

# Interconnect Cable

## QBL1MSMQ-NM+

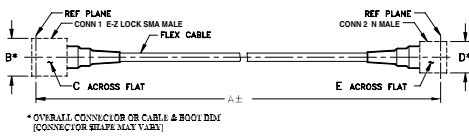
50Ω 1M DC to 18 GHz

### 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.

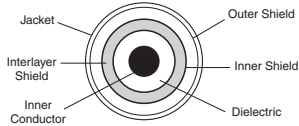
### Outline Drawing



### Outline Dimensions (inch/mm)

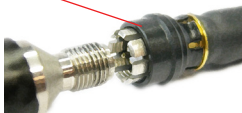
A	B	C	D	E	T	wt
Feet	Meters	0.43	--	0.85	0.787	Inches
						mm
3.28	1.00	10.92	--	21.59	19.99	+0.79/-0
						+20/-0
						grams
						85

### 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 (N)	
<ul style="list-style-type: none"> <li>passivated stainless steel (coupling nut)</li> <li>captive contact</li> <li>gold plated brass center contacts</li> <li>PTFE dielectric</li> </ul>	
E-Z Lock SMA	
<ul style="list-style-type: none"> <li>body &amp; outer contact: gold-plated brass</li> <li>center contact: gold-plated CuBe</li> <li>PTFE dielectric</li> <li>clamping piece: white bronze plated brass</li> <li>sleeve: POM</li> </ul>	

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.

### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

### Features

- E-Z Lock connector on one end for easy mating & demating
- extra rugged construction with strain relief for longer life
- stainless steel N 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



CASE STYLE: GM1530-3.28

Connectors	Model	Price	Qty.
Conn1 SMA-Male E-Z Lock	Conn2 N-Male	QBL1MSMQ-NM+	Contact Sales Dept

### +RoHS Compliant

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

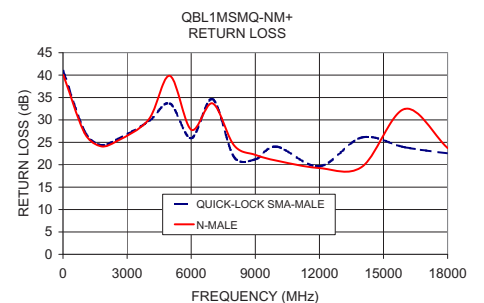
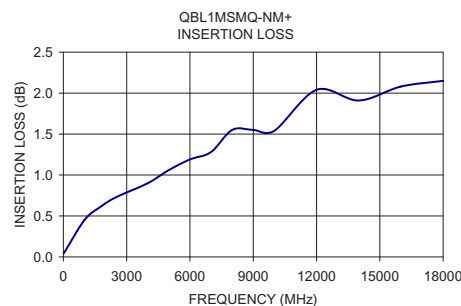
### Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length			1		M
Insertion Loss	DC - 2	—	0.4	1.0	
	2 - 6	—	0.8	1.8	dB
	6 - 12	—	1.4	2.5	
Return Loss	DC - 2	20	38	—	
	2 - 6	20	30	—	dB
	6 - 12	13.5	29	—	
	12 - 18	13.5	25	—	

Custom sizes available, consult factory.

