High IP3

Voltage Variable Attenuator

MVA-1000+

50Ω 50 to 1000 MHz

Maximum Ratings

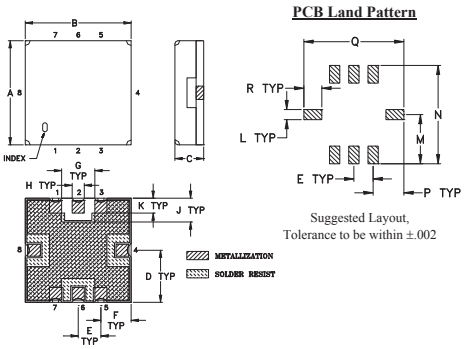
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 85°C
Absolute Max. Supply Voltage(V+)	7V
Absolute Max. Control Voltage(Vctrl)	6V
Absolute Max. RF Input Level	+20 dBm

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

Pin Connections

RF IN	6
RF OUT	2
V CONTROL	4
V+	8
GROUND	1,3,5,7

Outline Drawing

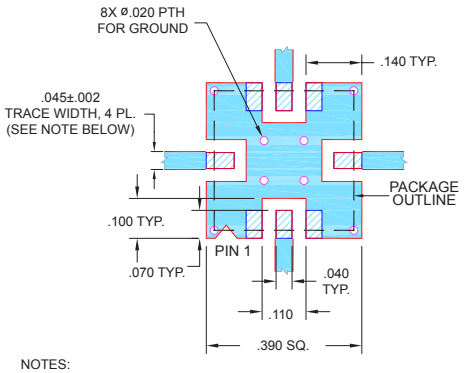


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.350	.350	.150	.175	.075	.100	.110	.040	.080
8.89	8.89	3.81	4.45	1.93	2.54	2.79	1.02	2.03

K	L	M	N	P	Q	R	wt.
.050	.040	.195	.390	.120	.390	.070	grams
1.27	1.02	4.95	9.91	3.05	9.91	1.78	0.50

Demo Board MCL P/N: TB-286
Suggested PCB Layout (PL-154)



NOTES:
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .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)

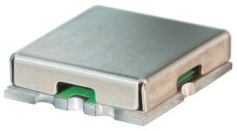
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- Frequency range, 50-1000 MHz
- High linearity, 3 dB/V typ. at Vcont from 1V to 5V
- High IP3, +52 dBm typ.
- Small phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case
- Aqueous washable

Applications

- CATV
- Power level control
- Feed forward amplifiers
- Public safety radio



CASE STYLE: GP1212

+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"	10, 20, 50, 100, 200
13"	500,1000

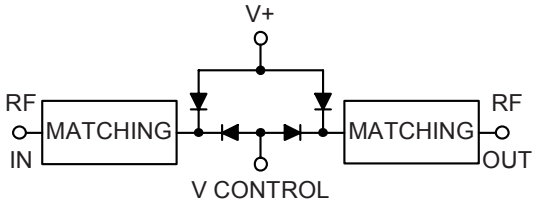
Electrical Specifications (T_{AMB}= 25°C)

FREQ. (MHz)		MIN. INSERTION LOSS, dB (+5V)		MAX. ATTENUATION dB (0V)		INPUT POWER (dBm)	CONTROL Voltage (V)	CONTROL Current (mA)	IP3 (dBm)	RETURN LOSS (dB)	POWER SUPPLY Voltage (V)	POWER SUPPLY Current (mA)
Min.	Max.	Typ.	Max.	Typ.	Min.	Max.		Max.	Typ.	Typ.		Max.
50	- 1000	3.6	4.7	13.0	11.5	+20	0 - 5	15	52	20	+5	3

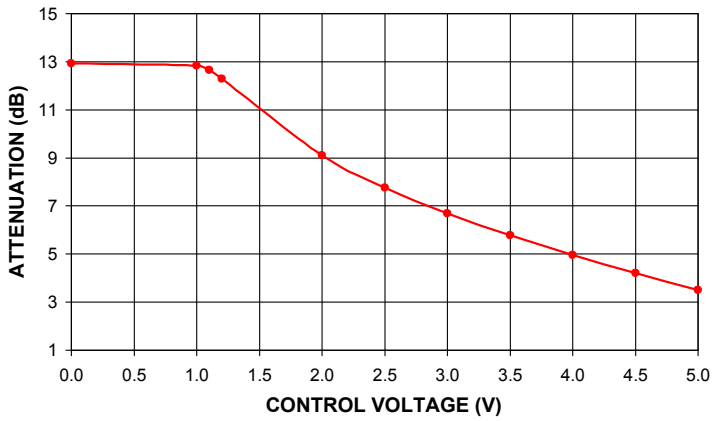
Notes:

Rise/Fall time: 20 μSec/60μSec Typ.
Switching Time, turn on/off: 50μSec Typ.

