Broad Band

Voltage Variable Attenuator

RVA-2000V35+

50Ω 50 to 2000 MHz

Maximum Ratings

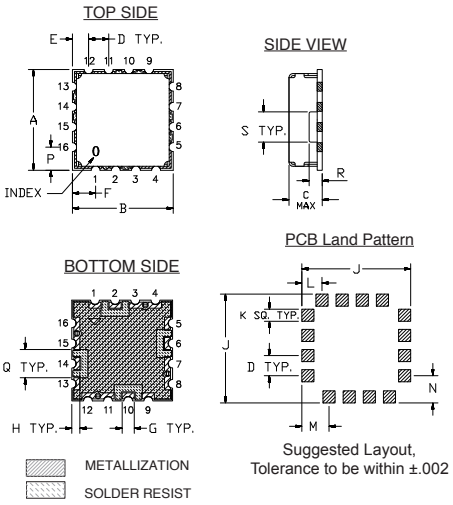
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 85°C
Absolute Max. Supply Voltage(V+)	8V
Absolute Max. Control Voltage(Vctrl)	8V
Absolute Max. RF Input Level	+18dBm

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

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

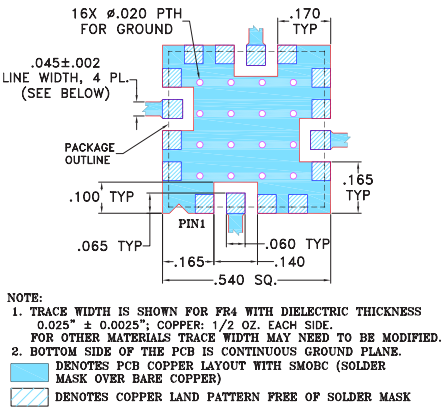
Outline Drawing



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)



NOTE:
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, 50-2000 MHz
- IP3, +52 dBm typ.
- Fast Rise/Fall Time, 6 μSec Typ.
- Minimal phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case
- Aqueous washable

CASE STYLE: DV874

Applications

- Power level control
- Feed forward amplifier
- Variable gain amplifier
- Video modulator
- CATV

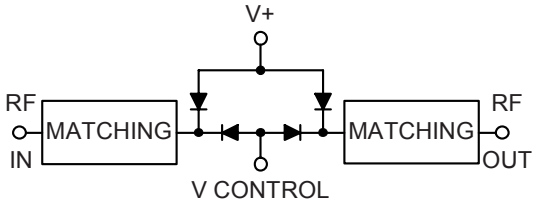
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

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

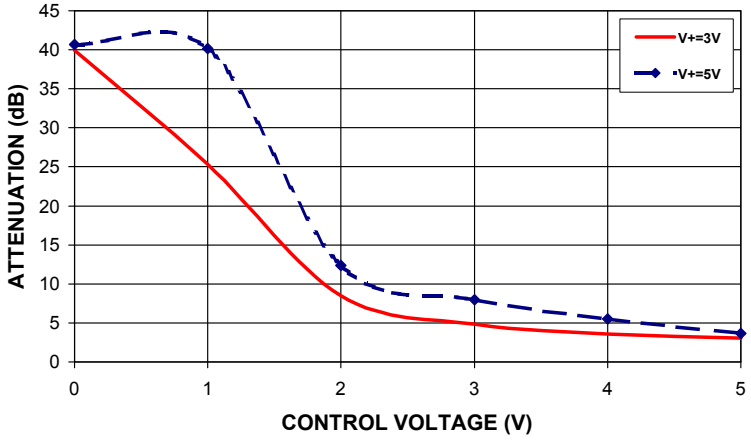
FREQ. (MHz)		MIN. INSERTION LOSS, dB (+5V)		MAX. ATTENUATION dB (0V)		INPUT POWER (dBm)	CONTROL Voltage (V)	CONTROL Current (mA)	IP3 (dBm)	RETURN LOSS (dB)	POWER SUPPLY Voltage (V)	POWER SUPPLY Current (mA)
Min.	Max.	Typ.	Max.	Typ.	Min.	Max.		Max.	Typ.	Typ.		Max.
50 - 1000		3.0	4.5	53	35	+18	0 - 5	20	50	20	+3 to +5	5
1000 - 2000		3.5	5.0	40	30	+18	0 - 5	20	55	18	+3 to +5	5

