NON-CATALOG

FLEX TEST™ E-Z Lock

Interconnect Cable

QBL Series

50Ω DC to 18 GHz

CASE STYLE: GM1530-XX

XX= cable length in feet

The Big Deal

- Ideal for dense interconnect applications
- E-Z Lock mates with standard SMA connector
- Excellent electrical performance: 20 dB return loss to 18 GHz
- Ultra Rugged: Withstands 20K flex cycles and 20K insertions

Product Overview

The QBL Series Coaxial Cables include a E-Z Lock connector that mates securely with a standard female SMA connector with a simple sliding lock feature. These cables are ideal for use in dense interconnect applications where there are many SMA connectors in a small area such as an RF distribution panel. The QBL Series offers superior strain relief for lasting durability and flexibility for tight access locations. The FEP jacket supports operation to 105°C and protects a double shielded cable construction for minimum signal leakage.

Key Features

Feature	Advantages
E-Z Lock Feature	The E-Z Lock system is simple as Push, Slide and Click to make a repeatable RF connection.
Mate with Standard SMA Connectors	The unique design of the QBL E-Z Lock connector mates directly with a standard female SMA connector. The white bronze plated brass fingers are designed to tightly grip the SMA threads while the center conductor and guide structure make a secure connection to 18 GHz.
Excellent Return loss	Supporting 25 dB return loss at 6 GHz and 19 dB up to 18 GHz, the QBL-N Series are ideally suited for testing a wide range of RF equipment while minimizing measurement degradation due to affects of VSWR interactions.
Good Power Handling Capability	Capable of withstanding RF power of 270 Watts at 1 GHz and 47 Watts at 18 GHz (at sea level), the QBL-N Series are a great fit for a wide variety of test and installation applications.
Super Rugged	Tested without performance degradation to over 20,000 flex cycles (flexed to stress both the cable and strain relief) the QBL-N Series cables are ideal for a wide variety of test applications.

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

NON-CATALOG

FLEX TEST™ E-Z Lock

Interconnect Cable

50Ω 6FT DC to 18 GHz

QBL6SMQ-SM+

CASE STYLE: GM1526-6

Connectors		Model
Conn1	**Conn2**	
SMA-Male E-Z Lock	**SMA-Male**	QBL6SMQ-SM+

+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,	270W	at	1 GHz
Sea Level	180W	at	2 GHz
	120W	at	4 GHz
	62W	at	12 GHz
	47W	at	18 GHz

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

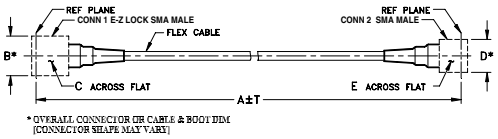
Features

- E-Z Lock connector on one end for easy mating & demating
- extra rugged construction with strain relief for longer life
- stainless steel SMA connector for long mating-cycle life
- useful over temperature range, -55°C to 105°C
- double shield cable for excellent shielding effectiveness
- flexible for easy connection & bend
- excellent stability of insertion loss, VSWR & phase after thousands of flex cycles
- 6 month guarantee*

Applications

- dense RF connect
- commercial and military systems to 18 GHz
- multi-port telecom systems

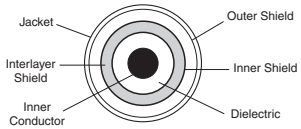
Outline Drawing



Outline Dimensions (inch / mm)

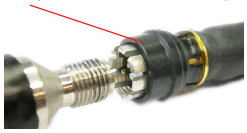
A		B	C	D	E	T		wt
Feet	Meters	.43	--	.36	.312	Inches	mm	grams
6.00	1.83	10.92	--	9.14	7.92	+1.44/-0	+36.6/-0	94

Cable Cross Section



Cable Construction	
Inner Conductor	Solid Silver Plated Copper
Dielectric	Solid PTFE
Shield	Silver-Plated Copper tape under Silver-Plated Copper Braid
Jacket	Blue FEP
Connectors (SMA)	
• passivated stainless steel (coupling nut) • captive contact • gold plated brass center contacts • PTFE dielectric	
E-Z Lock SMA	
• body & outer contact: gold-plated brass • center contact: gold-plated CuBe • PTFE dielectric • clamping piece: white bronze plated brass • sleeve: POM	

sliding locking sleeve, retracted to the open position



locking sleeve closed and in locked position, securing the SMA connection

Product Guarantee*

Mini-Circuits® will repair or replace your test cable at its option if the connector attachment fails within six months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.

