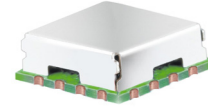


Voltage Variable Attenuator

RVA-6000+

50Ω 2000 to 6000 MHz



CASE STYLE: DV874

The Big Deal

- Broad band, 2000 to 6000 MHz
- IP3 +43 dBm typ.
- Well matched in/out ports, return loss 20 dB typ.
- Minimal phase deviation over attenuation range
- Drop-in, no external matching circuits required

Product Overview

The RVA-6000+ is a Voltage Variable 50Ω matched Attenuator built into a shielded (0.5" x 0.5" x 0.195") case. The model utilizes well matched PIN diodes, carefully biased in order to enable over 30 dB attenuation range control while maintaining very good input & output port matching.

Key Features

Feature	Advantages
IP3 +40 dBm typ.	Low distortion enabling improved system performance.
Minimal phase deviation over attenuation range	Can provide low signal distortion over attenuation range

Notes

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Surface Mount Voltage Variable Attenuator

RVA-6000+

50Ω 2000 to 6000 MHz

Maximum Ratings

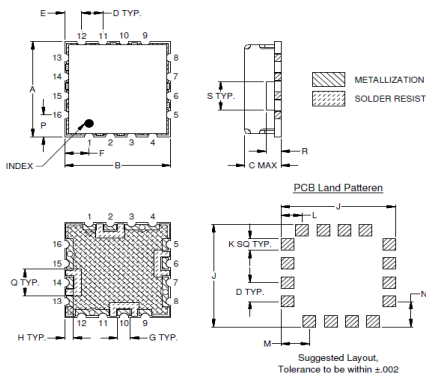
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 85°C
Absolute Max. Supply Voltage(V+)	6V
Absolute Max. Control Voltage(Vctrl)	14V
Absolute Max. RF Input Level	+20dBm

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

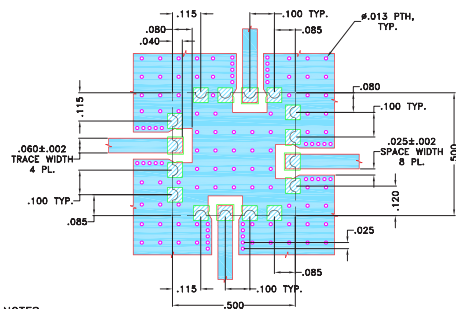
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.500	.500	.195	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.95	2.54	2.03	2.92	1.52	1.02	13.72	1.52
L	M	N	P	Q	R	S			Wt.
.100	.135	.135	.115	.140	.070	.150			grams
2.54	3.43	3.43	2.92	3.56	1.78	3.81			1.0

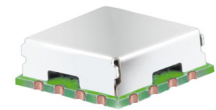
Demo Board MCL P/N: TB-686 Suggested PCB Layout (PL-374)



- NOTES:
- TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .030 ±.002" 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 SOLDERMASK

Features

- Broadband, 2000-6000 MHz
- Good VSWR at IN/OUT ports over attenuation range
- Fast Rasing/Fall Time, 6.8μSec/3.5μSec Typ.
- Minimal phase deviation over attenuation range
- No external bias and RF matching network required
- Shielded case
- Aqueous washable



CASE STYLE: DV874

+RoHS Compliant

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

Applications

- Power level control
- Feed forward amplifier

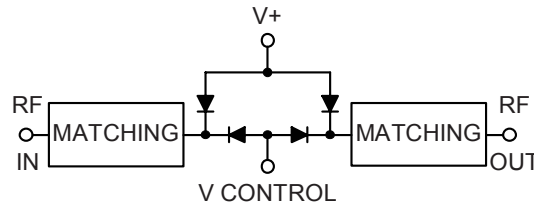
Electrical Specifications (T_{AMB} = 25°C)

FREQ. (MHz)	MIN. INSERTION LOSS, dB (+12V)		MAX. ATTEN. dB (0V)		INPUT POWER (dBm)	CONTROL Voltage Current (V) (mA)		IP3* (dBm)	RETURN LOSS (dB)	POWER SUPPLY Voltage Current (V) (mA)	
	Min.	Max.	Typ.	Max.		Typ.	Max.			Typ.	Max.
2000- 4000	3.3	4.0	37.7	30	+20	0 - 12	10	41	20	+5	5
4000- 6000	3.5	4.5	32.7	25	+20	0 - 12	10	43	20	+5	5

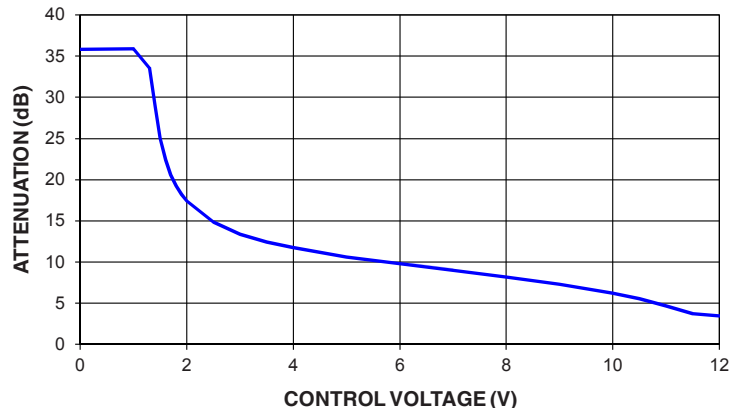
Notes:

- Rise/Fall time: 6.8 / 3.8 μSec Typ.
- Switching Time & turn on/off time: 8.8 / 3.8 μSec. Typ.
- * Typical IP3 @ Vc = 5V

Equivalent Schematic



RVA-6000+ TYPICAL ATTENUATION AT 4000 MHz



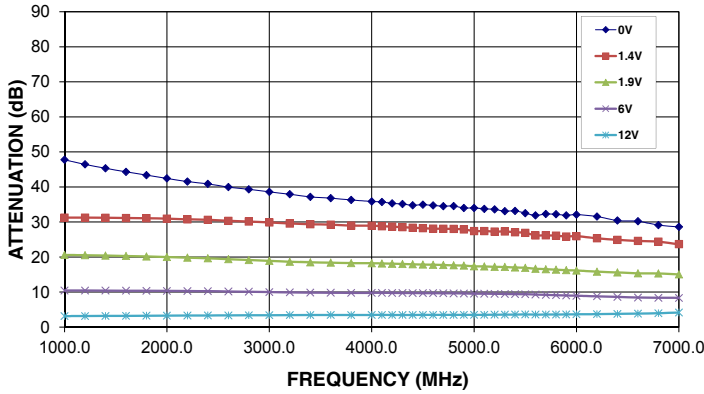
Notes

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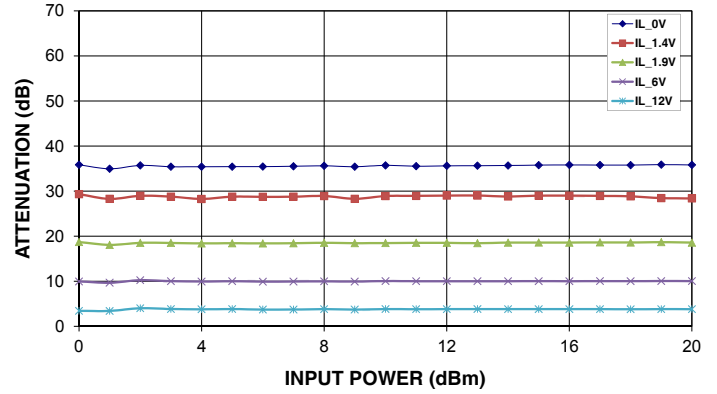


