

# High IP3 Voltage Variable Attenuator

## MVA-1000+

50Ω, 50 to 1000 MHz

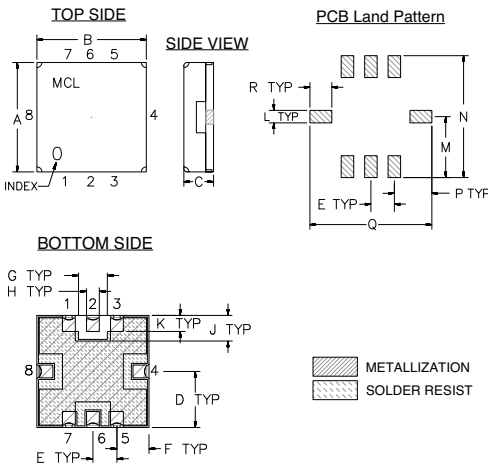
### Maximum Ratings

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

### Pin Connections

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

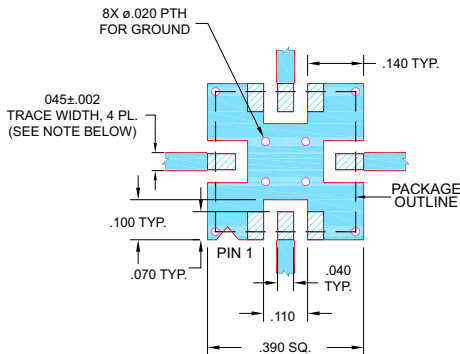
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.350	.350	.150	.175	.075	.100	.090	.040	.080
8.89	8.89	3.81	4.45	1.93	2.54	2.29	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 0.025" ± 0.0025"; 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  
PRICE: \$ 9.95 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.

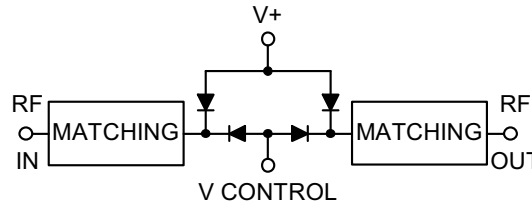
### Electrical Specifications (T<sub>AMB</sub> = 25°C)

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

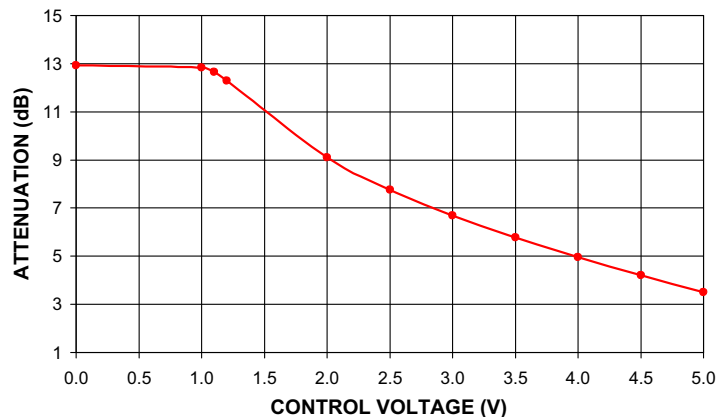
### Notes:

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

### Equivalent Schematic



### MVA-1000+ TYPICAL ATTENUATION AT 500MHz



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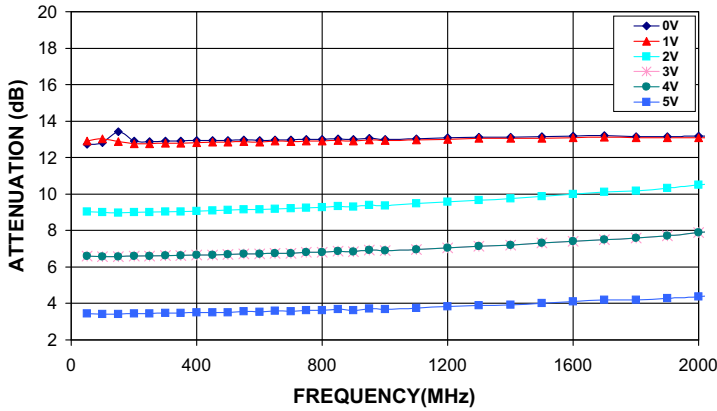