Electrical Specifications at 25°C

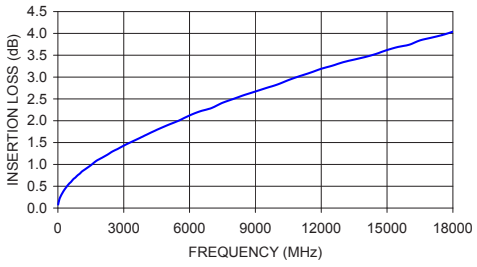
Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length			6		Ft
Insertion Loss	DC - 2	—	0.7	1.5	dB
	2 - 6	—	1.4	2.8	
	6 - 12	—	2.4	4.2	
	12 - 18	—	3.1	4.8	
Return Loss	DC - 2	20	41	—	dB
	2 - 6	20	36	—	
	6 - 12	15	27	—	
	12 - 18	15	25	—	

Custom sizes available, consult factory.

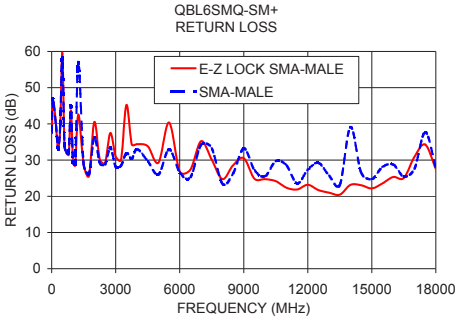
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		E-Z Lock SMA-M	SMA-MALE
10	0.08	37.5	37.6
1000	0.79	29.5	29.3
2000	1.15	40.5	36.3
4000	1.67	34.4	33.0
5500	2.00	40.4	33.0
6500	2.22	27.4	25.3
7000	2.29	35.2	34.2
7500	2.41	30.1	33.2
8500	2.59	28.6	26.3
9500	2.75	24.9	27.2
10500	2.93	24.2	29.7
12500	3.26	21.7	29.2
14000	3.46	23.1	39.1
15000	3.62	22.2	24.7
18000	4.04	27.5	27.9