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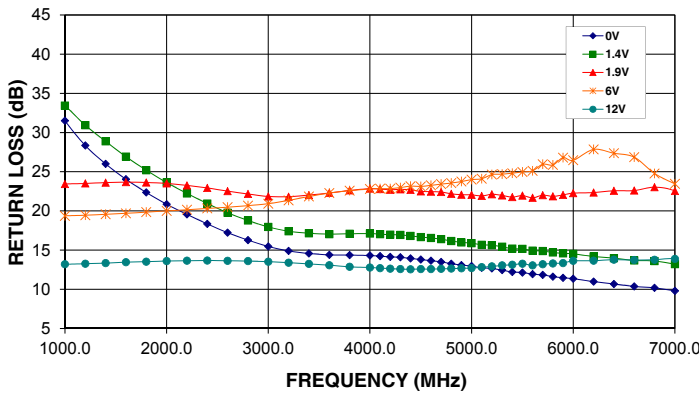
**RVA-6000+
ATTENUATION Vs. FREQUENCY
OVER CONTROL VOLTAGES**



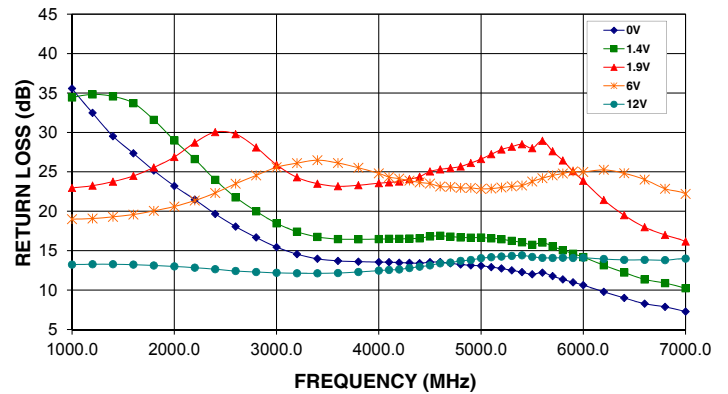
**RVA-6000+
ATTENUATION Vs. INPUT POWER
OVER CONTROL VOLTAGES AT 4000 MHz**



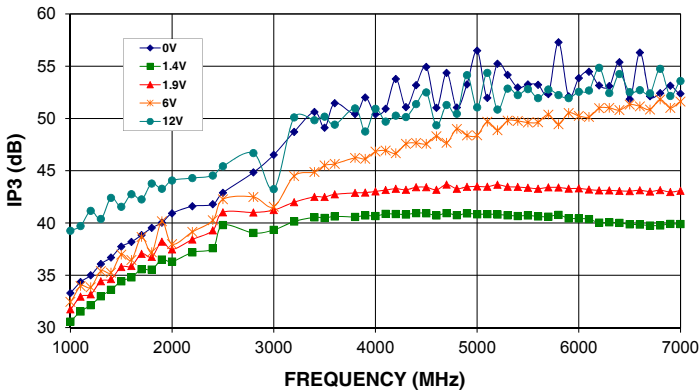
**RVA-6000+
INPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES**



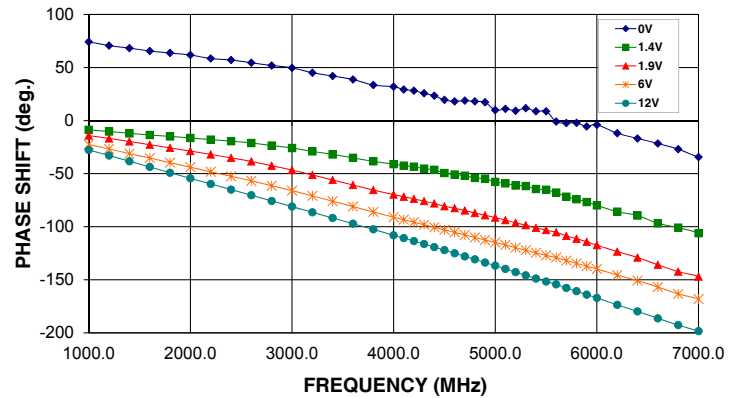
**RVA-6000+
OUTPUT RETURN LOSS Vs. FREQUENCY
OVER CONTROL VOLTAGES**



**RVA-6000+
IP3 Vs. FREQUENCY
OVER CONTROL VOLTAGES**



**RVA-6000+
PHASE SHIFT Vs. FREQUENCY
OVER CONTROL VOLTAGES**



Notes

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Typical Performance Data

V CONTROL (V)	ATTENUATION @ 4000 MHz (dB)
0.0	35.86
1.0	35.88
1.3	33.54
1.4	28.95
1.5	25.04
1.6	22.41
1.7	20.60
1.8	19.26
1.9	18.23
2.0	17.40
2.5	14.82
3.0	13.40
3.5	12.44
4.0	11.72
5.0	10.64
6.0	9.78
7.0	9.00
8.0	8.21
9.0	7.33
10.0	6.23
10.5	5.54
11.0	4.67
11.5	3.71
12.0	3.48

