

Non-Catalog Model

Frequency Mixer

Level 7 (LO Power +7 dBm)

RMS-1BM

Important Note

This is a non-catalog model and can be manufactured on specific request.
Pricing and delivery information can be supplied upon request.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : TT240

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	5		600	MHz
	RF (fL to fU)	5		600	MHz
	IF	0		600	MHz
Conversion Loss	mid band		6.0	7.0	dB
	Total Range			7.5	dB
LO-RF Isolation	Low Range	45	65		dB
	Mid Range	32	50		dB
	Upper Range	23	35		dB
LO-IF Isolation	Low Range	40	55		dB
	Mid Range	25	40		dB
	Upper Range	22	35		dB
1 dB Comp. Input Power			+1		dBm

Notes: Low Range = [fL to 10fL]
mid band = [2fL to fU/2]

Mid Range = [10fL to fU/2]

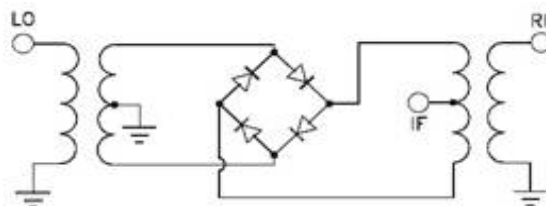
Upper Range = [fU/2 to fU]

Phase detection, positive polarity
Units are non-hermetic.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

PIN CONNECTIONS	
LO	1
RF	4
IF	5
GROUND	2, 3, 6

Electrical Schematics



Frequency Mixer

RMS-1BM

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
2.0	32.0	6.44	6.15	6.06
4.0	34.0	6.24	5.93	5.84
5.0	35.0	6.20	5.89	5.82
10.0	40.0	6.24	5.90	5.79
49.8	79.8	6.21	5.88	5.71
89.5	119.5	6.22	5.91	5.75
129.2	159.2	6.22	5.92	5.77
168.9	198.9	6.22	5.95	5.80
208.6	238.6	6.21	5.94	5.80
248.3	278.3	6.23	5.97	5.83
287.9	317.9	6.27	6.00	5.86
327.6	357.6	6.30	6.04	5.88
367.3	397.3	6.37	6.08	5.92
446.7	476.7	6.40	6.12	5.94
486.4	516.4	6.44	6.14	5.95
526.1	556.1	6.45	6.16	5.97
565.8	595.8	6.56	6.26	6.07
585.6	615.6	6.61	6.30	6.12
625.3	655.3	6.74	6.41	6.21
645.2	675.2	6.83	6.46	6.25
684.9	714.9	7.02	6.58	6.33
744.4	774.4	7.34	6.79	6.44
764.3	794.3	7.46	6.87	6.50
803.9	833.9	7.66	7.04	6.63
823.8	853.8	7.86	7.24	6.78
863.5	893.5	8.04	7.43	6.94
883.3	913.3	8.06	7.45	6.98
923.0	953.0	8.24	7.68	7.22
942.9	972.9	8.33	7.80	7.36
982.6	1012.6	8.50	8.01	7.61
1002.4	1032.4	8.64	8.15	7.78
1042.1	1072.1	8.83	8.38	8.04
1061.9	1091.9	8.91	8.45	8.15
1101.6	1131.6	9.09	8.65	8.42
1161.2	1191.2	9.41	9.02	8.90
1181.0	1211.0	9.57	9.18	9.08
1220.7	1250.7	9.75	9.47	9.47
1240.6	1270.6	10.05	9.70	9.70
1280.3	1310.3	10.53	10.19	10.21
1300.1	1330.1	10.78	10.48	10.52

