

# Miniature Surface Mount Fixed Attenuator

50Ω 0.5W 12dB DC to 2500 MHz

## LAT-12+



### 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

CASE STYLE: MMM168  
PRICE: \$1.95 ea. QTY (20)

#### +RoHS Compliant

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

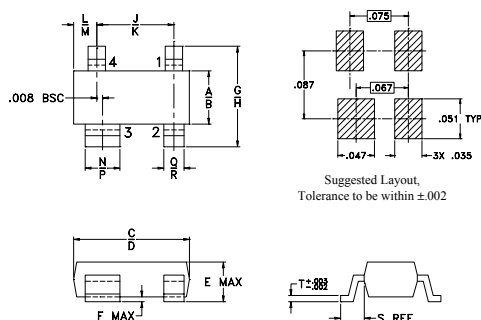


Available Tape and Reel  
at no extra cost

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

### Outline Drawing

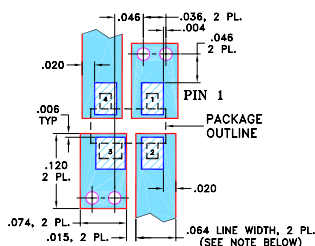
#### PCB Land Pattern



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.045	.055	.105	.120	.047	.005	.083	.104	.070	.080
1.14	1.40	2.67	3.05	1.19	0.13	2.11	2.64	1.78	2.03
L	M	N	P	Q	R	S	T		
.018	.24	.030	.036	.015	.021	.023	.005		
0.46	6.10	0.76	0.91	0.38	0.53	0.58	0.13		
								wt	
								grams	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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

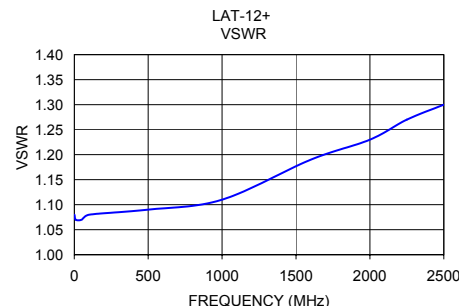
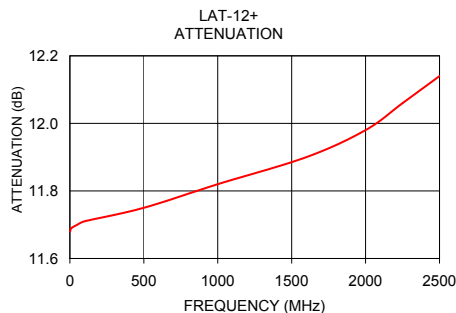
### Electrical Specifications at 25°C

FREQ. RANGE (MHz)	ATTENUATION (dB) Flatness, Max.			VSWR (:1) Max.			MAX. INPUT POWER <sup>1</sup> (W)	
	DC-0.5 GHz	DC-1 GHz	DC-2.5 GHz	DC-0.5 GHz	DC-1 GHz	DC-2.5 GHz		
f <sub>L</sub> -f <sub>U</sub>	Norm.							
DC-2500	12±0.8	0.3	0.5	0.8	1.3	1.4	1.6	0.5

1. RF power at 25°C case temperature: ½ Watt. 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	11.68	1.08
10.00	11.69	1.07
50.00	11.70	1.07
100.00	11.71	1.08
500.00	11.75	1.09
1000.00	11.82	1.11
1600.00	11.90	1.19
2000.00	11.98	1.23
2250.00	12.06	1.27
2500.00	12.14	1.30



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

For detailed performance specs  
& shopping online see web site

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](http://www.minicircuits.com/MCLStore/terms.jsp).

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