### Typical Performance Data

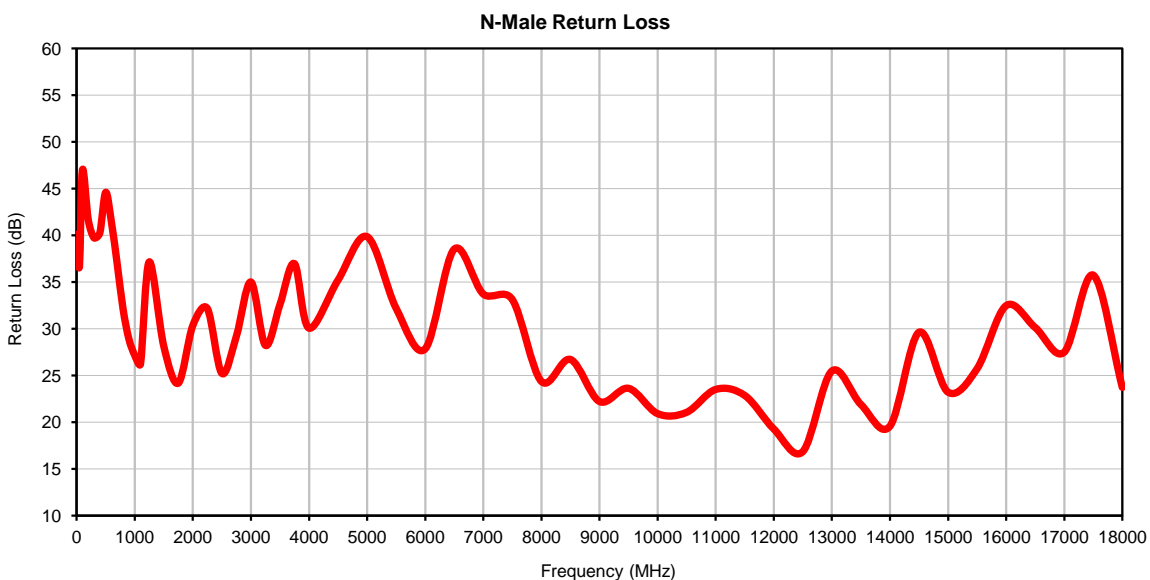
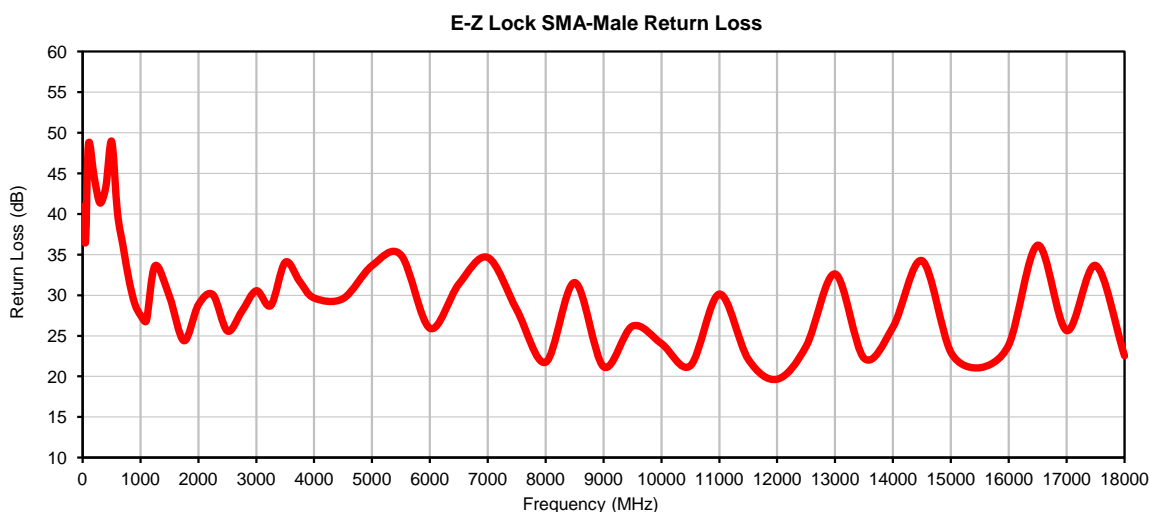
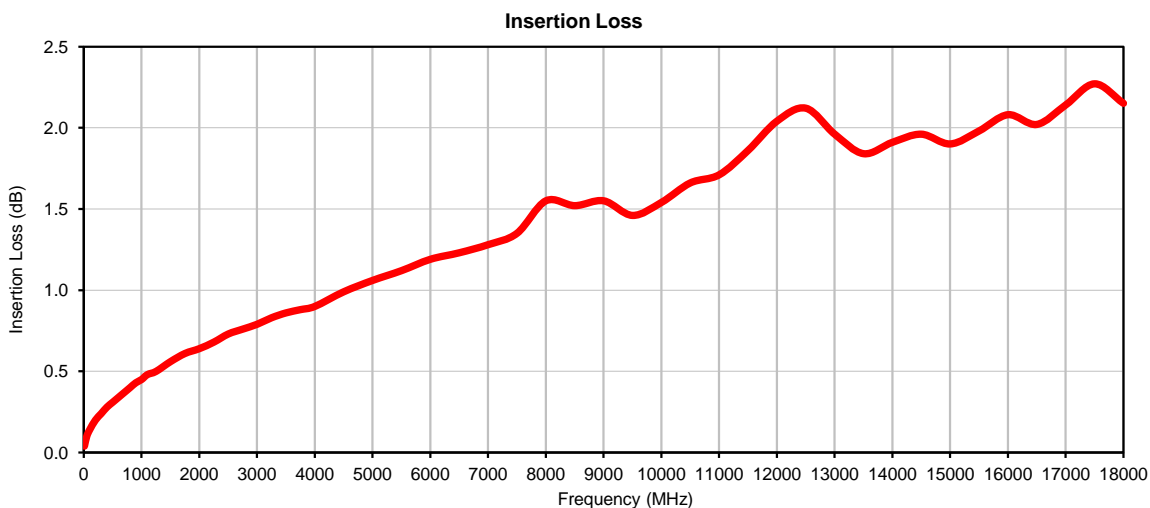
Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		E-Z Lock SMA-M	N-MALE
10.0	0.04	41.0	40.1
1000.0	0.45	27.5	27.2
1750.0	0.61	24.4	24.2
2500.0	0.73	25.6	25.2
4000.0	0.90	29.7	30.1
5000.0	1.06	33.7	39.8
6000.0	1.19	25.9	27.8
7000.0	1.28	34.6	33.7
8000.0	1.55	21.8	24.4
9000.0	1.55	21.2	22.2
10000.0	1.54	24.0	20.9
12000.0	2.04	19.7	19.3
14000.0	1.91	26.1	19.6
16000.0	2.08	23.9	32.5
18000.0	2.15	22.5	23.7