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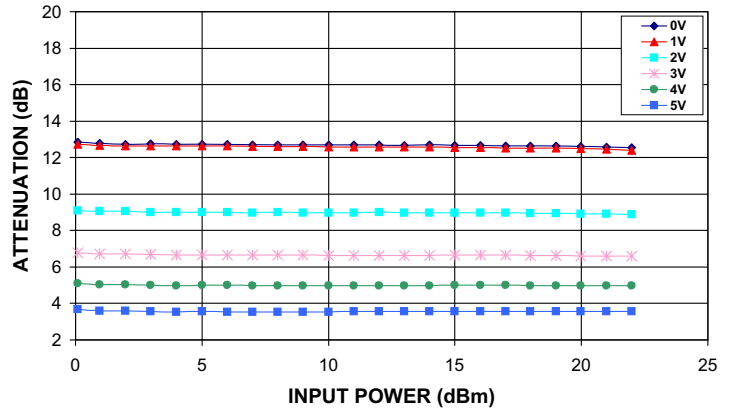
RF/IF MICROWAVE COMPONENTS

REV. OR  
M106828  
EDR-8292F1  
MVA-1000+  
RAV  
070328  
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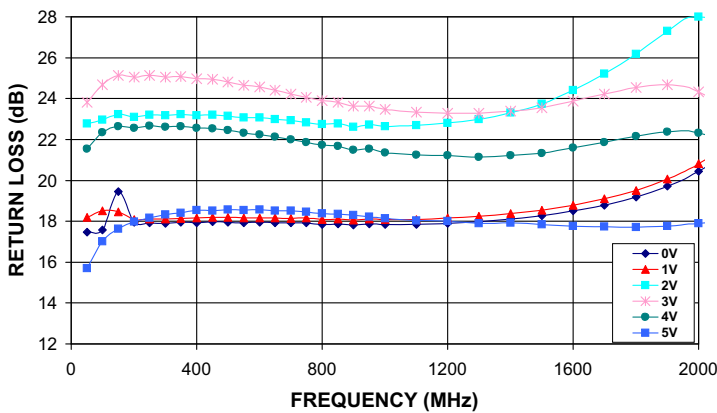
**MVA-1000+**  
ATTENUATION Vs. FREQUENCY  
OVER CONTROL VOLTAGES



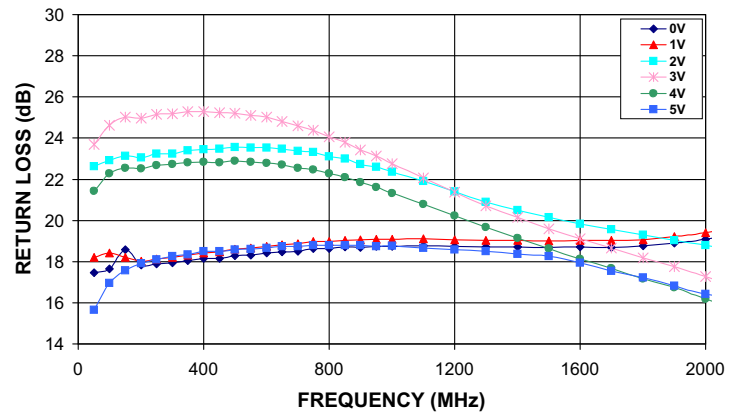
**MVA-1000+**  
ATTENUATION Vs. INPUT POWER  
OVER CONTROL VOLTAGES AT 500MHz



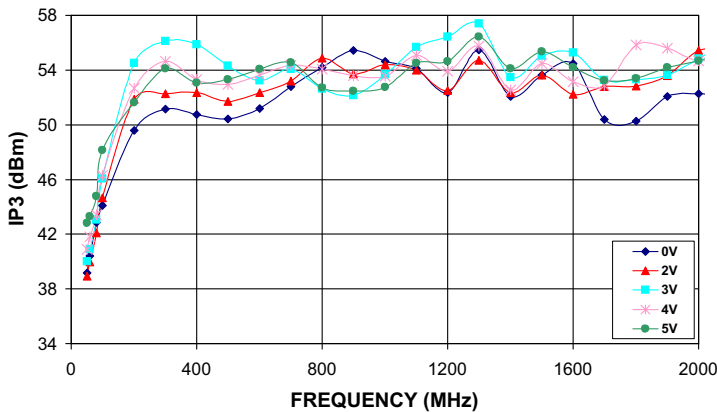
**MVA-1000+**  
INPUT RETURN LOSS Vs. FREQUENCY  
OVER CONTROL VOLTAGES



**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

