NON-CATALOG

FLEX TEST™

Armored Test Cable

KBL-2M-PHS+

50Ω 2M DC to 40 GHz Phase Stable

CASE STYLE: MB1629-6.56

Connectors	Model
2.92mm Male	KBL-2M-PHS+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to +85°C		
Storage Temperature	-55°C to +85°C		
Power Handling at 25°C, Sea Level	39W	at	2 GHz
	10W	at	18 GHz
	6W	at	26.5 GHz
	3.5W	at	40 GHz
Coupling Nut Torque	1.09 N·M		

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

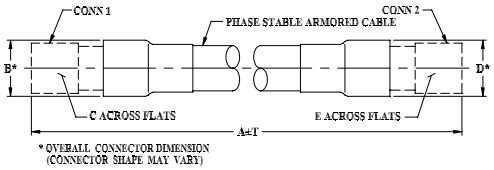
Features

- outstanding phase stability
- extra rugged construction includes protective shield and strain relief for longer life
- stainless steel 40 GHz connector for long mating-cycle life
- double shield cable for excellent shielding effectiveness
- 40 GHz connector mates with 2.92 mm, K[2], 3.5mm, SMA

Applications

- military and defense applications
- research & development labs

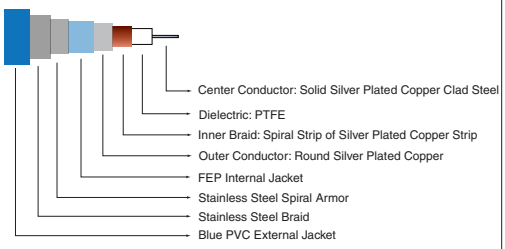
Outline Drawing



Outline Dimensions (inch / mm)

A		B	C	D	E	T		wt
Feet	Meters	.36	.312	.36	.312	Inch	mm	grams
6.56	2.00	9.14	7.92	9.14	7.92	+1.-57/-0	+40.0/-0	168

Cable Construction



Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		40	GHz
Length			2		M
Insertion Loss	DC - 6	—	3.54	4.1	dB
	6 - 18	—	6.32	7.7	
	18 - 26.5	—	8.11	9.6	
	26.5 - 40	—	10.25	12.2	
Return Loss	DC - 6	17	30	—	dB
	6 - 18	17	20	—	
	18 - 26.5	14	18	—	
	26.5 - 40	14	17	—	
Phase Change with Flexure[3]	DC - 6	—	0.5	—	Degree
	6 - 18	—	1.0	—	
	18 - 26.5	—	2.0	—	
	26.5 - 40	—	3.0	—	

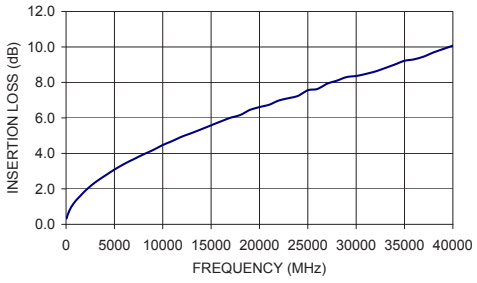
[2] *K Connector is a trademark of Anritsu*

[3] *Phase stability is defined as variation in phase (deg.) versus flexure wherein flexing of the cable is performed in a two-dimensional manner. When twisting the cable in three dimensions the variation in phase will be greater and a maximum value is not specified.*

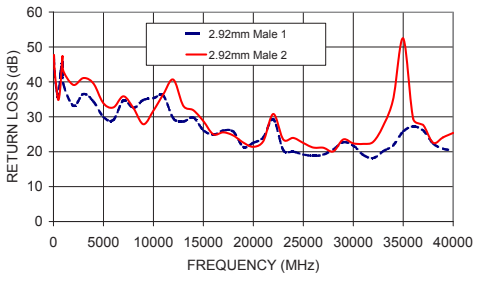
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		MALE 1	MALE 2
50.0	0.33	47.4	47.8
2000.0	1.90	33.1	39.1
4000.0	2.73	34.4	39.5
6000.0	3.40	29.1	32.7
10000.0	4.47	35.3	31.8
15000.0	5.58	26.2	28.8
18000.0	6.16	25.8	24.6
20000.0	6.61	22.6	21.4
26000.0	7.63	18.8	21.2
28000.0	8.10	20.6	20.1
30000.0	8.36	21.7	22.4
32000.0	8.62	18.2	22.8
36000.0	9.30	27.2	29.4
38000.0	9.69	22.4	22.6
40000.0	10.07	20.4	25.4