Typical Performance Data

FREQ. (MHz)	ATTENUATION Vs. V CONTROL @ V+=5V						
	@V Control=0V	@V Control=1.4V	@V Control=1.9V	@V Control=3V	@V Control=6V	@V Control=10V	@V Control=12V
1000	47.76	31.25	20.60	15.34	10.44	5.89	3.14
1200	46.44	31.24	20.52	15.28	10.44	5.91	3.17
1400	45.33	31.20	20.42	15.21	10.42	5.93	3.19
1600	44.31	31.13	20.29	15.11	10.39	5.95	3.21
1800	43.37	31.07	20.16	15.01	10.37	5.98	3.25
2000	42.44	30.95	20.00	14.88	10.34	6.00	3.27
2200	41.54	30.76	19.82	14.74	10.30	6.03	3.30
2400	40.88	30.62	19.63	14.59	10.25	6.06	3.33
2600	39.96	30.33	19.38	14.39	10.17	6.08	3.34
2800	39.33	30.12	19.16	14.20	10.10	6.10	3.38
3000	38.60	29.88	18.91	13.99	10.01	6.13	3.40
3200	37.92	29.56	18.66	13.78	9.91	6.14	3.42
3400	37.17	29.36	18.50	13.62	9.84	6.16	3.45
3600	36.80	29.24	18.40	13.54	9.80	6.18	3.46
3800	36.29	28.99	18.27	13.44	9.77	6.19	3.46
4000	35.86	28.95	18.23	13.40	9.78	6.23	3.48
4100	35.73	28.79	18.17	13.36	9.78	6.25	3.48
4200	35.31	28.68	18.09	13.30	9.76	6.25	3.47
4300	35.14	28.53	18.01	13.24	9.74	6.26	3.47
4400	34.77	28.35	17.92	13.16	9.71	6.27	3.47
4500	34.95	28.23	17.86	13.12	9.70	6.29	3.48
4600	34.74	28.10	17.80	13.07	9.69	6.31	3.48
4700	34.53	28.08	17.73	13.00	9.67	6.33	3.48
4800	34.56	28.01	17.63	12.92	9.63	6.34	3.49
4900	33.99	27.87	17.56	12.85	9.61	6.37	3.50
5000	34.01	27.42	17.37	12.73	9.56	6.39	3.50
5100	33.74	27.41	17.30	12.65	9.52	6.41	3.51
5200	33.62	27.27	17.20	12.57	9.49	6.45	3.54
5300	33.08	27.30	17.15	12.51	9.47	6.48	3.56
5400	33.17	27.07	17.02	12.40	9.41	6.50	3.58
5500	32.51	26.90	16.93	12.34	9.39	6.56	3.63
5600	31.88	26.18	16.66	12.17	9.29	6.52	3.58
5700	32.28	26.19	16.53	12.03	9.21	6.52	3.59
5800	32.20	26.10	16.39	11.89	9.12	6.53	3.60
5900	31.90	25.84	16.24	11.77	9.03	6.55	3.63
6000	32.11	25.95	16.15	11.65	8.96	6.56	3.65
6200	31.56	25.36	15.83	11.39	8.78	6.59	3.71
6400	30.42	24.89	15.60	11.18	8.63	6.63	3.78
6600	30.21	24.59	15.34	10.94	8.44	6.64	3.85
6800	29.13	24.37	15.30	10.88	8.37	6.70	3.97
7000	28.61	23.69	15.04	10.76	8.33	6.86	4.16

Typical Performance Data

FREQ. (MHz)	INPUT RETURN LOSS Vs. V CONTROL @ V+=5V						
	@V Control=0V	@V Control=1.4V	@V Control=1.9V	@V Control=3V	@V Control=6V	@V Control=10V	@V Control=12V
1000	31.51	33.43	23.43	19.25	19.37	26.87	13.19
1200	28.34	30.94	23.50	19.33	19.45	27.08	13.27
1400	26.00	28.88	23.61	19.46	19.57	27.15	13.34
1600	24.04	26.92	23.66	19.60	19.69	27.30	13.46
1800	22.35	25.20	23.63	19.74	19.85	27.28	13.53
2000	20.86	23.62	23.51	19.91	20.00	27.23	13.60
2200	19.56	22.24	23.26	20.04	20.15	27.05	13.65
2400	18.34	20.94	22.93	20.20	20.31	26.73	13.67
2600	17.23	19.77	22.52	20.38	20.48	26.16	13.64
2800	16.28	18.78	22.16	20.60	20.67	25.56	13.60
3000	15.47	17.96	21.85	20.90	20.92	24.87	13.53
3200	14.89	17.41	21.81	21.40	21.34	24.10	13.39
3400	14.57	17.15	22.02	22.01	21.84	23.47	13.24
3600	14.39	17.04	22.29	22.52	22.28	22.89	13.07
3800	14.36	17.08	22.61	22.83	22.58	22.40	12.87
4000	14.31	17.11	22.84	22.93	22.79	22.21	12.77
4100	14.23	17.03	22.78	22.90	22.84	22.09	12.70
4200	14.14	16.97	22.70	22.77	22.85	22.00	12.64
4300	14.09	16.95	22.75	22.79	22.98	21.92	12.58
4400	13.94	16.81	22.69	22.89	23.15	21.87	12.55
4500	13.79	16.67	22.50	22.75	23.13	22.00	12.59
4600	13.66	16.55	22.46	22.79	23.27	21.97	12.58
4700	13.50	16.40	22.42	22.89	23.42	22.01	12.61
4800	13.26	16.16	22.19	22.90	23.56	22.01	12.64
4900	13.09	15.99	22.07	22.96	23.75	22.02	12.68
5000	12.96	15.89	22.05	23.12	23.99	22.04	12.71
5100	12.75	15.68	21.91	23.16	24.11	22.20	12.82
5200	12.66	15.63	22.12	23.64	24.64	22.21	12.92
5300	12.45	15.43	21.98	23.65	24.69	22.37	13.05
5400	12.21	15.18	21.76	23.73	24.81	22.45	13.13
5500	12.14	15.15	21.96	24.06	24.97	22.63	13.26
5600	11.94	14.93	21.67	24.05	25.12	22.35	13.06
5700	11.83	14.89	22.01	25.02	25.95	22.19	13.20
5800	11.62	14.70	21.86	25.03	25.87	22.33	13.30
5900	11.47	14.59	22.04	26.11	26.79	21.99	13.35
6000	11.35	14.52	22.27	26.50	26.47	22.28	13.63
6200	10.98	14.19	22.34	28.98	27.84	21.48	13.65
6400	10.68	13.97	22.57	31.45	27.36	20.95	13.78
6600	10.37	13.69	22.60	37.05	26.85	20.11	13.73
6800	10.18	13.61	23.03	38.91	24.78	19.21	13.77
7000	9.80	13.21	22.54	34.61	23.47	18.66	13.88