QBL6SMQ-SM+
INSERTION LOSS



QBL6SMQ-SM+
RETURN LOSS



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

Flex Test, E-Z Lock SMA-M to SMA-M

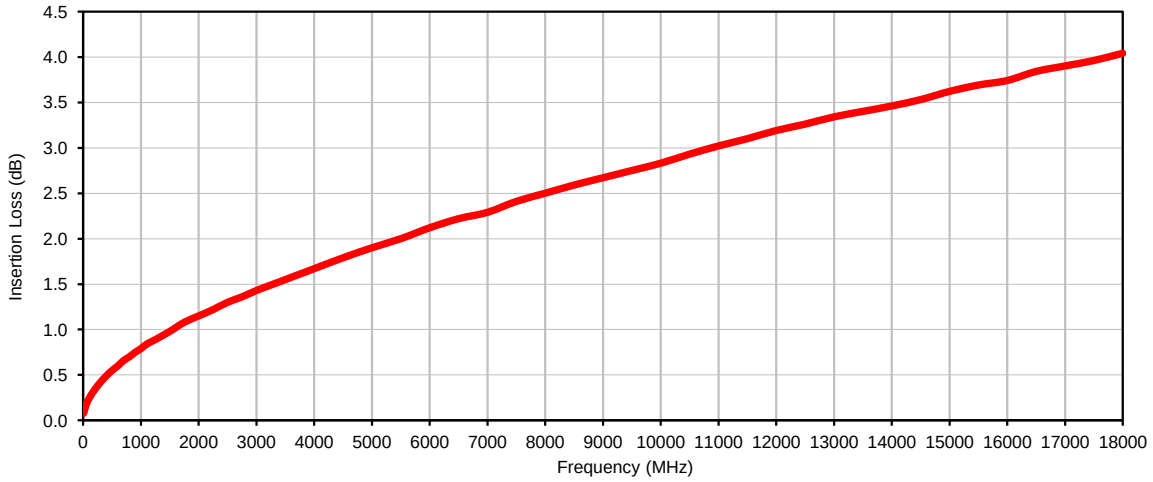
Test Cable QBL6SMQ-SM+

Typical Performance Data

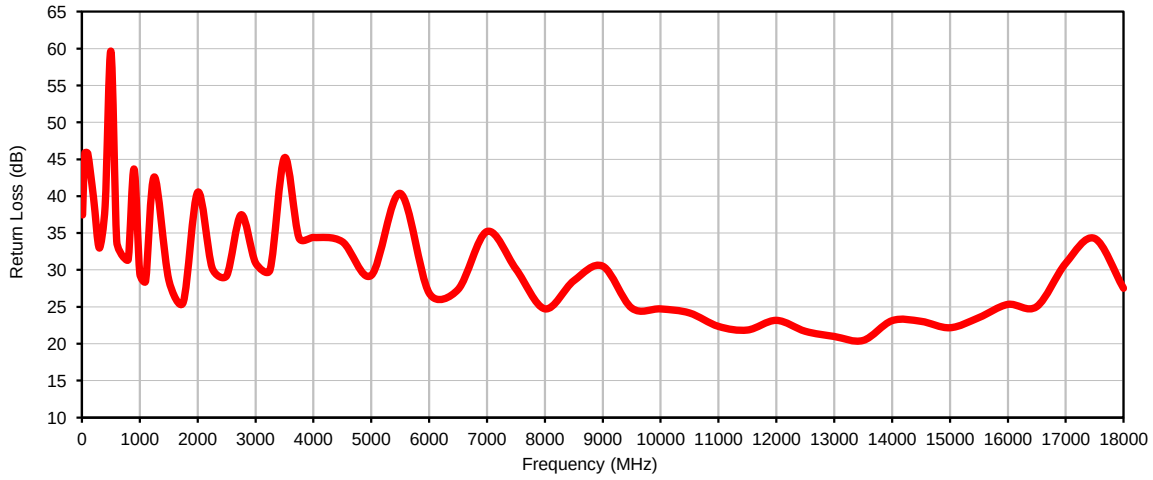
FREQUENCY (MHz)	INSERTION LOSS (dB)	E-Z Lock SMA-MALE RETURN LOSS (dB)	SMA-MALE RETURN LOSS (dB)
10.0	0.08	37.5	37.6
50.0	0.17	45.8	46.7
100.0	0.24	45.8	45.0
200.0	0.34	39.8	39.6
300.0	0.42	33.0	33.1
400.0	0.49	38.6	39.2
500.0	0.55	59.6	58.4
600.0	0.60	33.9	33.9
700.0	0.66	31.9	32.1
800.0	0.70	31.4	31.8
900.0	0.75	43.7	45.1
1000.0	0.79	29.5	29.3
1100.0	0.84	28.5	28.8
1250.0	0.89	42.6	57.1
1500.0	0.98	28.7	28.8
1750.0	1.08	25.6	26.0
2000.0	1.15	40.5	36.3
2250.0	1.22	30.3	29.2
2500.0	1.30	29.2	28.8
2750.0	1.36	37.5	33.4
3000.0	1.43	31.0	28.2
3250.0	1.49	30.0	28.5
3500.0	1.55	45.2	31.9
3750.0	1.61	34.4	30.3
4000.0	1.67	34.4	33.0
4500.0	1.79	33.8	29.7
5000.0	1.90	29.3	26.0
5500.0	2.00	40.4	33.0
6000.0	2.12	26.9	26.6
6500.0	2.22	27.4	25.3
7000.0	2.29	35.2	34.2
7500.0	2.41	30.1	33.2
8000.0	2.50	24.7	23.5
8500.0	2.59	28.6	26.3
9000.0	2.67	30.5	33.2
9500.0	2.75	24.9	27.2
10000.0	2.83	24.7	25.6
10500.0	2.93	24.2	29.7
11000.0	3.02	22.4	28.5
11500.0	3.10	21.9	23.6
12000.0	3.19	23.2	27.3
12500.0	3.26	21.7	29.2
13000.0	3.34	21.0	25.7
13500.0	3.40	20.5	23.1
14000.0	3.46	23.1	39.1
14500.0	3.53	23.1	26.6
15000.0	3.62	22.2	24.7
15500.0	3.69	23.6	28.1
16000.0	3.74	25.3	28.8
16500.0	3.84	25.0	25.4
17000.0	3.90	30.9	27.6
17500.0	3.96	34.3	37.7
18000.0	4.04	27.5	27.9

