

# Broad Band Voltage Variable Attenuator

## RVA-2000V35+

50Ω 50 to 2000 MHz

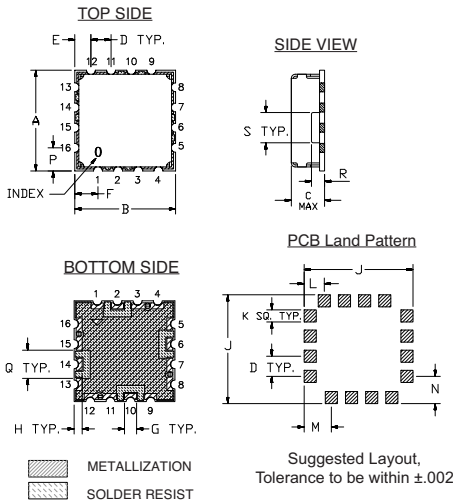
### Maximum Ratings

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

### 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



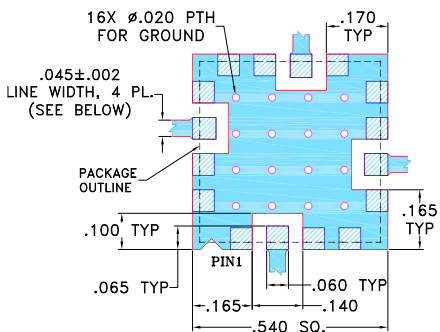
### Outline Dimensions (inch/mm)

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)



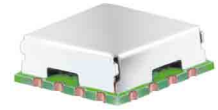
- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS 0.025" ± 0.0025"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
■ DENOTES COPPER 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

### Applications

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



CASE STYLE: DV874  
PRICE: \$12.95 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.

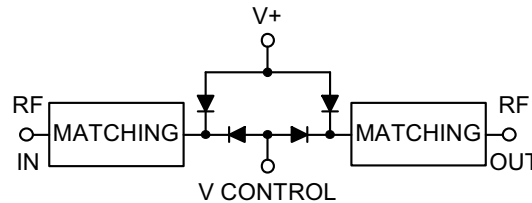
### Electrical Specifications (T<sub>AMB</sub> = 25°C)

FREQ. (MHz)	MIN. INSERTION LOSS, dB (+5V)		MAX. ATTENUATION dB (0V)		INPUT POWER (dBm)	CONTROL Voltage Current (mA)		IP3 (dBm)	RETURN LOSS (dB)	POWER SUPPLY Voltage Current (mA)	
	Min.	Max.	Typ.	Min.		Max.	Max.			Max.	Typ.
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

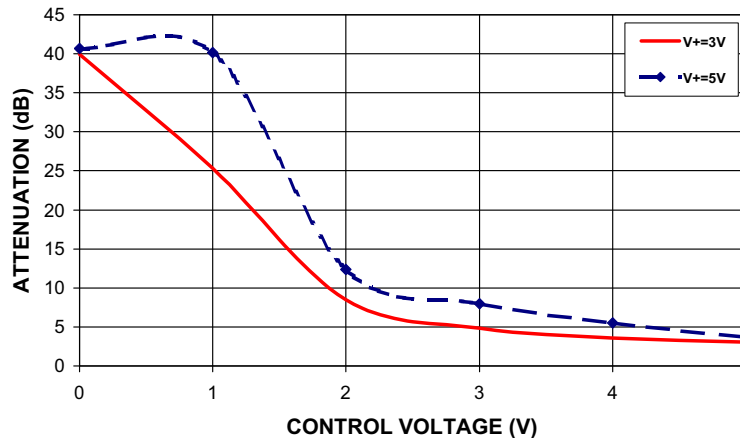
### Notes:

- 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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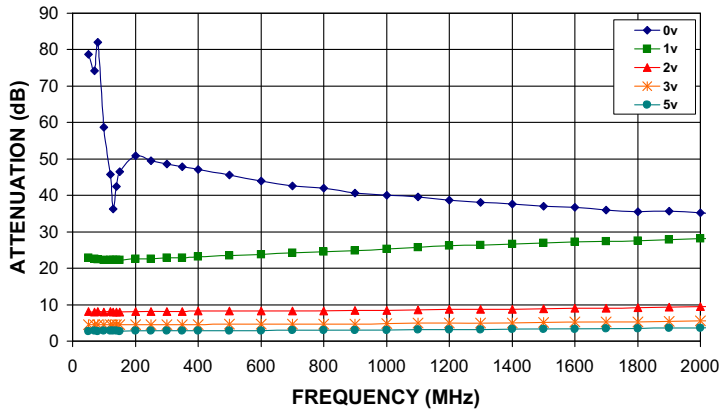


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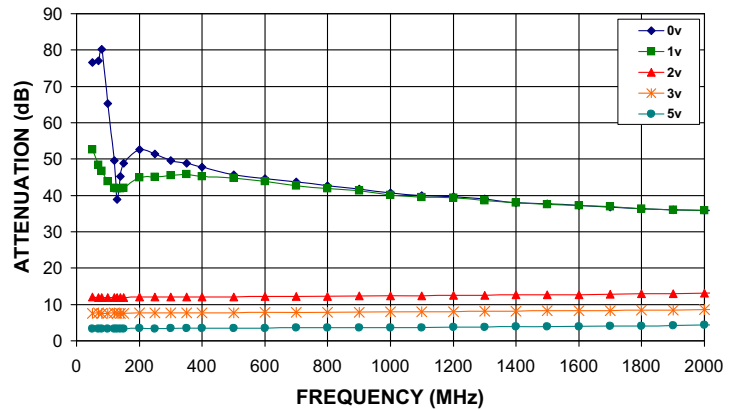
IF/RF MICROWAVE COMPONENTS

REV. OR  
M116138  
EDR-5906/6  
RVA-2000V35+  
RAV  
090510  
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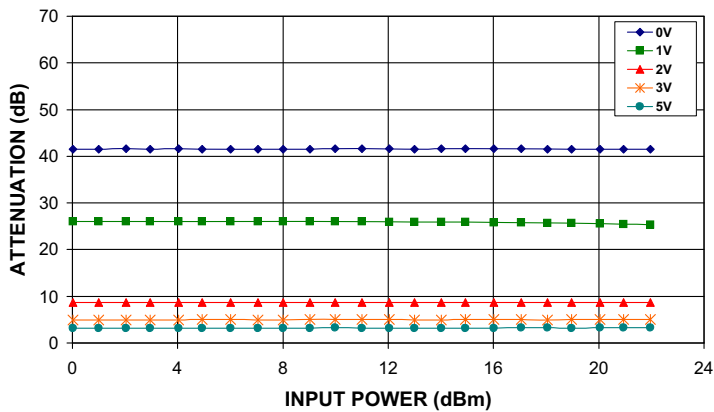
**RVA-2000V35+**  
ATTENUATION Vs. FREQUENCY  
OVER CONTROL VOLTAGES @ V+=3V



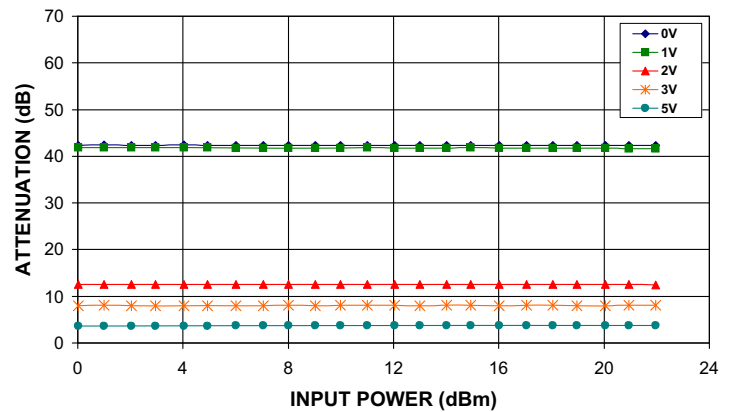
**RVA-2000V35+**  
ATTENUATION Vs. FREQUENCY  
OVER CONTROL VOLTAGES @ V+=5V