Voltage Variable Attenuator

RVA-6000+

Typical Performance Data

FREQ. (MHz)	OUTPUT RETURN LOSS Vs. V CONTROL @ V+=5V						
	@V Control=0V	@V Control=1.4V	@V Control=1.9V	@V Control=3V	@V Control=6V	@V Control=10V	@V Control=12V
1000	35.57	34.43	22.96	18.92	19.00	26.75	13.23
1200	32.47	34.83	23.25	19.04	19.08	26.55	13.27
1400	29.52	34.56	23.76	19.31	19.29	26.28	13.28
1600	27.34	33.72	24.48	19.67	19.58	25.75	13.23
1800	25.16	31.60	25.55	20.21	20.05	25.16	13.12
2000	23.21	28.98	26.88	20.88	20.60	24.54	13.00
2200	21.47	26.61	28.70	21.79	21.36	23.88	12.84
2400	19.67	23.98	30.04	22.90	22.32	23.18	12.65
2600	18.05	21.77	29.78	24.21	23.49	22.46	12.41
2800	16.67	20.00	28.09	25.43	24.55	21.98	12.30
3000	15.45	18.48	25.90	26.46	25.58	21.50	12.19
3200	14.56	17.40	24.30	26.84	26.10	21.17	12.14
3400	13.97	16.74	23.50	27.29	26.48	20.87	12.12
3600	13.70	16.47	23.16	26.98	26.12	20.75	12.17
3800	13.61	16.45	23.30	26.54	25.52	20.92	12.29
4000	13.55	16.47	23.55	25.91	24.80	21.27	12.47
4100	13.54	16.50	23.66	25.43	24.34	21.51	12.56
4200	13.48	16.49	23.77	25.22	24.14	21.70	12.61
4300	13.45	16.53	24.06	25.08	23.88	22.19	12.80
4400	13.41	16.57	24.39	24.96	23.66	22.64	12.96
4500	13.55	16.80	25.04	24.87	23.50	23.11	13.13
4600	13.56	16.89	25.31	24.46	23.14	23.81	13.39
4700	13.40	16.78	25.46	24.47	23.09	24.14	13.50
4800	13.25	16.69	25.68	24.48	22.96	24.67	13.69
4900	13.13	16.65	26.11	24.64	22.95	25.01	13.81
5000	13.08	16.67	26.61	24.65	22.84	25.51	14.04
5100	12.91	16.57	27.23	24.99	22.88	25.62	14.16
5200	12.74	16.46	27.83	25.47	23.01	25.55	14.26
5300	12.50	16.24	28.19	26.05	23.15	25.30	14.33
5400	12.28	16.06	28.49	26.62	23.26	24.99	14.42
5500	11.99	15.74	28.00	27.78	23.77	24.35	14.21
5600	12.22	16.04	28.93	28.49	24.20	23.25	14.09
5700	11.77	15.53	27.60	29.72	24.54	22.35	14.08
5800	11.36	15.07	26.43	30.88	24.80	21.86	14.10
5900	10.98	14.61	25.07	31.76	25.04	21.29	14.08
6000	10.63	14.18	23.86	31.20	24.98	20.65	14.10
6200	9.78	13.15	21.42	29.25	25.25	19.66	13.94
6400	9.01	12.22	19.49	26.14	24.82	18.83	13.83
6600	8.27	11.36	17.98	23.69	24.02	18.41	13.83
6800	7.87	10.88	16.99	21.86	22.85	17.91	13.80
7000	7.27	10.23	16.16	20.88	22.20	17.84	13.98



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IF/RF MICROWAVE COMPONENTS

REV. OR
RVA-6000+
162707
Page 4 of 6

Typical Performance Data

FREQ. (MHz)	OIP3 Vs. V CONTROL @ V+=5V						
	@V Control=0V	@V Control=1.4V	@V Control=1.9V	@V Control=3V	@V Control=6V	@V Control=10V	@V Control=12V
1000	33.29	30.56	32.06	33.85	33.76	31.03	39.26
1200	35.00	32.14	33.56	35.33	35.22	32.49	41.16
1400	36.70	33.61	35.07	36.89	36.70	33.83	42.40
1500	37.74	34.43	36.27	38.78	38.46	34.30	41.55
1700	38.85	35.58	37.43	40.11	39.66	35.24	42.26
1800	39.54	35.54	36.98	38.73	38.69	35.85	43.77
2000	40.92	36.31	37.81	39.61	39.62	36.97	44.06
2200	41.60	37.19	38.78	40.57	40.50	37.86	44.30
2400	41.79	37.79	39.46	41.28	41.11	38.45	44.54
2600	42.46	38.25	39.92	42.02	41.99	39.12	44.86
2800	44.84	39.35	41.01	43.40	43.61	40.38	47.16
3000	46.52	39.34	41.24	43.11	42.79	40.95	43.24
3200	48.72	40.43	42.56	46.56	46.80	41.48	50.10
3300	48.65	40.61	42.92	47.30	47.67	41.57	48.94
3400	50.62	40.85	43.05	47.41	47.97	41.71	49.83
3500	49.12	40.82	43.02	47.42	47.94	42.04	50.17
3700	51.17	41.02	43.43	48.83	49.48	42.37	50.07
3800	50.43	41.17	43.53	48.59	49.74	42.81	53.39
4000	50.40	41.36	43.78	49.31	50.46	43.04	51.60
4200	53.78	41.31	43.96	50.44	50.86	43.33	52.46
4400	53.18	41.42	44.17	50.99	52.98	43.80	51.37
4600	51.02	41.41	44.01	52.78	52.26	44.47	49.34
4800	51.04	41.27	43.97	52.77	52.69	45.32	50.45
5000	56.48	41.46	44.19	52.76	52.83	45.81	51.06
5100	51.97	41.45	44.04	51.28	59.61	45.84	54.36
5200	55.23	41.36	44.18	55.03	52.88	45.96	50.85
5300	54.17	41.29	43.77	51.19	54.74	46.52	55.86
5400	52.96	41.41	44.04	51.65	54.72	46.44	52.24
5500	53.25	41.16	43.83	52.05	53.06	47.24	52.81
5600	53.22	41.26	43.71	50.38	54.45	47.01	51.94
5700	52.33	40.91	43.95	53.70	51.97	47.88	52.77
5800	57.29	41.34	43.85	50.17	54.62	47.34	52.23
5900	52.12	40.79	43.66	51.75	51.85	48.38	51.95
6000	53.86	40.83	43.61	50.55	54.39	47.66	52.55
6100	54.47	40.54	43.35	50.86	51.95	48.61	52.67
6200	53.16	40.35	43.20	50.86	53.10	48.38	54.85
6300	53.10	40.38	43.27	50.92	52.95	48.73	52.43
6400	55.38	40.36	43.27	51.03	53.19	49.92	55.10
6500	51.85	40.19	43.26	50.82	53.77	48.64	52.52
6600	56.30	40.11	43.22	49.94	51.92	50.86	53.49
6700	52.13	40.12	43.25	51.05	54.47	49.10	52.39
6800	52.42	39.98	43.14	50.21	51.81	51.35	54.78
6900	53.13	40.33	43.25	50.66	55.21	49.69	52.15
7000	52.37	40.12	43.17	49.77	51.62	51.95	53.58

