

# Miniature Ceramic Fixed Attenuator

## PAT-4+

50Ω 1W 4dB DC to 7000 MHz

### 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



CASE STYLE: AF320  
PRICE: \$2.95 ea. QTY (10-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

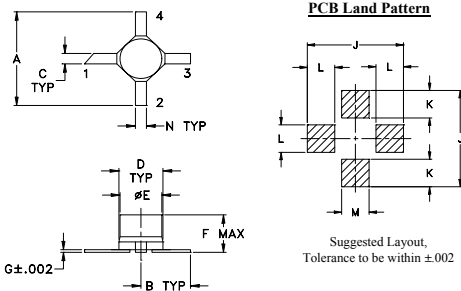
The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### 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>	Nom.	DC-1 GHz	DC-2.5 GHz	DC-f <sub>u</sub> GHz	1
DC-7000	4±0.3	0.3	0.5	0.9	

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

### Outline Drawing



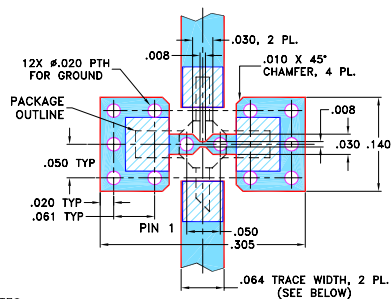
### Outline Dimensions (inch/mm)

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

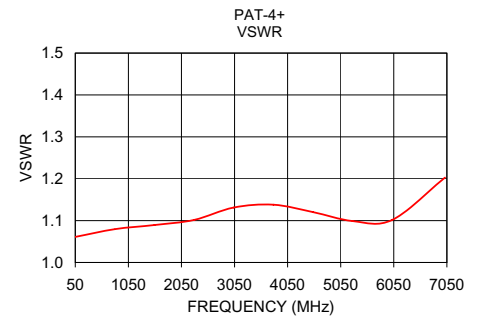
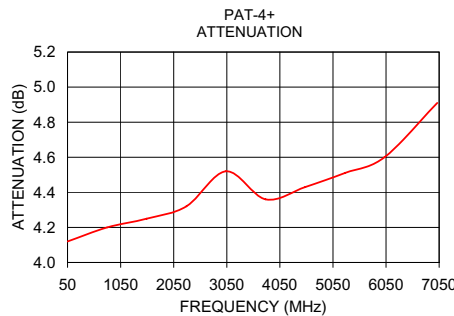
### Typical Performance Data

Frequency (MHz)	Attenuation (dB)	VSWR (:1)
50.00	4.12	1.06
796.25	4.20	1.08
1542.50	4.25	1.09
2288.75	4.32	1.10
3035.00	4.52	1.13
3781.25	4.36	1.14
4527.50	4.43	1.12
5273.75	4.51	1.10
6020.00	4.60	1.10
7015.00	4.91	1.20

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



- 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



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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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