QBL Series



CASE STYLE: GM1530-XX

XX= cable length in feet

 50Ω DC to 18 GHz

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.ninicircuits.com/MCLStore/terms.jsp

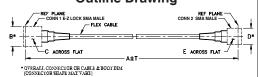
Interconnect Cable

DC to 18 GHz

Maximum Ratings

maximum maring	_		
Operating Temperature	-55	5°C	to 105°C
Storage Temperature	-55	5°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
			18 GHz
Permanent damage may occur if an	v of thece I	imite	are exceeded

Outline Drawing



Outline Dimensions (inch)

	A	В	С	D	Ε		Т	wt
Feet	Meters	.43		.36	.312	Inches	mm	grams
2.00	0.61	10.92		9.14	7.92	+.50/-0	+12.7/-0	40

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.

- · 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
- · double shield cable for excellent shielding effectiveness
- flexible for easy connection & bend
- thousands of flex cycles
- · 6 month guarantee*

- useful over temperature range, -55°C to 105°C

- excellent stability of insertion loss, VSWR & phase after

CASE STYLE: GM1526-2

Connectors		Model
Conn1	Conn2	
SMA-Male E-Z Lock	SMA-Male	QBL2SMQ-SM+

QBL2SMQ-SM+

+RoHS Compliant

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

Applications

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

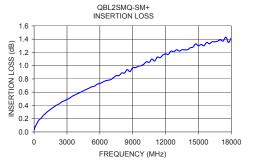
Electrical Specifications at 25°C

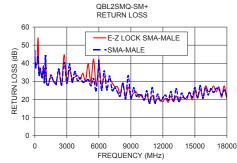
Parameter	Condition (GHz)	Min.	Тур.	Max.	Units	
Frequency Range		DC		18	GHz	
Length			2		Ft	
	DC - 2	_	0.2	0.6		
Innertical con	2 - 6	_	0.5	1.2	dB	
Insertion Loss	6 - 12	_	0.8	1.7		
	12 - 18	_	1.1	2.0		
	DC - 2	20	34	_		
Datum Lasa	2 - 6	20	31	_	dB	
Return Loss	6 - 12	15	32	_	ub	
	12 - 18	15	26	_		

Custom sizes available, consult factory.

Typical Performance Data

	* 1			
Frequency (MHz)	Insertion Loss R (dB)		Loss 3)	
		E-Z Lock SMA-M	SMA-MALE	
10	0.03	46.7	46.9	
100	0.08	39.5	39.0	
1000	0.27	42.4	44.1	
2000	0.40	28.0	28.4	
5000	0.66	39.6	30.9	
6000	0.73	41.1	41.7	
7000	0.79	31.3	33.0	
8000	0.89	23.2	21.9	
9000	0.97	21.6	20.5	
10000	1.02	22.8	22.1	
12000	1.18	18.7	20.8	
14000	1.24	21.0	20.6	
15000	1.30	25.1	26.6	
16000	1.33	27.5	26.3	
18000	1.42	19.9	21.1	





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Test Cable QBL2SMQ-SM+

Typical Performance Data

FREQUENCY	INSERTION LOSS	E-Z Lock SMA-MALE	SMA-MALE
		RETURN LOSS	RETURN LOSS
(MHz)	(dB)	(dB)	(dB)
10.0	0.03	46.7	46.9
50.0	0.06	38.6	38.3
100.0	0.08	39.5	39.0
200.0	0.11	39.3	39.5
300.0	0.14	54.0	43.4
400.0	0.17	33.4	33.4
500.0	0.19	37.4	37.2
600.0	0.20	33.9	33.7
700.0	0.22	32.1	32.1
800.0	0.24	38.6	37.9
900.0	0.26	29.3	29.3
1000.0	0.27	42.4	44.1
1100.0	0.29	28.8	28.7
1250.0	0.31	27.9	27.9
1500.0	0.34	32.3	33.4
1750.0	0.37	30.0	30.2
2000.0	0.40	28.0	28.4
2250.0	0.42	36.0	36.9
2500.0	0.45	27.9	27.9
2750.0	0.47	44.6	40.3
3000.0	0.49	29.4	28.9
3250.0	0.51	36.4	39.4
3500.0	0.54	31.6	29.6
3750.0	0.56	32.4	35.5
4000.0	0.58	33.3	30.3
4500.0	0.62	34.5	29.6
5000.0	0.66	39.6	30.9
5500.0	0.69	42.2	31.5
6000.0	0.73	41.1	41.7
6500.0	0.77	32.5	35.8
7000.0	0.79	31.3	33.0
7500.0	0.85	27.2	26.6
8000.0	0.89	23.2	21.9
8500.0	0.94	21.3	20.2
9000.0	0.97	21.6	20.5
9500.0	0.99	24.2	22.0
10000.0	1.02	22.8	22.1
10500.0	1.05	22.5	24.7
11000.0	1.07	22.3	26.6
11500.0	1.12	20.7	22.9
12000.0	1.18	18.7	20.8
12500.0	1.22	18.4	19.6
13000.0	1.24	18.8	19.2
13500.0	1.24	18.7	18.9
14000.0	1.24	21.0	20.6
14500.0	1.28	24.0	23.8
15000.0	1.30	25.1	26.6
15500.0	1.30	25.3	27.6
16000.0	1.33	27.5	26.3
16500.0	1.36	25.1	25.9
17000.0	1.39	24.3	26.1
17500.0	1.43	21.2	22.4
18000.0	1.42	19.9	21.1

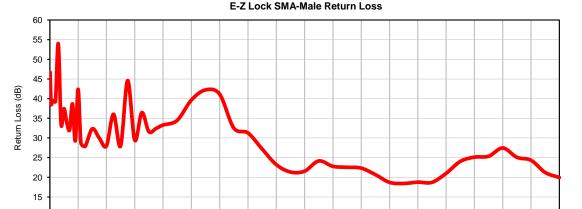




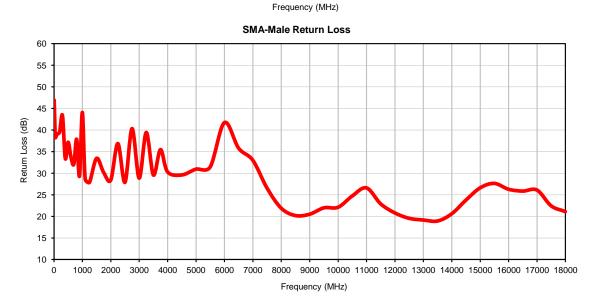
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Typical Performance Curves





1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000 18000



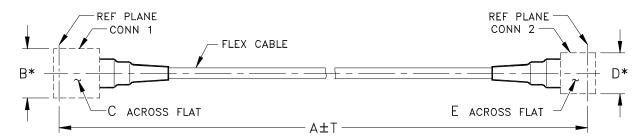




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GM1526

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	D	p C D E		B C D E		Т	T	
CASE STYLE #	FEET	METERS	В	C	D	E	INCHES	MM	GRAMS	
GM152633	.33	.10					+.50/-0	+12.7/-0	17	
GM152667	.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	.43 (10.92)	-	36 - (9.14)	.312 (7.92)	+.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. \pm .03; 3Pl. \pm .015

Note:

1. Flexible Coaxial Cable.

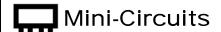


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Mini-Circuits ISO 9001 & ISO 14001 Certified



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	

ENV34 Rev: 07/06/06 File: ENV34.pdf