Typical Performance Data

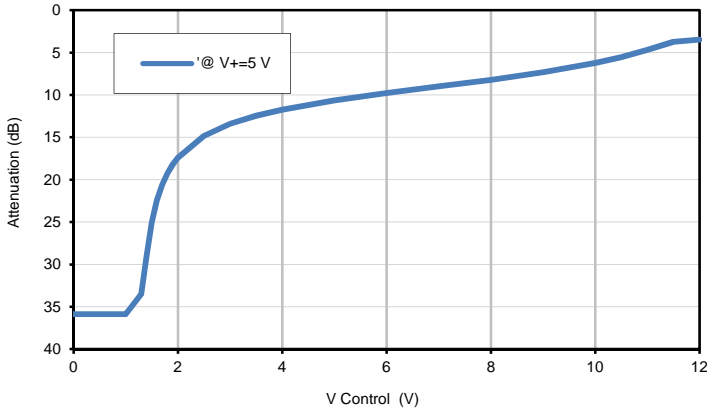
FREQ. (MHz)	PHASE SHIFT Vs. V CONTROL @ V+=5V						
	@V Control=0V	@V Control=1.4V	@V Control=1.9V	@V Control=3V	@V Control=6V	@V Control=10V	@V Control=12V
1000	74.17	-8.66	-14.07	-17.58	-22.60	-26.71	-27.66
1200	70.69	-10.28	-16.84	-20.85	-26.75	-31.73	-32.92
1400	68.28	-12.01	-19.74	-24.30	-31.05	-36.88	-38.32
1600	65.57	-13.57	-22.73	-27.79	-35.35	-42.03	-43.69
1800	63.67	-14.91	-25.65	-31.29	-39.62	-47.17	-49.06
2000	61.82	-16.37	-28.69	-34.80	-43.89	-52.28	-54.35
2200	58.52	-17.92	-31.94	-38.47	-48.22	-57.41	-59.70
2400	57.07	-19.43	-35.14	-42.16	-52.53	-62.50	-65.03
2600	54.47	-21.09	-38.49	-45.95	-56.84	-67.58	-70.26
2800	51.95	-23.50	-42.46	-50.19	-61.41	-72.75	-75.67
3000	49.73	-25.76	-46.58	-54.61	-66.04	-77.88	-81.01
3200	45.11	-28.99	-51.18	-59.40	-70.91	-83.02	-86.39
3400	41.98	-31.91	-55.99	-64.46	-75.97	-88.25	-91.79
3600	38.67	-35.15	-60.73	-69.45	-81.04	-93.48	-97.13
3800	33.49	-38.44	-65.36	-74.35	-86.07	-98.78	-102.53
4000	31.87	-40.99	-69.69	-79.03	-91.02	-104.15	-108.04
4100	29.31	-42.50	-71.74	-81.29	-93.38	-106.78	-110.74
4200	28.23	-43.52	-73.75	-83.47	-95.71	-109.43	-113.53
4300	25.66	-45.27	-75.94	-85.74	-98.09	-112.12	-116.32
4400	23.42	-46.44	-78.13	-88.11	-100.51	-114.83	-119.22
4500	19.64	-49.41	-80.65	-90.59	-103.01	-117.52	-122.03
4600	18.14	-50.80	-82.62	-92.80	-105.34	-120.29	-124.98
4700	18.83	-51.90	-84.75	-95.05	-107.71	-122.98	-127.91
4800	18.15	-54.03	-87.10	-97.42	-110.09	-125.73	-130.82
4900	17.25	-54.74	-89.20	-99.75	-112.48	-128.47	-133.84
5000	9.85	-57.83	-91.42	-101.99	-114.75	-131.07	-136.70
5100	11.06	-59.05	-93.81	-104.51	-117.21	-133.84	-139.75
5200	9.29	-61.17	-96.30	-107.04	-119.71	-136.65	-142.83
5300	11.67	-61.73	-98.60	-109.50	-122.15	-139.37	-145.80
5400	8.70	-64.46	-101.13	-112.11	-124.64	-142.08	-148.79
5500	8.74	-65.25	-103.22	-114.44	-126.97	-144.64	-151.61
5600	-0.90	-67.94	-105.32	-116.60	-129.12	-146.97	-154.25
5700	-2.27	-71.70	-108.57	-119.62	-131.94	-150.11	-157.73
5800	-2.21	-74.10	-111.31	-122.32	-134.47	-152.78	-160.73
5900	-5.60	-76.68	-114.17	-125.18	-137.16	-155.63	-164.02
6000	-4.01	-79.94	-117.45	-128.26	-139.83	-158.35	-167.09
6200	-11.88	-85.76	-123.43	-134.28	-145.46	-164.05	-173.58
6400	-16.78	-89.49	-129.01	-140.10	-150.84	-169.41	-179.83
6600	-21.62	-96.66	-135.89	-146.83	-156.92	-175.05	-186.29
6800	-26.87	-100.86	-142.32	-153.57	-163.26	-180.86	-192.66
7000	-34.34	-106.07	-146.96	-158.55	-168.05	-185.51	-198.43

