Broad Band

Voltage Variable Attenuator

RVA-2500+
RVA-2500

50Ω, 10 to 2500 MHz

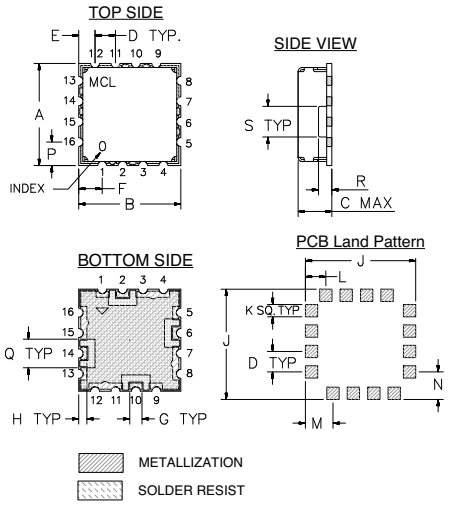
Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 85°C
Absolute Max. Supply Voltage(V+)	12V
Absolute Max. Control Voltage(Vctrl)	20V
Absolute Max. RF Input Level	+20 dBm

Pin Connections

RF IN	2
RF OUT	10
V CONTROL	6
V+	14
GROUND	1,3,4,5,7,8,9,11,12,13,15,16

Outline Drawing

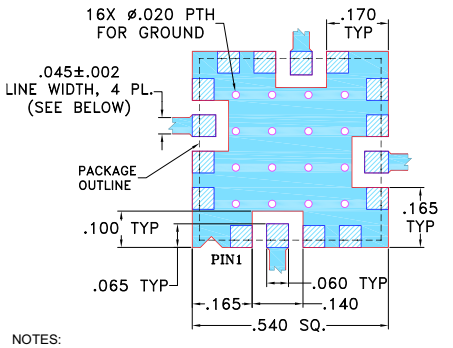


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.500	.500	.195	.100	.080	.115	.060	.040	.540
12.70	12.70	4.95	2.54	2.03	2.92	1.52	1.02	13.72

K	L	M	N	P	Q	R	S	wt.
.060	.100	.135	.135	.115	.140	.070	.150	grams
1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.0

Demo Board MCL P/N: TB-163
Suggested PCB Layout (PL-040)



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

- Broadband, 10-2500 MHz
- IP3, +43 dBm typ.
- 40 dB attenuation @ 1500 MHz
- Good VSWR at IN/OUT ports over attenuation range
- Minimal phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case

Applications

- Power level control
- Feed forward amplifiers

CASE STYLE: DV874
PRICE: $ 9.95 ea. QTY (10-49)

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

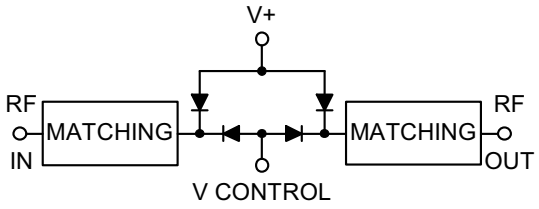
The +suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

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

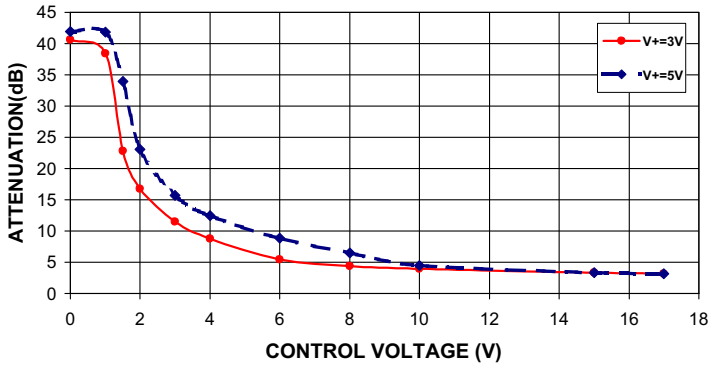
FREQ. (MHz)		MIN. INSERTION LOSS, dB (+15V)		MAX. ATTENUATION dB (0V)		INPUT POWER (dBm)	CONTROL Voltage (V)	CONTROL Current (mA)	IP3 (dBm)	RETURN LOSS (dB)	POWER SUPPLY Voltage (V)	POWER SUPPLY Current (mA)
Min.	Max.	Typ.	Max.	Typ.	Min.	Max.		Max.	Typ.	Typ.		Max.
10 -	500	3.0	4.6	55	41	+20	0 - 17	30	43	20	+3 to +5	5
500 -	1500	3.3	5.0	40	30	+20	0 - 17	30	43	20	+3 to +5	5
1500 -	2500	4.0	6.2	37	25	+20	0 - 17	30	44	20	+3 to +5	5