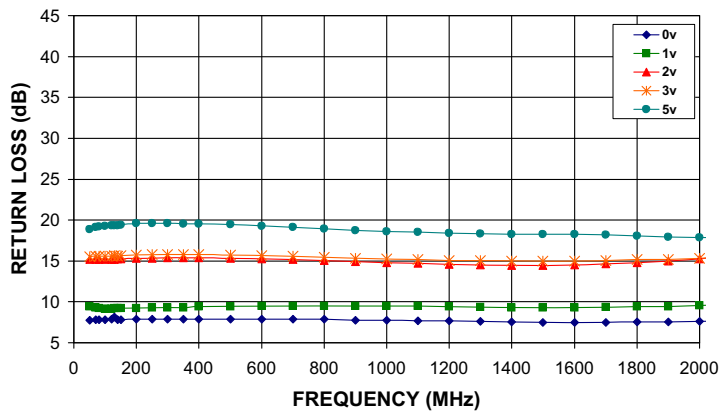
**RVA-2000V35+**  
ATTENUATION Vs. INPUT POWER  
OVER CONTROL VOLTAGES AT 1000 MHz @ V+=3V



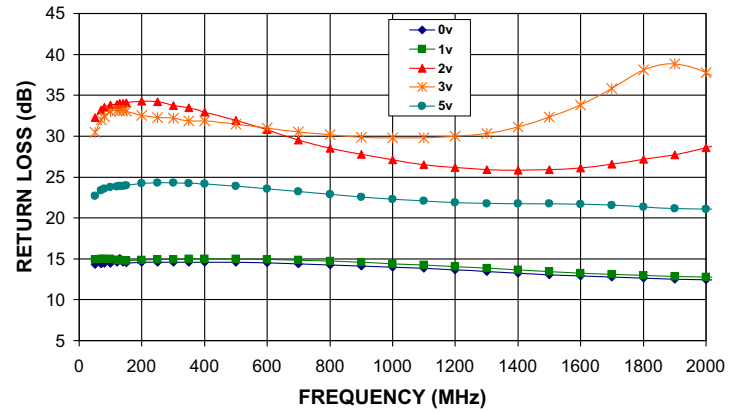
**RVA-2000V35+**  
ATTENUATION Vs. INPUT POWER  
OVER CONTROL VOLTAGES AT 1000 MHz @ V+=5V



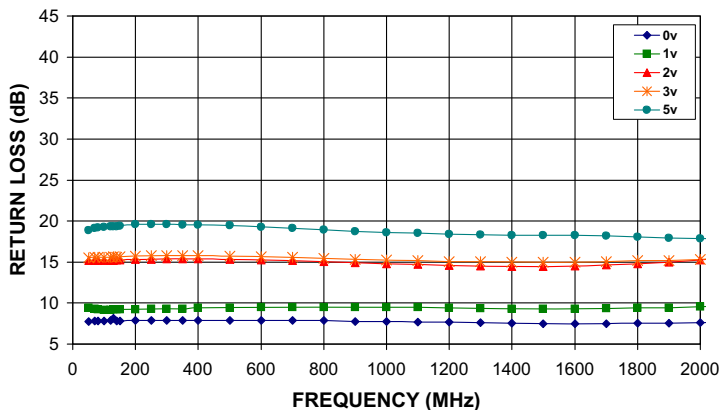
**RVA-2000V35+**  
INPUT RETURN LOSS Vs. FREQUENCY  
OVER CONTROL VOLTAGES @ V+=3V



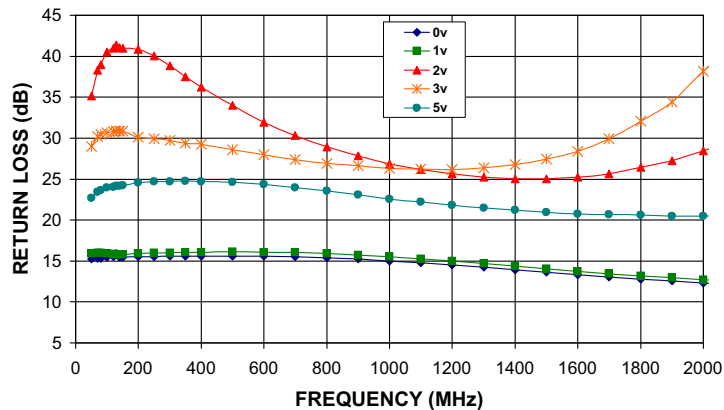
**RVA-2000V35+**  
INPUT RETURN LOSS Vs. FREQUENCY  
OVER CONTROL VOLTAGES @ V+=5V