KBL-2M-PHS+
INSERTION LOSS



KBL-2M-PHS+
RETURN LOSS



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

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

40GHz Phase Stable Cable KBL-2M-PHS+

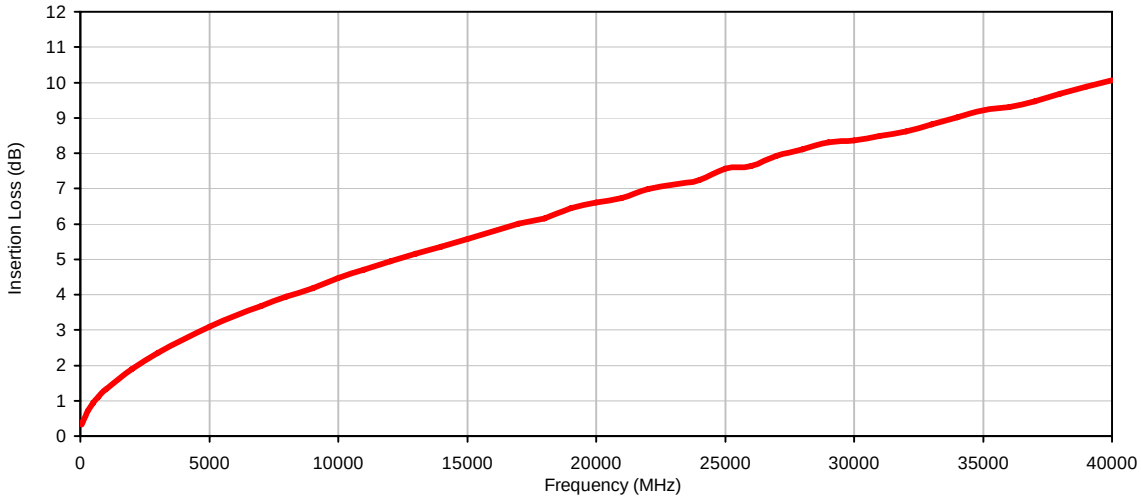
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	2.92mm MALE 1 RETURN LOSS (dB)	2.92mm MALE 2 RETURN LOSS (dB)
50.0	0.33	47.4	47.8
100.0	0.42	43.1	43.8
300.0	0.72	37.8	38.1
500.0	0.94	35.8	34.8
700.0	1.11	42.6	38.9
900.0	1.26	45.5	47.3
1000.0	1.33	39.3	43.1
2000.0	1.90	33.1	39.1
3000.0	2.36	36.5	41.1
4000.0	2.73	34.4	39.5
5000.0	3.09	30.0	33.9
6000.0	3.40	29.1	32.7
7000.0	3.67	34.7	35.9
8000.0	3.94	32.6	32.5
9000.0	4.19	34.8	27.9
10000.0	4.47	35.3	31.8
11000.0	4.70	36.0	36.5
12000.0	4.95	29.6	40.7
13000.0	5.15	28.7	33.1
14000.0	5.36	29.8	31.9
15000.0	5.58	26.2	28.8
16000.0	5.80	24.9	25.0
17000.0	6.01	26.1	25.6
18000.0	6.16	25.8	24.6
19000.0	6.45	21.4	22.6
20000.0	6.61	22.6	21.4
21000.0	6.74	24.1	23.0
22000.0	6.98	29.3	30.8
23000.0	7.11	20.4	23.5
24000.0	7.24	20.0	24.0
25000.0	7.56	19.2	22.5
26000.0	7.63	18.8	21.2
27000.0	7.93	19.2	21.2
28000.0	8.10	20.6	20.1
29000.0	8.30	22.7	23.5
30000.0	8.36	21.7	22.4
31000.0	8.48	19.1	22.2
32000.0	8.62	18.2	22.8
33000.0	8.81	20.2	27.4
34000.0	9.01	21.9	35.1
35000.0	9.22	25.8	52.5
36000.0	9.30	27.2	29.4
37000.0	9.46	26.1	27.7
38000.0	9.69	22.4	22.6
39000.0	9.88	20.9	24.1
40000.0	10.07	20.4	25.4

