Coaxial

Low Pass Filter

SLP-1650+

50Ω DC to 1400 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SLP-1650+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

Features

- good attenuation rate, 1.35 typ. 20dB/ 3dB BW ratio
- rugged shielded case
- other SLP models available with wide selection of cut-off frequencies

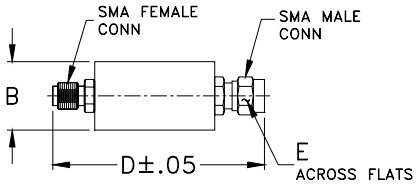
Applications

- lab use
- test equipment
- video equipment

Low Pass Filter Electrical Specifications

PASSBAND (MHz)	fco (MHz) Nom.	STOPBAND (MHz)		VSWR (:1)	
				Passband Typ.	Stopband Typ.
(loss < 1 dB)	(loss 3 dB)	(loss > 20 dB)	(loss > 40 dB)		
DC-1400	1650	2300-2900	2900-6000	1.3	18

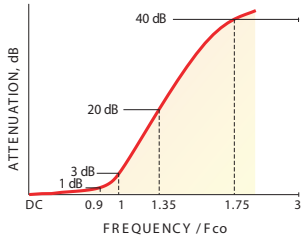
Outline Drawing



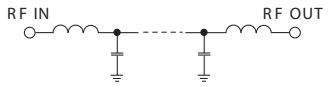
Outline Dimensions (inch / mm)

B	D	E	wt
.67	1.98	.312	grams
17.02	50.29	7.92	42.0

typical frequency response

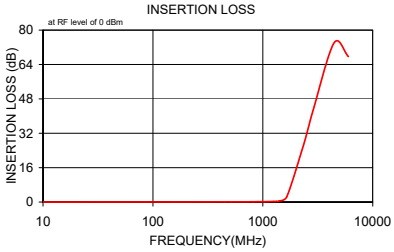


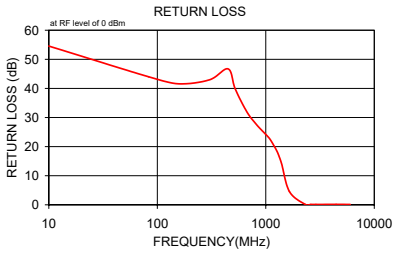
electrical schematic

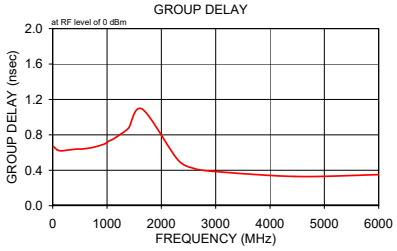


Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
10.00	0.01	0.00	54.57	10.00	0.67
83.15	0.03	0.00	44.01	83.15	0.63
156.31	0.04	0.00	41.59	156.31	0.62
302.63	0.07	0.01	42.96	302.63	0.63
448.94	0.09	0.01	46.71	448.94	0.64
522.10	0.10	0.01	39.86	522.10	0.64
668.42	0.11	0.01	31.98	668.42	0.65
814.73	0.14	0.01	27.73	814.73	0.67
961.05	0.17	0.01	24.86	961.05	0.70
1034.21	0.17	0.01	23.60	1034.21	0.73
1107.36	0.19	0.01	22.24	1107.36	0.75
1253.68	0.25	0.02	18.78	1253.68	0.81
1326.84	0.31	0.02	16.60	1326.84	0.84
1400.00	0.42	0.02	14.05	1400.00	0.88
1650.00	2.45	0.50	4.55	1650.00	1.09
2300.00	25.15	0.47	0.18	2300.00	0.52
2600.00	34.79	0.99	0.13	2600.00	0.42
2900.00	43.62	2.12	0.12	2900.00	0.39
4450.00	74.07	10.02	0.14	4450.00	0.33
6000.00	67.71	13.03	0.12	6000.00	0.35







