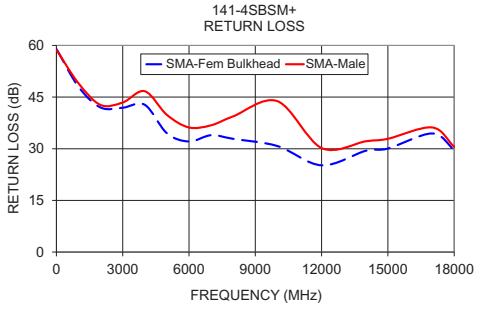
Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Length[2]			4		inches
Insertion Loss	DC - 2	—	0.05	0.20	dB
	2 - 6	—	0.11	0.40	
	6 - 10	—	0.16	0.50	
	10 - 18	—	0.21	0.70	
Return Loss	DC - 2	23	42	—	dB
	2 - 6	23	40	—	
	6 - 10	17	39	—	
	10 - 18	17	32	—	

1. Unjacketed cable also available upon request.
2. Custom sizes available, consult factory.

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA-Female Bulkhead	SMA-Male
10	0.00	58.89	58.65
1000	0.06	48.00	49.00
2000	0.09	41.97	42.70
3000	0.10	41.92	43.43
4000	0.12	42.75	46.70
5000	0.13	34.50	39.83
6000	0.14	32.10	36.18
7000	0.15	33.93	36.82
8000	0.16	32.87	39.40
10000	0.17	30.78	43.81
12000	0.19	25.18	30.20
14000	0.19	29.41	32.17
15000	0.20	30.05	32.89
17000	0.23	34.43	36.19
18000	0.25	29.68	30.56





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/MCLStore/terms.jsp