Voltage Variable Attenuator

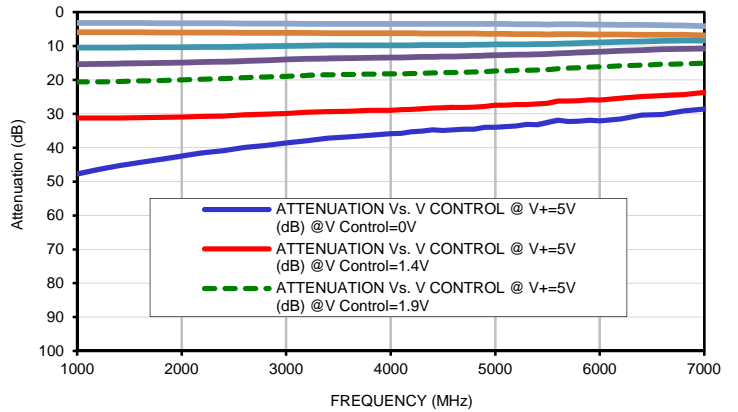
RVA-6000+

Typical Performance Curves

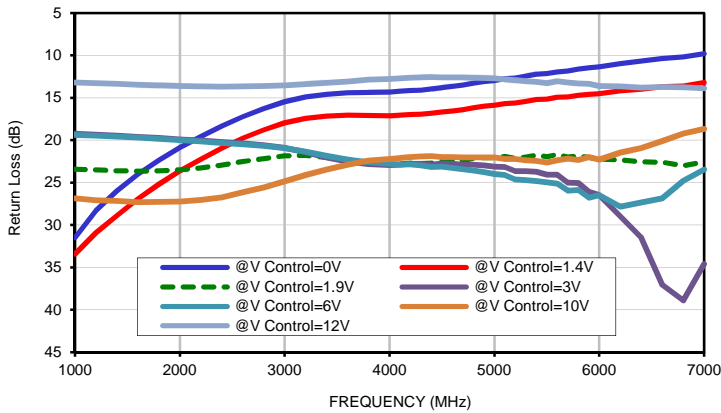
Attenuation @ 4000 MHz



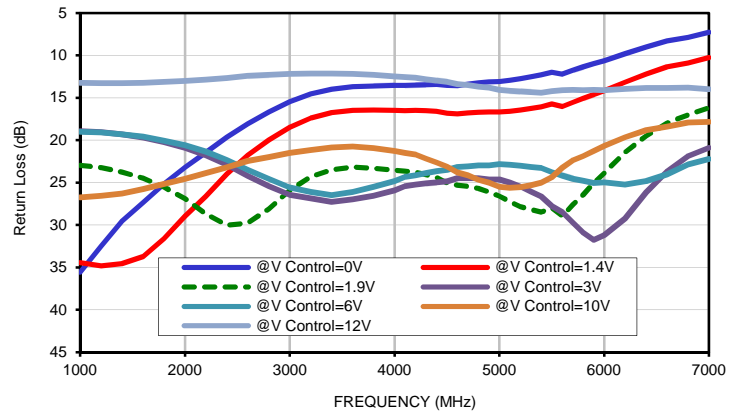
Attenuation @ V+=5 V



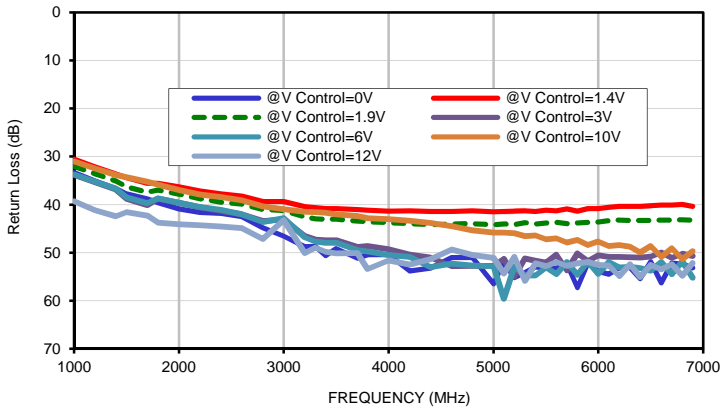
Input Return Loss @ V+=5 V



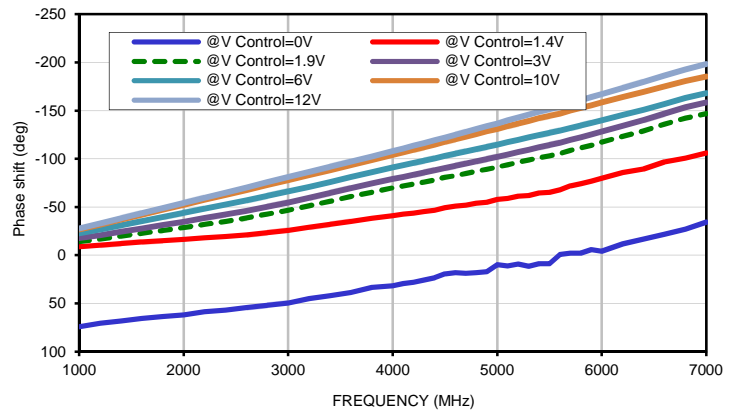
Output Return Loss @ V+=5 V



IP3 @ V+=5 V



Phase Shift @ V+=5 V



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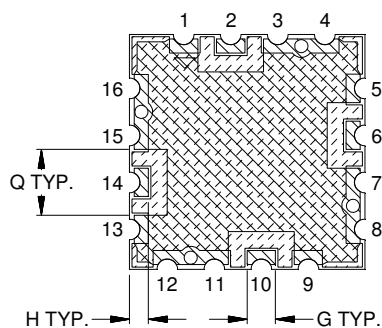
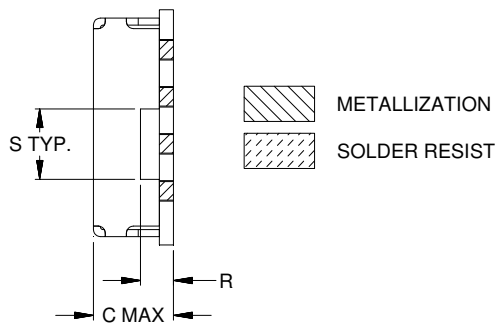
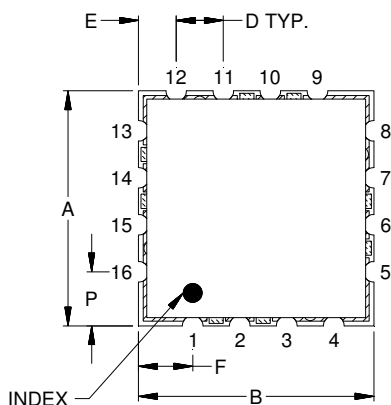


IF/RF MICROWAVE COMPONENTS

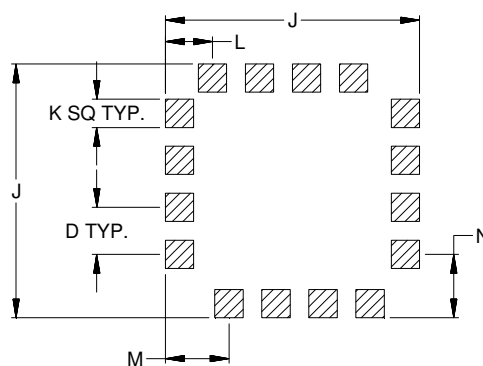
REV. OR
 RVA-6000+
 162707
 Page 1 of 1

Outline Dimensions

DV874



PCB Land Pattern



Suggested Layout,
Tolerance to be within ± 0.02

CASE#	A	B	C	D	E	F	G	H	J	K	L	M
DV874	.500 (12.70)	.500 (12.70)	.195 (4.95)	.100 (2.54)	.080 (2.03)	.115 (2.92)	.060 (1.52)	.040 (1.02)	.540 (13.72)	.060 (1.52)	.100 (2.54)	.135 (3.43)

CASE#	N	P	Q	R	S	WT.GRAM
DV874	.135 (3.43)	.115 (2.92)	.140 (3.56)	.070 (1.78)	.150 (3.81)	1.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$

Notes:

- Case material: Nickel-Silver alloy.
- Base: Printed wiring laminate.
- Termination finish:
 - For RoHS Case Styles: 3-5 μ inch (.08-.13 microns) Gold over 120-240 μ inch (3.05-6.10 microns) Nickel plate.
 - For RoHS-5 Case Styles: Tin-Lead plate.