Notes:
Rise/Fall time: 6μSec Typ.
Switching Time & turn on/off time: 10μSec. Typ.
Improved R.Loss in/out performance can be achieved at certain frequencies by choosing a V+ between +3V to +5V

Equivalent Schematic



RVA-2000V35+
TYPICAL ATTENUATION AT 1000 MHz



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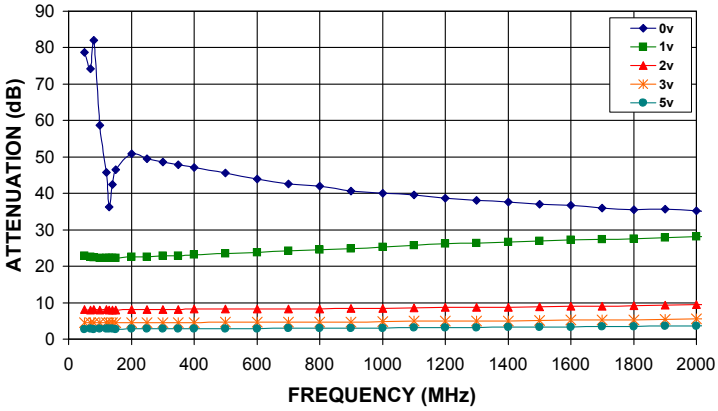
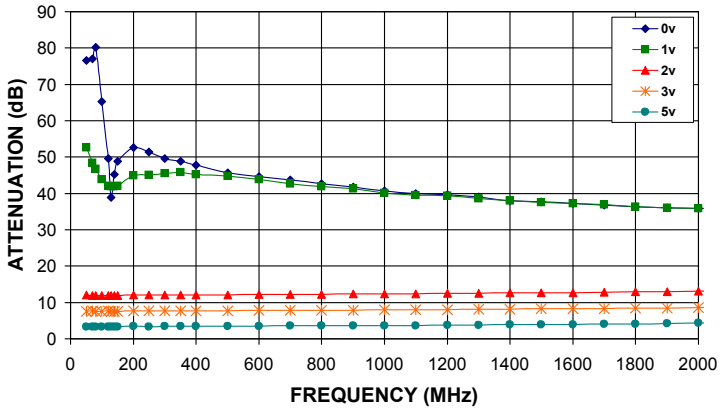
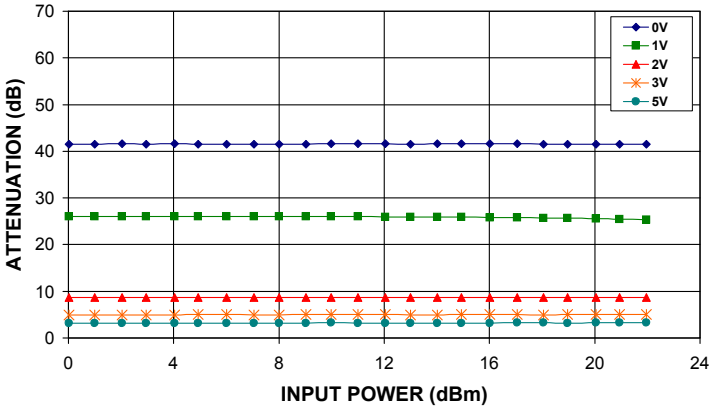
RVA-2000V35+
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



RVA-2000V35+
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



RVA-2000V35+
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 1000 MHz @ V+=3V