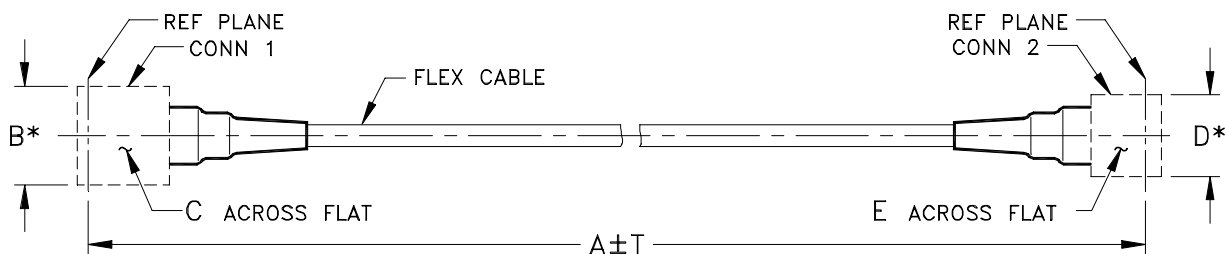
*Typical Performance Data*

FREQUENCY (MHz)	INSERTION LOSS (dB)	E-Z Lock SMA-MALE RETURN LOSS (dB)	N-MALE RETURN LOSS (dB)
10.0	0.04	41.0	40.1
50.0	0.10	36.6	36.7
100.0	0.14	48.6	47.0
200.0	0.20	44.5	41.7
300.0	0.24	41.4	39.7
400.0	0.28	43.4	40.3
500.0	0.31	49.0	44.6
600.0	0.34	40.2	41.4
700.0	0.37	35.9	36.9
800.0	0.40	31.9	32.1
900.0	0.43	28.9	28.9
1000.0	0.45	27.5	27.2
1100.0	0.48	26.9	26.2
1250.0	0.50	33.6	37.1
1500.0	0.56	29.8	28.1
1750.0	0.61	24.4	24.2
2000.0	0.64	28.8	30.3
2250.0	0.68	30.1	32.2
2500.0	0.73	25.6	25.2
2750.0	0.76	28.0	29.2
3000.0	0.79	30.6	35.0
3250.0	0.83	28.7	28.2
3500.0	0.86	34.1	32.6
3750.0	0.88	31.7	37.0
4000.0	0.90	29.7	30.1
4500.0	0.99	29.6	35.2
5000.0	1.06	33.7	39.8
5500.0	1.12	34.9	32.2
6000.0	1.19	25.9	27.8
6500.0	1.23	31.4	38.5
7000.0	1.28	34.6	33.7
7500.0	1.35	28.2	33.1
8000.0	1.55	21.8	24.4
8500.0	1.52	31.6	26.7
9000.0	1.55	21.2	22.2
9500.0	1.46	26.2	23.6
10000.0	1.54	24.0	20.9
10500.0	1.66	21.3	21.0
11000.0	1.71	30.1	23.5
11500.0	1.86	22.1	22.9
12000.0	2.04	19.7	19.3
12500.0	2.12	23.7	16.8
13000.0	1.96	32.6	25.5
13500.0	1.84	22.2	21.9
14000.0	1.91	26.1	19.6
14500.0	1.96	34.3	29.6
15000.0	1.90	23.0	23.2
15500.0	1.98	21.1	25.7
16000.0	2.08	23.9	32.5
16500.0	2.02	36.2	30.1
17000.0	2.14	25.6	27.5
17500.0	2.27	33.7	35.7
18000.0	2.15	22.5	23.7

Typical Performance Curves



### Outline Dimensions



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

GM1530 SERIES  
E-Z LOCK SMA MALE (CONN-1)  
N MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					INCHES	MM	
GM1530-1.5	1.50	.46	.43 (10.92)	- -	.85 (21.59)	.787 (19.99)	+ .50/-0	+12.7/-0	61
GM1530-1.64	1.64	.50					+ .50/-0	+12.7/-0	63
GM1530-2	2.00	.61					+ .50/-0	+12.7/-0	68
GM1530-3	3.00	.91					+ .72/-0	+18.3/-0	82
GM1530-3.28	3.28	1.00					+ .79/-0	+20.0/-0	85
GM1530-4	4.00	1.22					+ .96/-0	+24.4/-0	95
GM1530-6	6.00	1.83					+1.44/-0	+36.6/-0	122
GM1530-6.56	6.56	2.00					+1.57/-0	+40.0/-0	130

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

#### Note:

1. Flexible Coaxial Cable.



INTERNET <http://www.minicircuits.com>

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Mini-Circuits ISO 9001 & ISO 14001 Certified



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	- - -