

Miniature Surface Mount Fixed Attenuator

50Ω 0.5W 20dB DC to 2500 MHz

LAT-20+



CASE STYLE: MMM168

+RoHS Compliant

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



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 2000, 3000

Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C

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

Pin Connections

INPUT	4
OUTPUT	2
GROUND	1,3

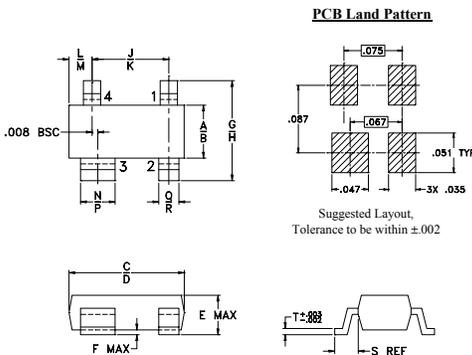
Features

- wideband, DC to 2500 MHz
- excellent VSWR, through entire band
- miniature size, SOT143 package
- aqueous washable

Applications

- cellular
- PCS
- ISM
- VHF/UHF

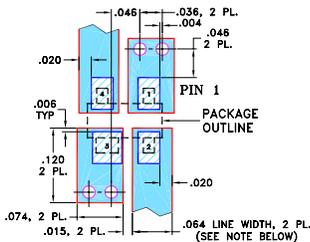
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.045	.055	.105	.120	.047	.005	.083	.104	.070	.080
L	M	N	P	Q	R	S	T	wt	
.018	.024	.030	.036	.015	.021	.023	.005	grams	
0.46	0.61	0.76	0.91	0.38	0.53	0.58	0.13	0.01	

Demo Board MCL P/N: TB-39 Suggested PCB Layout (PL-225)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Specifications at 25°C

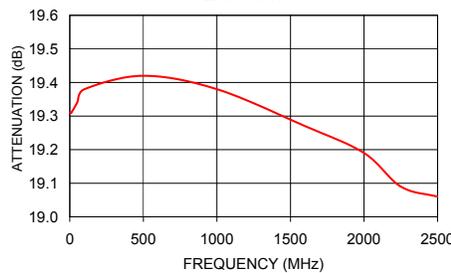
FREQ. RANGE (MHz)	ATTENUATION (dB) Flatness, Max.	VSWR (:1) Max.			MAX. INPUT POWER ¹ (W)
		DC-0.5 GHz	DC-1 GHz	DC-2.5 GHz	
f_L - f_U	Norm.	DC-0.5 GHz	DC-1 GHz	DC-2.5 GHz	
DC-2500	20±1.5	0.3	0.5	0.9	0.5

1. RF power at 25°C case temperature: ½Watt. Derate linearly to 0.2 Watt at 85°C.
2. Flatness= variation over band divided by 2

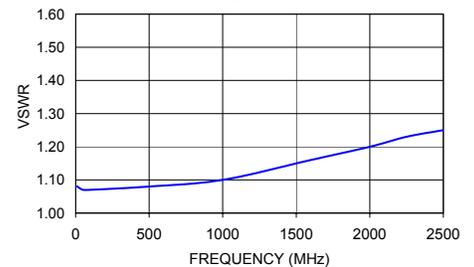
Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
1.00	19.31	1.08
10.00	19.31	1.08
50.00	19.34	1.07
100.00	19.38	1.07
500.00	19.42	1.08
1000.00	19.38	1.10
1600.00	19.27	1.16
2000.00	19.19	1.20
2250.00	19.09	1.23
2500.00	19.06	1.25

LAT-20+
ATTENUATION



LAT-20+
VSWR



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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.

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