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

Coaxial Low Pass Filter SLP-1650+

Typical Performance Data

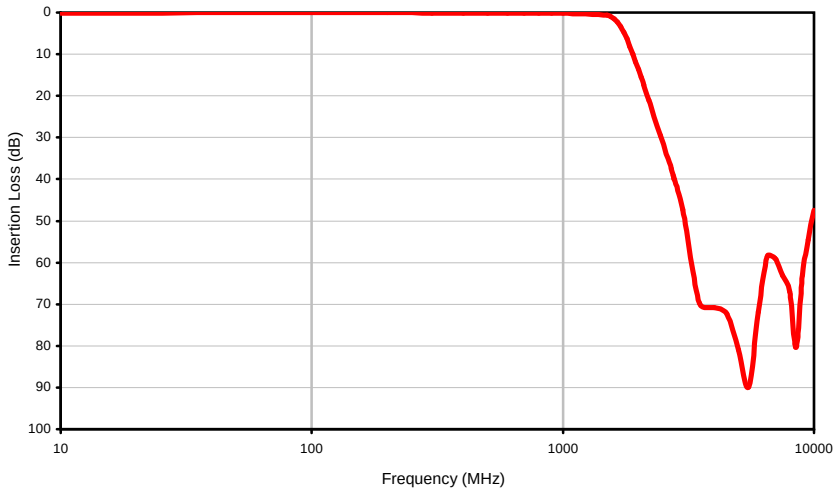
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
10.0	0.10	43.76
100.0	0.03	47.83
200.0	0.06	44.91
300.0	0.08	38.83
400.0	0.10	34.44
500.0	0.12	31.50
600.0	0.14	29.52
700.0	0.15	28.54
800.0	0.16	28.57
900.0	0.18	29.61
1000.0	0.19	31.24
1500.0	0.64	11.65
1550.0	0.96	9.07
1600.0	1.47	6.81
1650.0	2.26	4.95
1700.0	3.35	3.48
1750.0	4.73	2.43
1800.0	6.34	1.70
1850.0	8.09	1.22
1900.0	9.92	0.90
1950.0	11.81	0.70
2000.0	13.69	0.56
2050.0	15.56	0.48
2100.0	17.39	0.42
2200.0	20.99	0.32
2450.0	29.45	0.20
2700.0	37.51	0.13
2750.0	39.10	0.12
2770.0	39.74	0.12
2780.0	40.05	0.12
3000.0	47.25	0.08
3500.0	69.72	0.08
4000.0	70.81	0.08
4500.0	72.31	0.09
5000.0	80.97	0.10
5500.0	89.84	0.12
6000.0	71.88	0.16
6500.0	58.51	0.22
7000.0	58.98	0.23
7500.0	63.14	0.23
8000.0	66.96	0.21
8500.0	80.38	0.20
9000.0	63.02	0.20
9500.0	54.46	0.18
10000.0	47.48	0.16

FREQUENCY (MHz)	GROUP DELAY (nsec)
10.0	0.960
100.0	0.600
200.0	0.620
300.0	0.630
400.0	0.640
500.0	0.620
600.0	0.650
700.0	0.650
800.0	0.660
900.0	0.680
1000.0	0.710
1500.0	1.000
1550.0	1.050
1600.0	1.090
1650.0	1.100
1700.0	1.080
1750.0	1.030
1800.0	0.960
1850.0	0.880
1900.0	0.800
1950.0	0.740
2000.0	0.670
2050.0	0.630
2100.0	0.590
2200.0	0.530
2450.0	0.420
2700.0	0.370
2730.0	0.360
2740.0	0.360
2750.0	0.360
2780.0	0.360
3000.0	0.320
3500.0	0.010
4000.0	0.260
4500.0	0.290
5000.0	0.200
5500.0	0.760
6000.0	0.400
6500.0	0.710
7000.0	0.350
7500.0	0.180
8000.0	0.140
9000.0	0.160
9500.0	0.170
10000.0	0.170