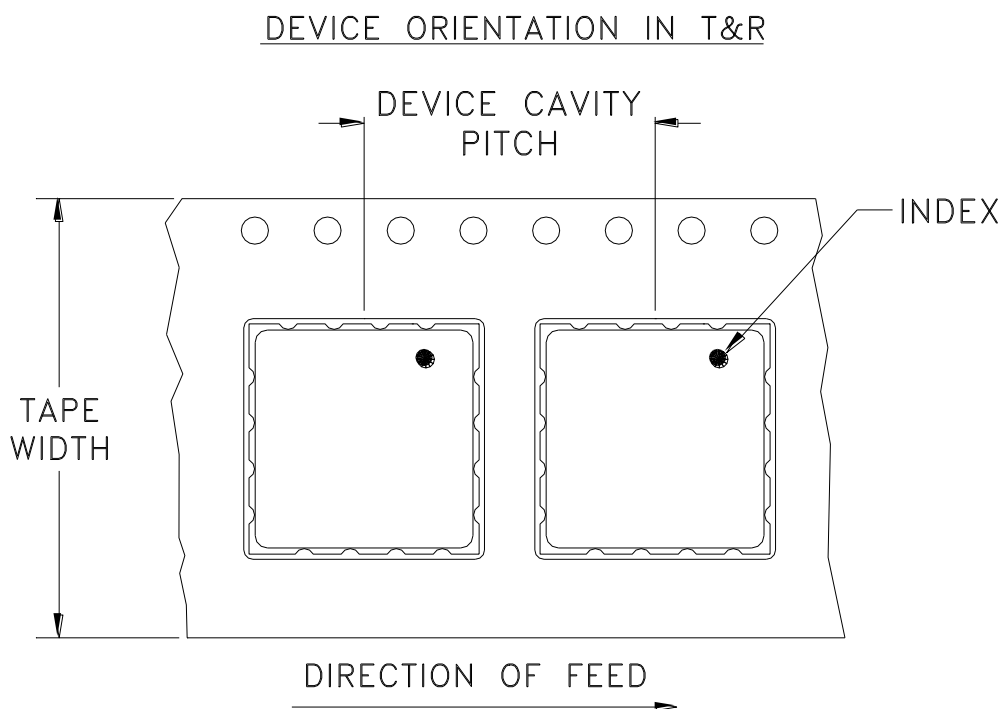
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The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F37



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel	
24	16	7	Small quantity standards (see note)	10
				20
				50
				100
		13	Standard	200
500				

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



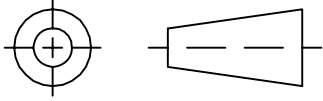
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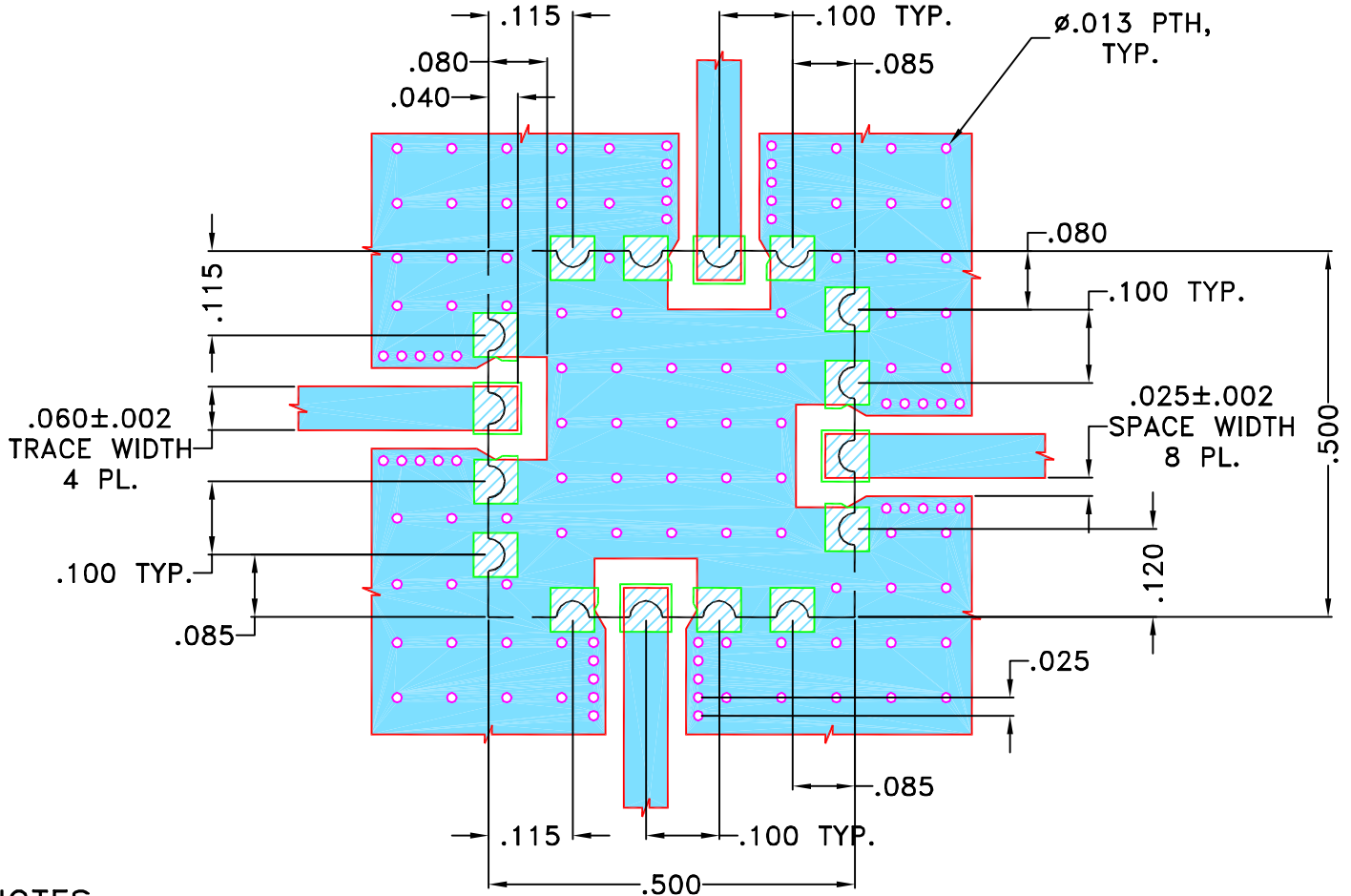
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M137753	NEW RELEASE	JUN 12	DDR	KG
A	M142821	ADDED PIN CODE "16FL01"	08/07/13	GF	IL