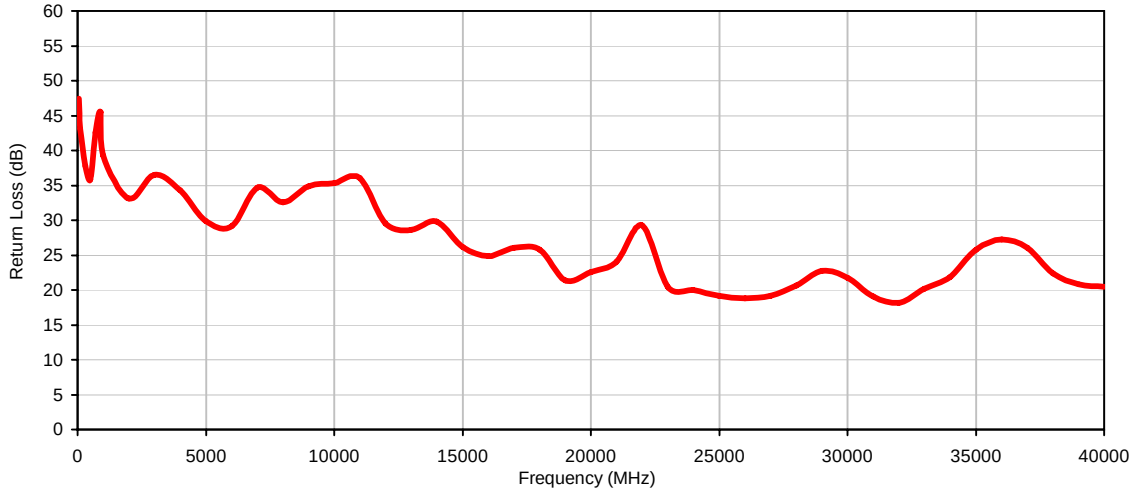
40GHz Phase Stable Cable KBL-2M-PHS+

Typical Performance Curves

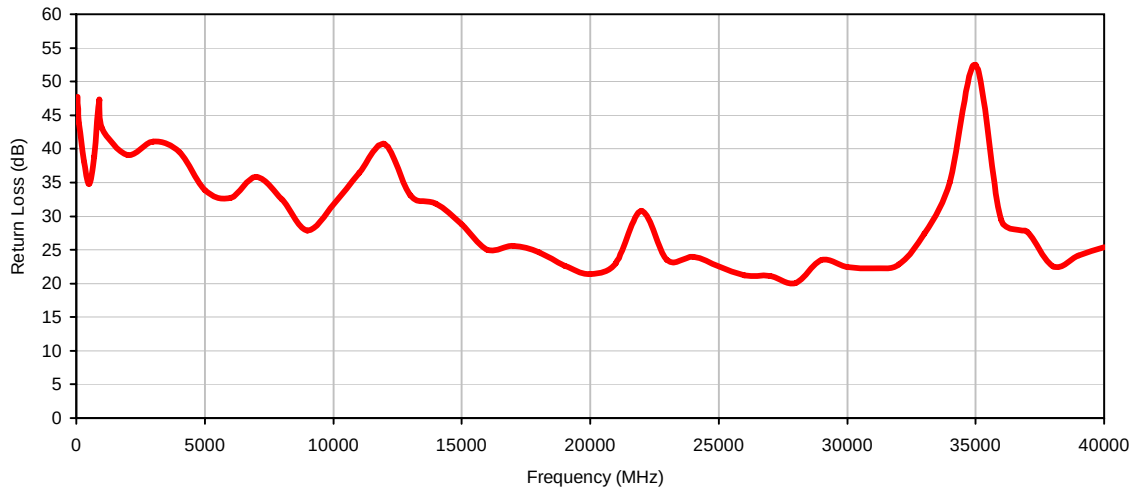
Insertion Loss



2.92mm-Male 1 Return Loss



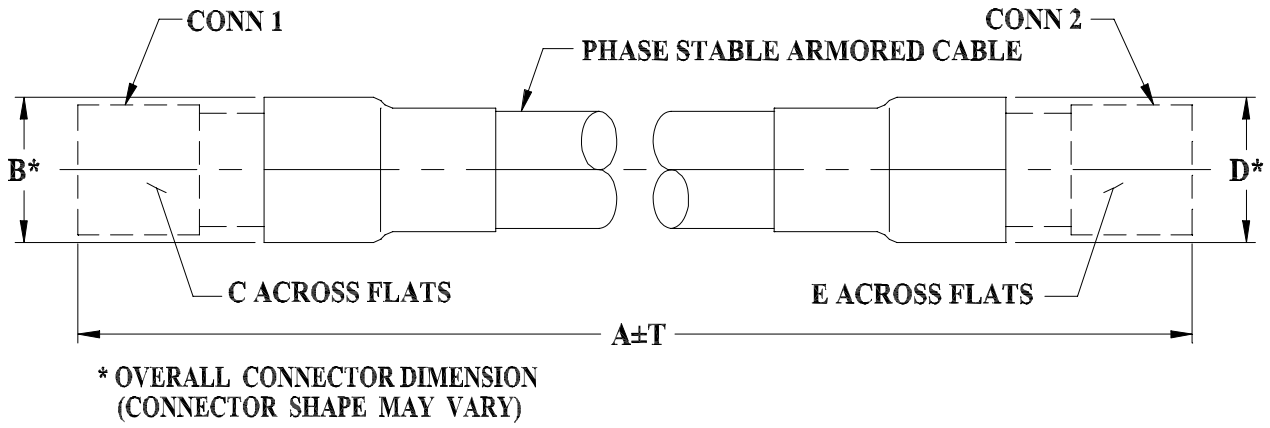
2.92mm-Male 2 Return Loss



Case Style MB

MB1629

Outline Dimensions



MB1629 SERIES
2.92mm K-MALE (CONN-1)
2.92mm K-MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					INCH	MM	
MB1629-1.5	1.50	.46	.36 (9.14)	.312 (7.92)	.36 (9.14)	.312 (7.92)	+.50/-0	+12.7/-0	58
MB1629-2	2.00	.61					+.50/-0	+12.7/-0	69
MB1629-3.28	3.28	1.00					+.79/-0	+20.0/-0	97
MB1629-4	4.00	1.22					+.96/-0	+24.4/-0	113
MB1629-6.56	6.56	2.00					+1.57/-0	+40.0/-0	168

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

Note:
1. Phase Stable Armored Flexible Cable.

Mini-Circuits®
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Environmental Specifications ENV60

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 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 85° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100° C, 100 cycles	MIL-STD-202, Method 107, Condition A-3
Mechanical Flexing	20,000 cycles During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches	- - -

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