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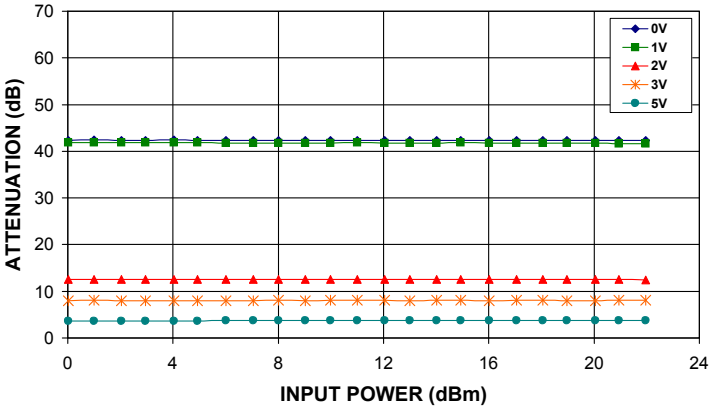
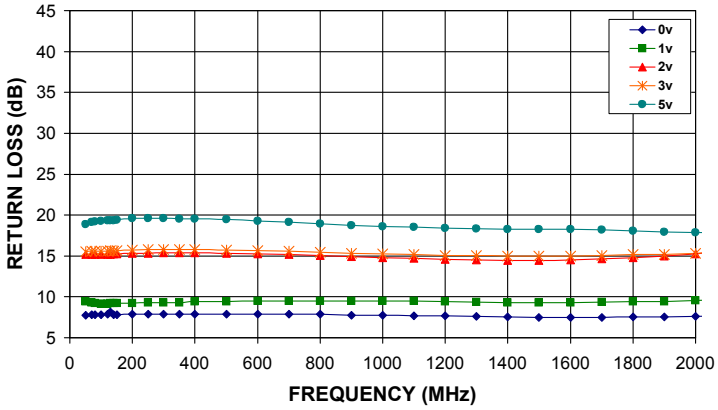
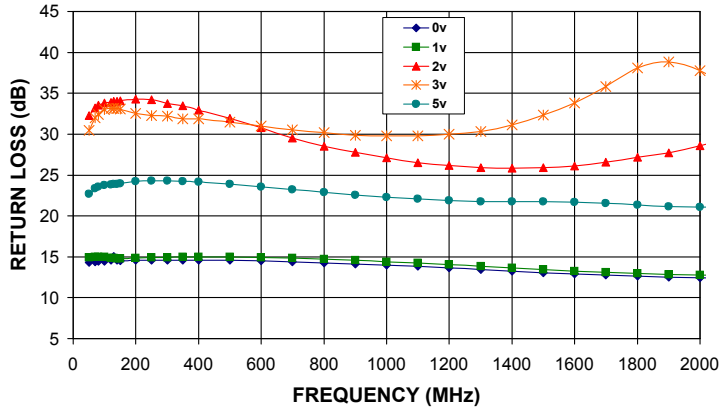
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 1000 MHz @ V+=5V



RVA-2000V35+
INPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



RVA-2000V35+
INPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



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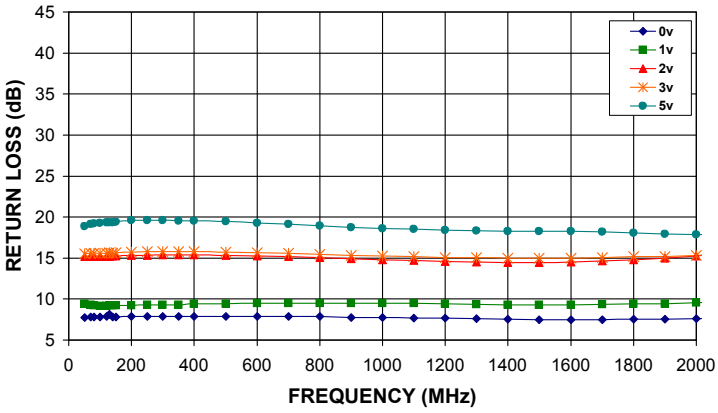
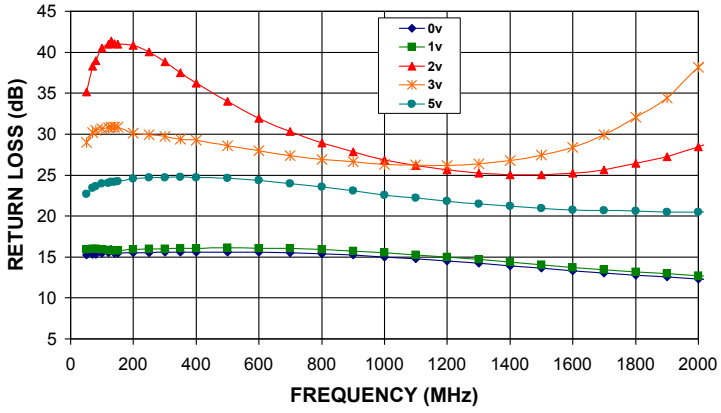
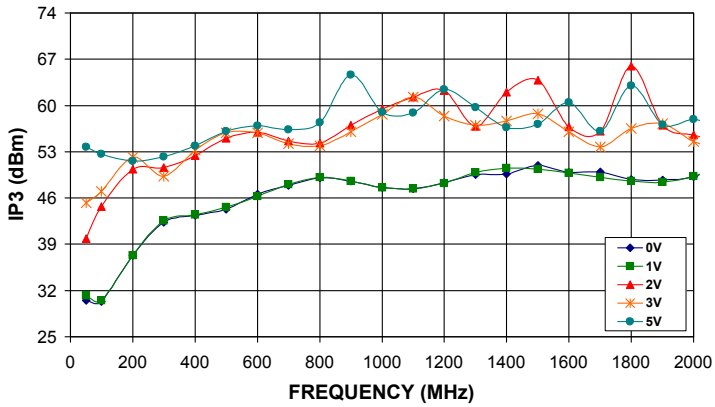


