

# Miniature Ceramic Fixed Attenuator

## PAT-8+

50Ω 1W 8dB DC to 7000 MHz



Generic photo used for illustration purposes only

CASE STYLE: AF320

**+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" 1000

### Maximum Ratings

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

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

### Pin Connections

INPUT	1
OUTPUT	3
GROUND	2,4

### Features

- wideband, DC to 7000 MHz
- excellent VSWR, through entire band
- miniature size
- aqueous washable

### Applications

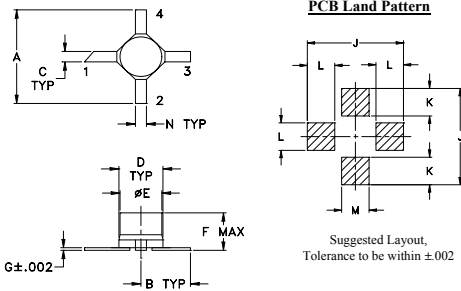
- power leveling
- impedance match improvement

### Electrical Specifications at 25°C

FREQ. RANGE (MHz)	ATTENUATION (dB) Flatness, Max.	VSWR (:1) Max.			MAX. INPUT POWER (W)
		DC-1 GHz	DC-2.5 GHz	DC-f <sub>u</sub> GHz	
f <sub>L</sub> -f <sub>u</sub>	Norm.	DC-1 GHz	DC-2.5 GHz	DC-f <sub>u</sub> GHz	
DC-7000	8±0.4	0.4	0.6	1.5	1

1. RF power at 25°C case temperature: 1 Watt. Derate linearly to 0.1 Watt at 100°C.

### Outline Drawing

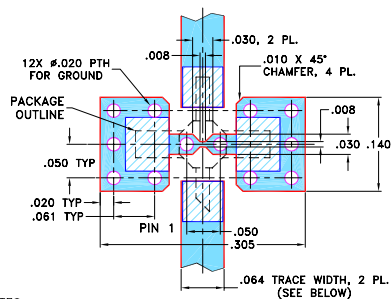


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.200	.100	.020	.070	.068	.057	.005
5.08	2.54	0.51	1.78	1.73	1.45	0.13
H	J	K	L	M	N	wt
--	.230	.065	.060	.080	.040	grams
--	5.84	1.65	1.52	2.03	1.02	0.04

### Demo Board MCL P/N: TB-319 Suggested PCB Layout (PL-208)



#### NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.

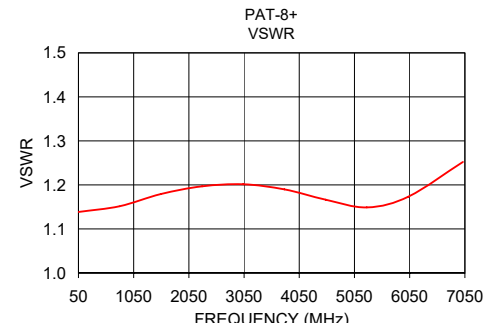
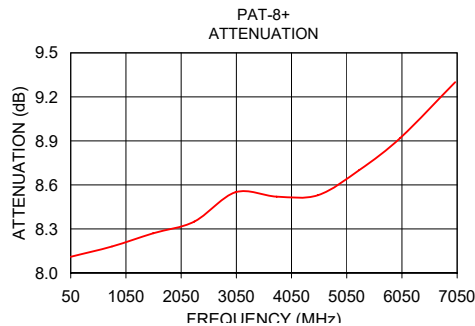
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- ▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

#### 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-Circuits' applicable established test performance criteria and measurement instructions.  
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### Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
50.00	8.11	1.14
796.25	8.18	1.15
1542.50	8.27	1.18
2288.75	8.35	1.20
3035.00	8.55	1.20
3781.25	8.52	1.19
4527.50	8.53	1.17
5273.75	8.70	1.15
6020.00	8.92	1.17
7015.00	9.30	1.25



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