Notes:
Rise/Fall time: 14μSec / 25μSec Typ.
Switching Time, turn on/off: 14μSec / 25μSec Typ.
Improved R.Loss in/out performance can be achieved at certain frequencies by choosing a V+ between +3V to +5V

Equivalent Schematic

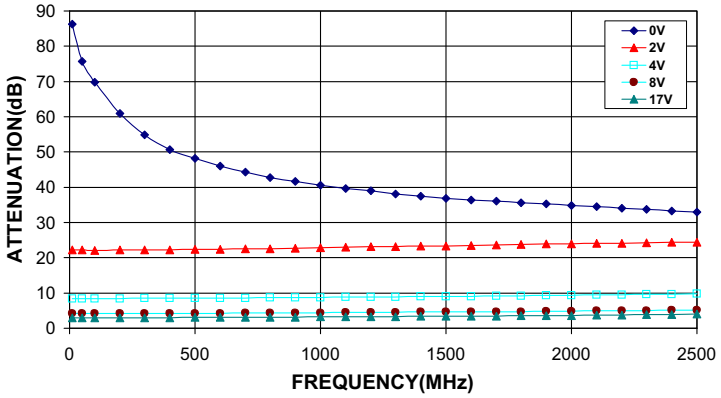


RVA-2500
TYPICAL ATTENUATION AT 1000MHz

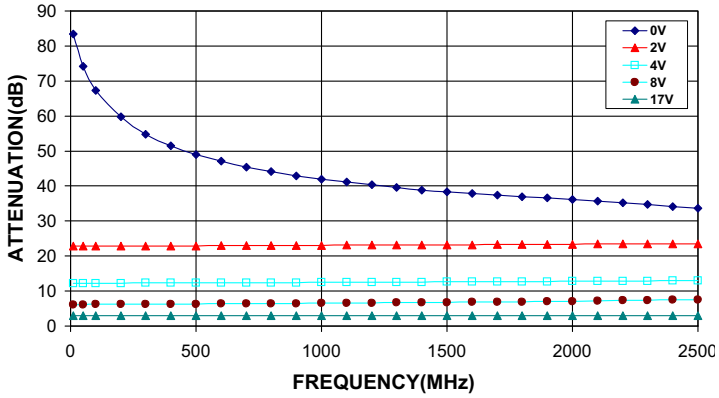


Performance Charts

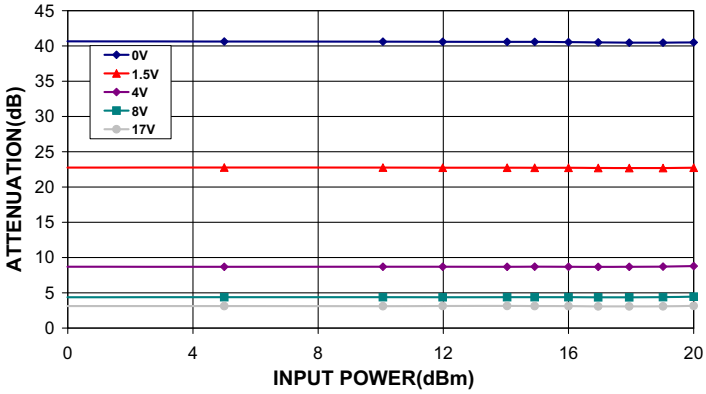
RVA-2500
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