Equivalent Schematic

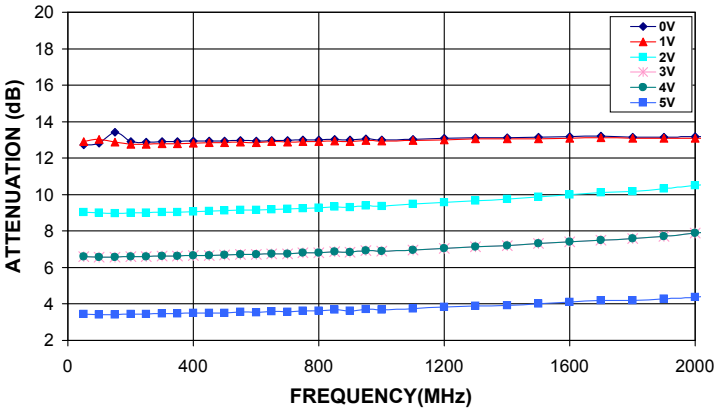


MVA-1000+
TYPICAL ATTENUATION AT 500MHz

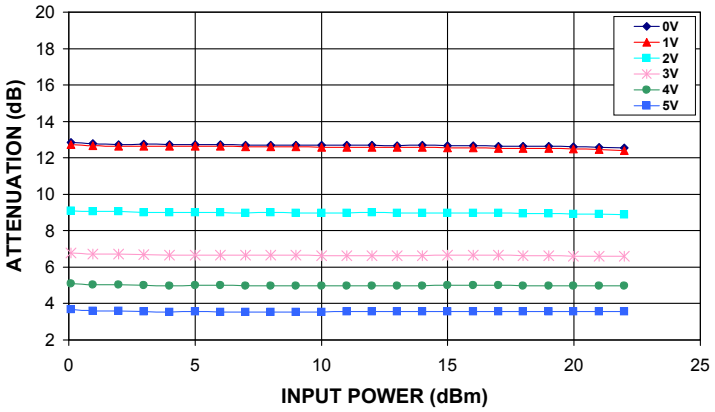


Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

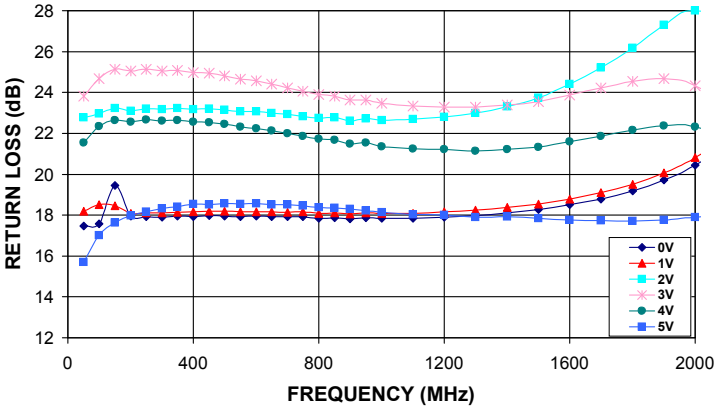
MVA-1000+
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES



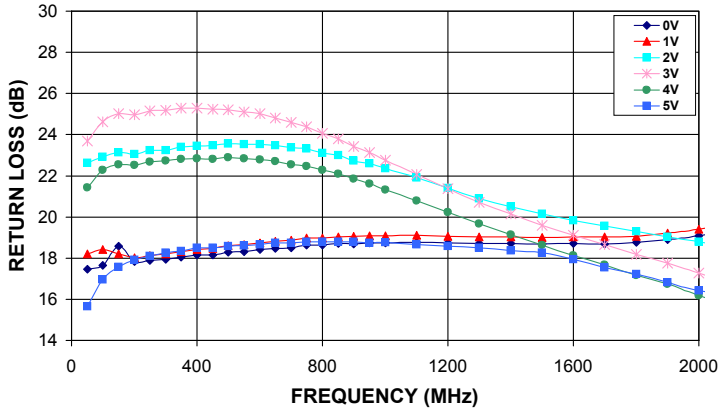
MVA-1000+
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 500MHz



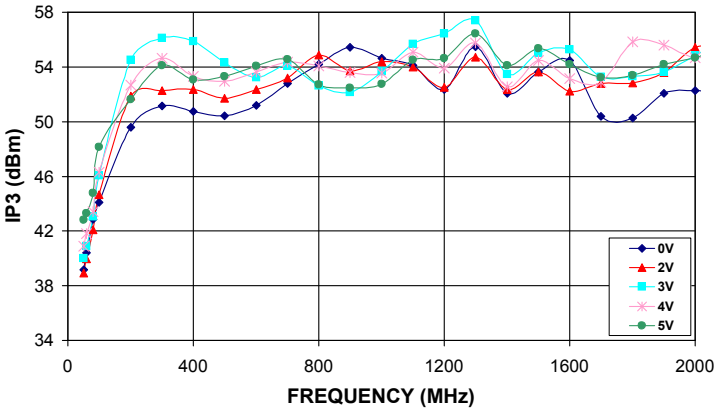
MVA-1000+
INPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES



MVA-1000+
OUTPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES



MVA-1000+
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES



MVA-1000+
PHASE SHIFT Vs. FREQUENCY
Vs. CONTROL VOLTAGE