Typical Performance Curves

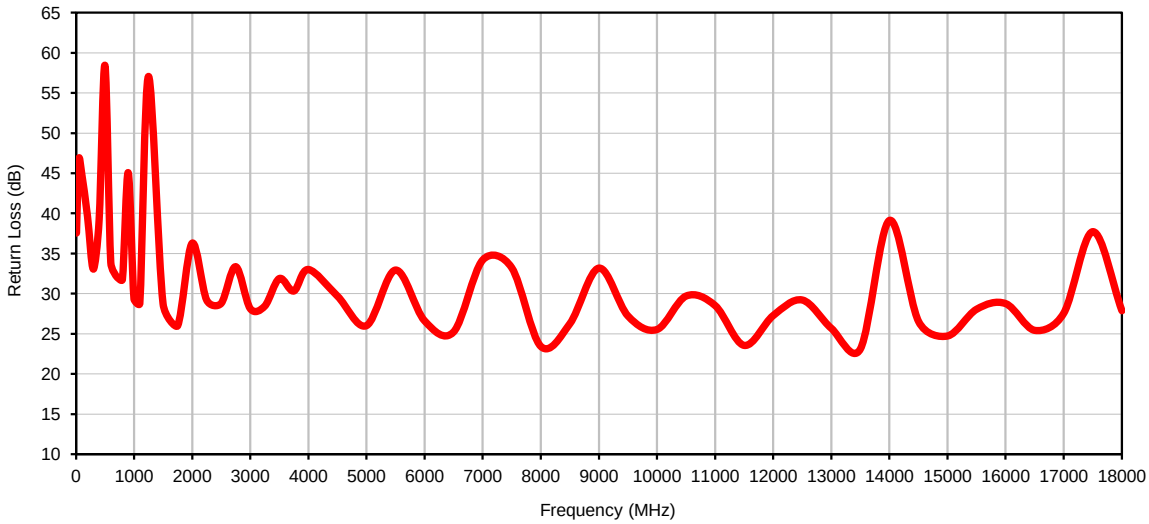
Insertion Loss



E-Z Lock SMA-Male Return Loss



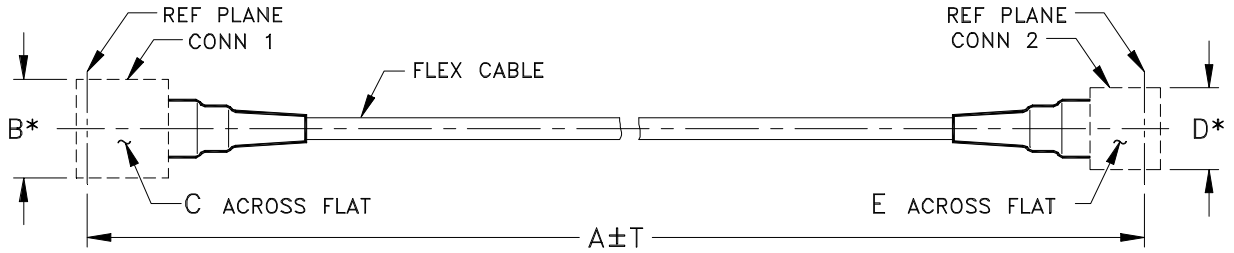
SMA-Male Return Loss



Case Style GM

GM1526

Outline Dimensions



*** OVERALL CONNECTOR OR CABLE & BOOT DIM**
[CONNECTOR SHAPE MAY VARY]

GM1526 SERIES
E-Z LOCK SMA MALE (CONN-1)
SMA MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					INCHES	MM	
GM1526-.33	.33	.10	.43 (10.92)	- -	.36 (9.14)	.312 (7.92)	+.50/-0	+12.7/-0	17
GM1526-.67	.67	.20					+.50/-0	+12.7/-0	22
GM1526-1.0	1.00	.30					+.50/-0	+12.7/-0	26
GM1526-1.5	1.50	.46					+.50/-0	+12.7/-0	33
GM1526-1.64	1.64	.50					+.50/-0	+12.7/-0	35
GM1526-2	2.00	.61					+.50/-0	+12.7/-0	40
GM1526-3	3.00	.91					+.72/-0	+18.3/-0	53
GM1526-3.28	3.28	1.00					+.79/-0	+20.0/-0	57
GM1526-4	4.00	1.22					+.96/-0	+24.4/-0	67
GM1526-5	5.00	1.52					+1.20/-0	+30.5/-0	81
GM1526-6	6.00	1.83					+1.44/-0	+36.6/-0	94
GM1526-6.56	6.56	2.00					+1.57/-0	+40.0/-0	102
GM1526-18	18.00	5.49					+4.32/-0	+109.7/-0	257

Unless otherwise specified dimensions are in inches (mm).
Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. Flexible Coaxial Cable.

Mini-Circuits®
INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified

This document and its contents are the property of Mini-Circuits.

Mini-Circuits

Environmental Specifications ENV34

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 105°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except -105°C
Mechanical Flexing	20,000 cycles During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches	- - -

This document and its contents are the property of Mini-Circuits.