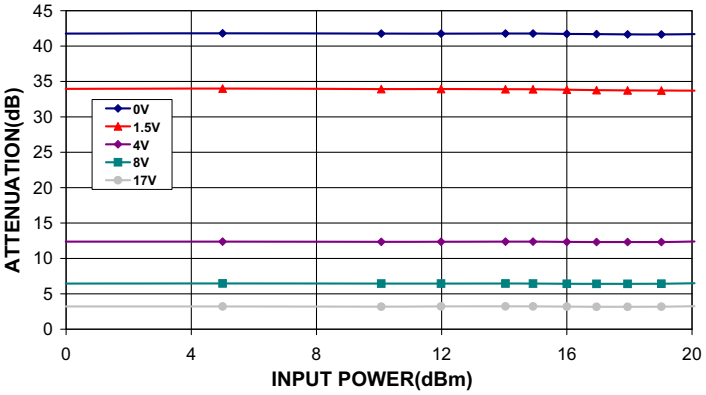
RVA-2500
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



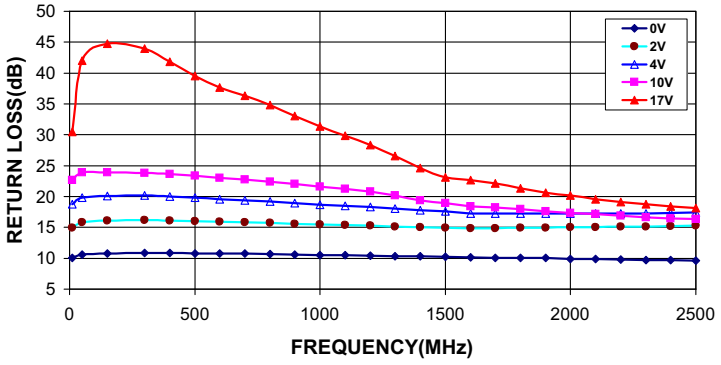
RVA-2500
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 1000MHz @ V+=3V



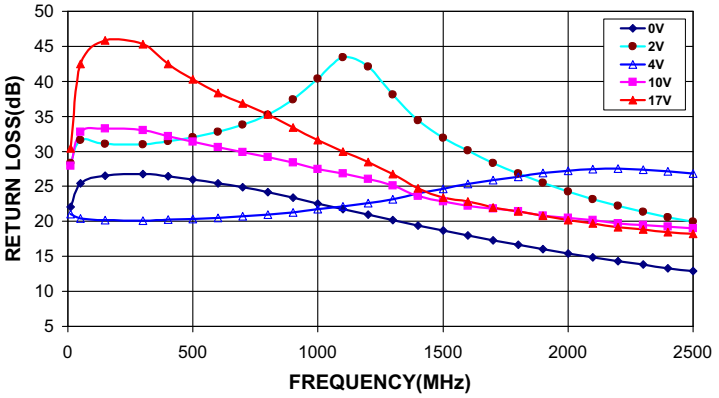
RVA-2500
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 1000MHz @ V+=5V