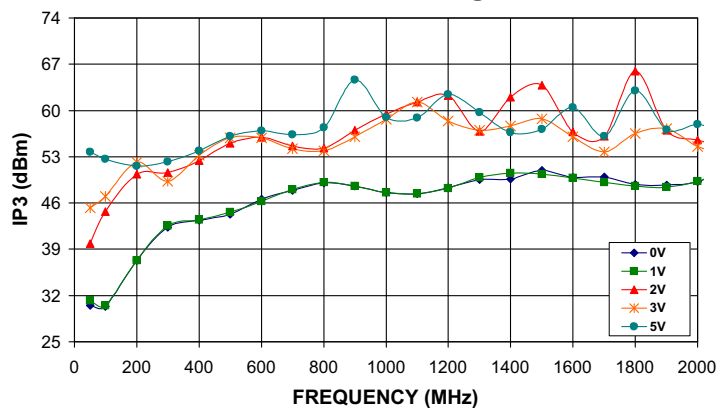
**RVA-2000V35+**  
**INPUT RETURN LOSS Vs. FREQUENCY**  
**OVER CONTROL VOLTAGES @ V+=3V**



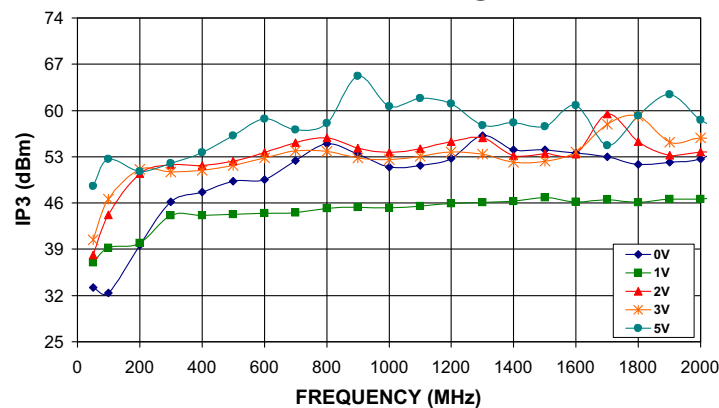
**RVA-2000V35+**  
**OUTPUT RETURN LOSS Vs. FREQUENCY**  
**OVER CONTROL VOLTAGES @ V+=5V**



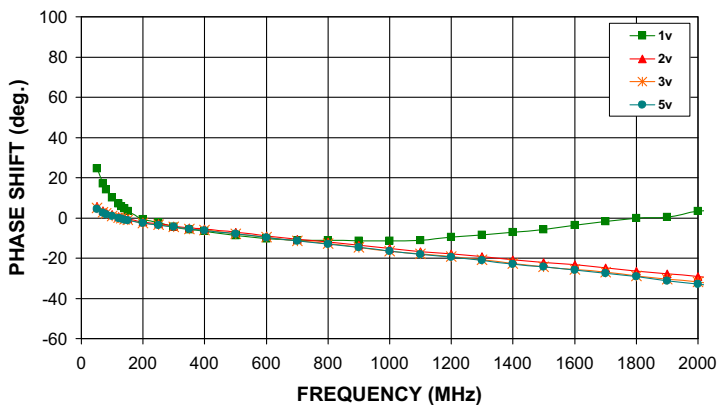
**RVA-2000V35+**  
**IP3 Vs. FREQUENCY**  
**OVER CONTROL VOLTAGES @ V+=3V**



**RVA-2000V35+**  
**IP3 Vs. FREQUENCY**  
**OVER CONTROL VOLTAGES @ V+=5V**



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



**RVA-2000V35+**  
**PHASE SHIFT Vs. FREQUENCY**  
**OVER CONTROL VOLTAGES @ V+=5V**