RVA-2000V35+
OUTPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



RVA-2000V35+
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



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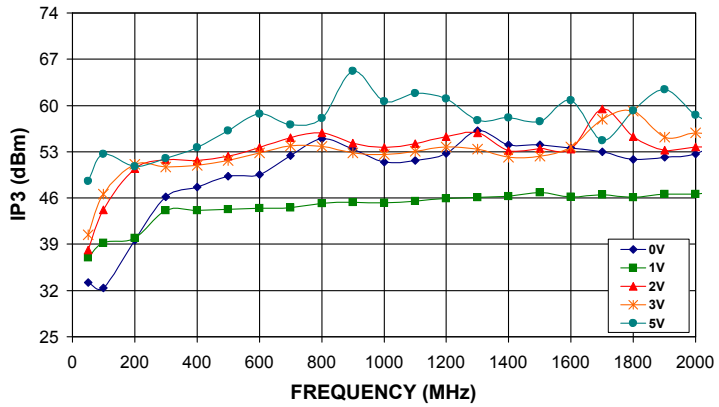
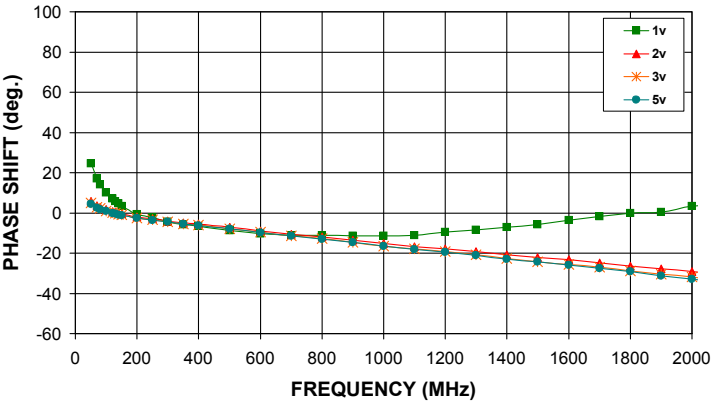
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



RVA-2000V35+
PHASE SHIFT Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=3V



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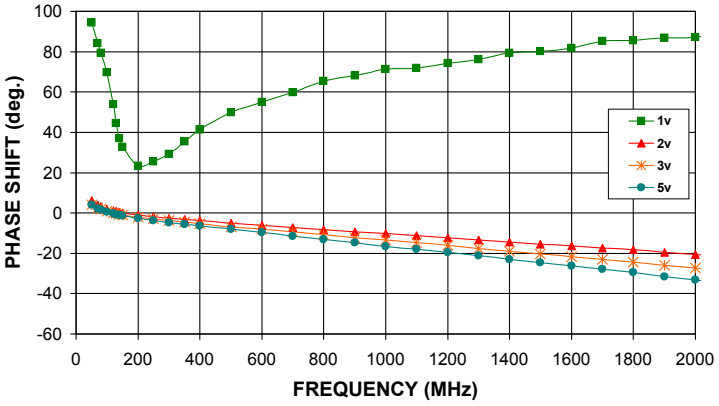
PHASE SHIFT Vs. FREQUENCY
OVER CONTROL VOLTAGES @ V+=5V



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