RVA-2500
INPUT RETURN LOSS Vs. FREQUENCY
Vs. CONTROL VOLTAGE @ V+=3V

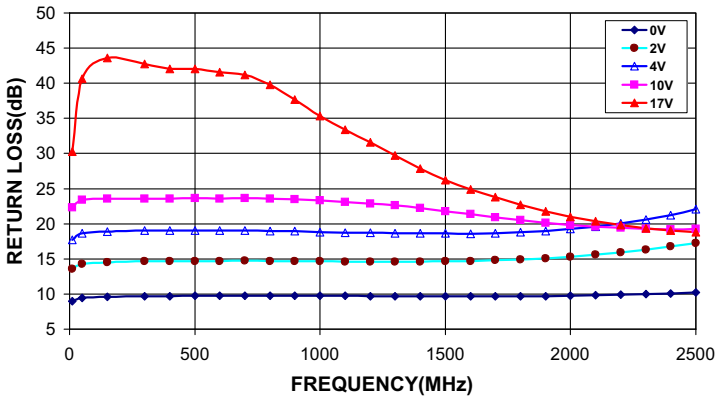


RVA-2500
INPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V

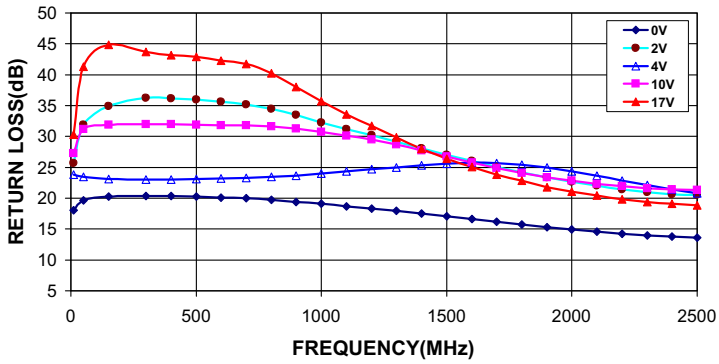


Performance Charts

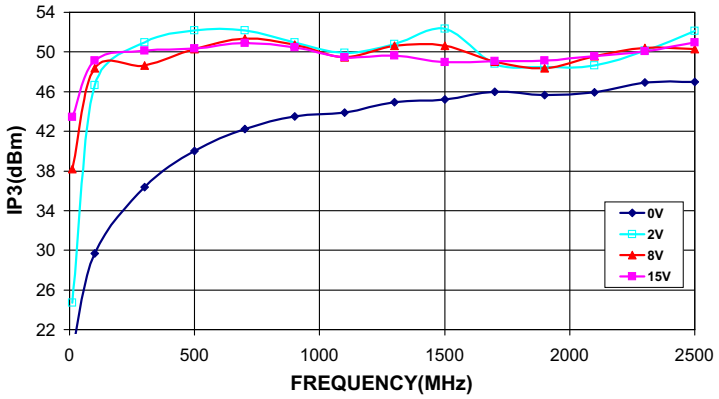
RVA-2500
OUTPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



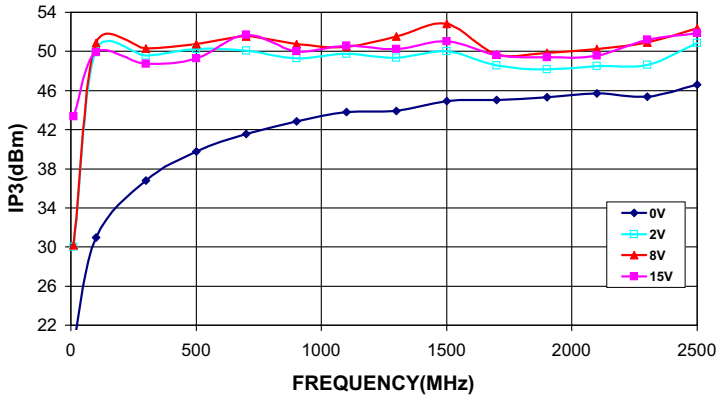
RVA-2500
OUTPUT RETURN LOSS Vs. FREQUENCY
Vs. CONTROL VOLTAGE @ V+=5V



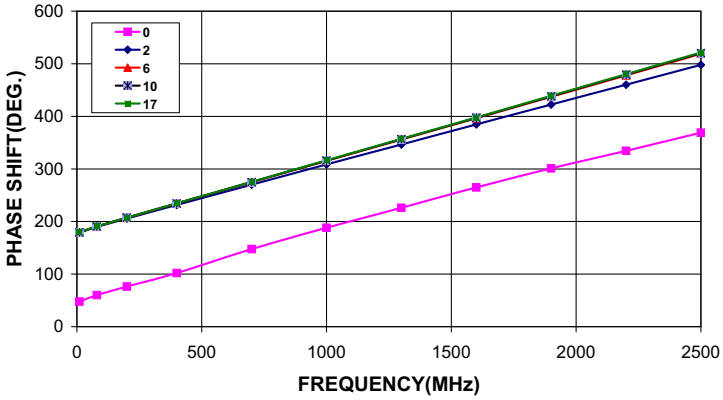
RVA-2500
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



RVA-2500
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



RVA-2500
PHASE SHIFT Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



RVA-2500
PHASE SHIFT Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V