SUGGESTED MOUNTING CONFIGURATION FOR DV874 CASE STYLE, 16AV01/16FL01 PIN CODES



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS (R04350B) WITH DIELECTRIC THICKNESS .030"±.002". 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 SOLDERMASK

UNLESS OTHERWISE SPECIFIED	INITIALS	DATE
DIMENSIONS ARE IN INCHES TOLERANCES ON: 2 PL DECIMALS ± 3 PL DECIMALS ± .005" ANGLES ± FRACTIONS ±	DRAWN	DDR 28 JUN 12
	CHECKED	MD 28 JUN 12
	APPROVED	ASJ 28 JUN 12

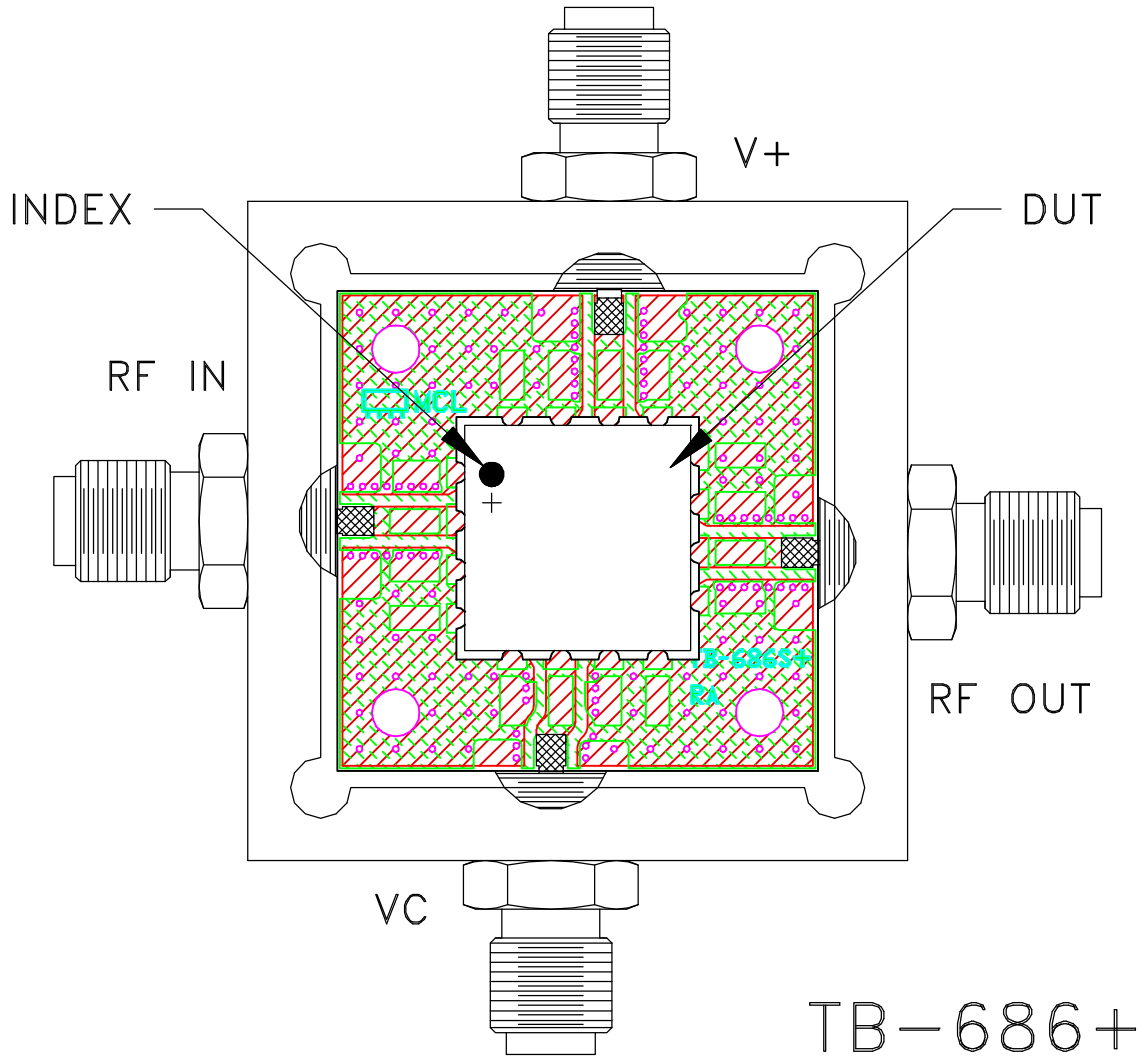
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Brooklyn NY 11235

PL, 16AV01/16FL01, DV874,
TB-686+

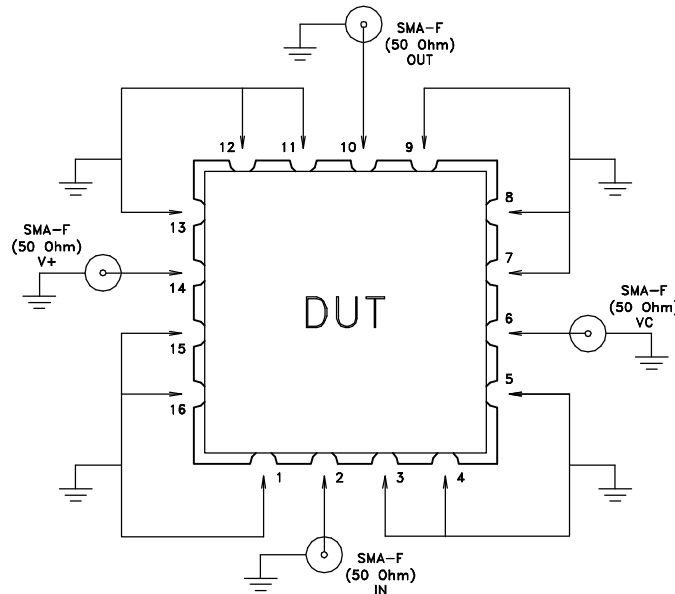
SIZE A	CODE IDENT 15542	DRAWING NO: 98-PL-374	REV: A
FILE: 98PL374	SCALE: 4:1	SHEET: 1 OF 1	

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Evaluation Board and Circuit



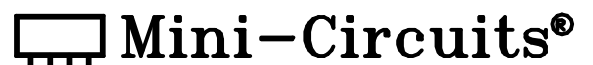
TB-686+



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: ROGERS (R04350B) OR Equivalent
Dielectric Constant=3.48±.05, Thickness=.030 inch.





All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 85° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 20-2000 Hz, 4 times in each of three axes (total 12)	MIL-STD-883, Method 2007.3, Condition A
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215