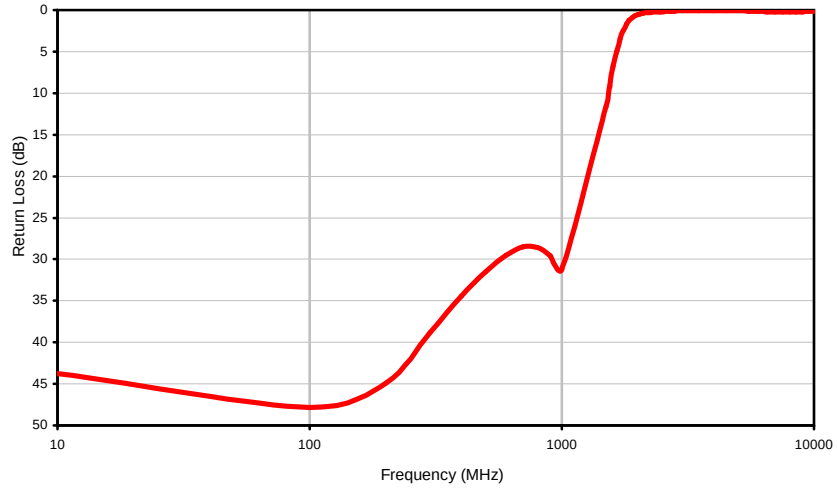
Coaxial Low Pass Filter SLP-1650+

Typical Performance Curves

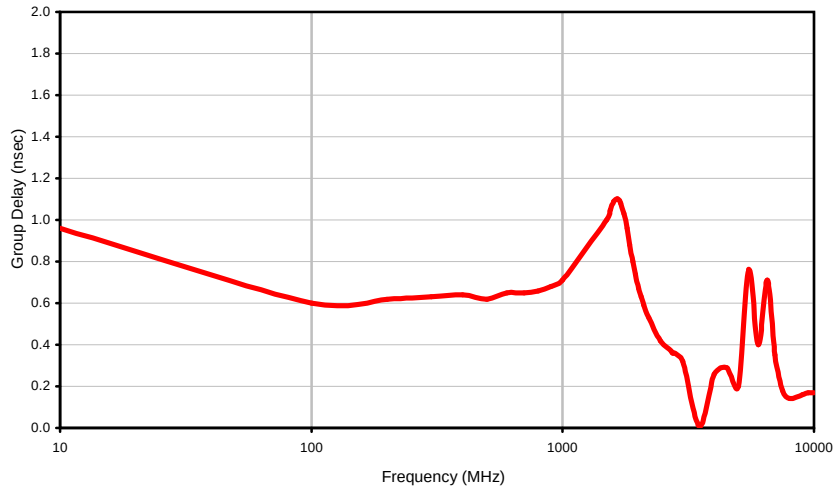
Insertion Loss



Return Loss

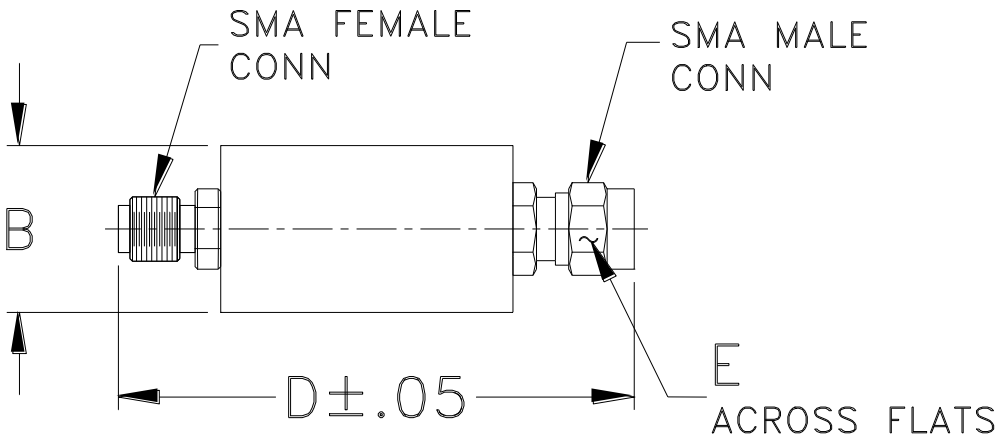


Group Delay



FF56
FF99

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF56	--	.46 (11.68)	--	1.70 (43.18)	.312 (7.92)	18.0
FF99	--	.70 (17.78)	--	1.98 (50.29)		42.0

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

Notes:
1. Case material: Brass.
2. Case finish: Nickel plate.

Mini-Circuits

Environmental Specifications ENV28

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 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I