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	26.09	24.06	25.48
49.8	79.8	25.90	25.94	22.67
89.5	119.5	18.15	26.04	20.64
129.2	159.2	24.17	20.89	20.51
168.9	198.9	18.60	23.27	26.10
208.6	238.6	22.68	19.81	24.51
248.3	278.3	20.91	26.02	21.81
287.9	317.9	24.07	20.94	25.18
327.6	357.6	21.39	18.87	19.81
367.3	397.3	25.81	24.25	22.20
407.0	437.0	22.42	22.18	21.34
446.7	476.7	18.50	20.43	18.87
486.4	516.4	18.35	19.28	17.93
526.1	556.1	19.43	21.39	19.20
565.8	595.8	14.79	16.24	22.94
585.6	615.6	14.64	15.39	21.11
625.3	655.3	12.91	13.07	15.56
645.2	675.2	12.22	14.22	16.56
684.9	714.9	11.14	14.49	17.81
704.7	734.7	11.65	14.61	22.54
744.4	774.4	11.44	16.12	22.60
764.3	794.3	11.24	16.81	18.10
803.9	833.9	11.08	16.05	15.86
823.8	853.8	11.19	14.85	15.24
863.5	893.5	11.14	13.98	13.66
883.3	913.3	11.08	13.87	13.75
923.0	953.0	11.91	13.65	13.57
942.9	972.9	11.60	12.99	13.77
982.6	1012.6	12.70	13.79	13.25
1002.4	1032.4	12.84	13.80	13.81
1042.1	1072.1	15.84	14.40	17.17
1061.9	1091.9	16.13	15.85	15.09
1101.6	1131.6	15.58	15.03	14.92
1121.5	1151.5	13.07	13.18	13.88
1161.2	1191.2	12.07	12.01	13.70
1181.0	1211.0	11.22	12.62	12.97
1220.7	1250.7	11.22	12.15	14.85
1240.6	1270.6	10.14	12.31	14.01
1280.3	1310.3	10.17	12.59	13.48
1300.1	1330.1	10.43	13.48	13.17

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	1.09	0.85	0.70
49.8	79.8	1.08	0.89	0.63
89.5	119.5	1.14	0.87	0.63
129.2	159.2	1.10	0.82	0.65
168.9	198.9	1.10	0.83	0.55
208.6	238.6	1.04	0.75	0.59
248.3	278.3	1.04	0.78	0.54
287.9	317.9	1.04	0.80	0.56
327.6	357.6	1.07	0.74	0.56
367.3	397.3	1.06	0.81	0.69
407.0	437.0	1.03	0.75	0.66
446.7	476.7	1.19	0.90	0.75
486.4	516.4	1.26	0.93	0.76
526.1	556.1	1.17	0.90	0.75
565.8	595.8	1.26	0.92	0.69
585.6	615.6	1.36	1.00	0.84
625.3	655.3	1.39	1.19	0.87
645.2	675.2	1.59	1.25	1.02
684.9	714.9	1.54	1.23	0.98
704.7	734.7	1.58	1.27	0.93
744.4	774.4	1.59	1.28	1.06
764.3	794.3	1.41	1.28	1.04
803.9	833.9	1.35	1.25	0.99
823.8	853.8	1.43	1.26	1.05
863.5	893.5	1.26	1.17	0.95
883.3	913.3	1.19	1.03	0.96
923.0	953.0	1.24	1.00	0.91
942.9	972.9	1.20	1.05	0.98
982.6	1012.6	1.16	0.98	0.90
1002.4	1032.4	1.15	0.96	0.87
1042.1	1072.1	0.98	0.77	0.73
1061.9	1091.9	1.09	0.74	0.60
1101.6	1131.6	1.19	0.79	0.67
1121.5	1151.5	1.07	0.85	0.63
1161.2	1191.2	1.12	0.83	0.66
1181.0	1211.0	1.00	0.80	0.81
1220.7	1250.7	0.90	0.75	0.63
1240.6	1270.6	1.13	0.73	0.56
1280.3	1310.3	1.06	0.76	0.54
1300.1	1330.1	1.09	0.68	0.60

REV. X2

RMS-1BM

100817

Page 1 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0006 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

RMS-1BM

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=300.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=600.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
290.0	10.1	6.15	10.0	20.1	5.57	590.0	10.1	6.47
282.8	17.3	6.15	24.9	35.0	5.57	575.1	25.0	6.39
275.6	24.5	6.12	39.7	49.8	5.55	560.3	39.8	6.36
268.5	31.6	6.11	54.6	64.7	5.46	545.4	54.7	6.32
261.3	38.8	6.09	69.5	79.6	5.43	530.5	69.6	6.31
254.1	46.0	6.08	84.4	94.5	5.49	515.6	84.5	6.29
246.9	53.2	6.10	99.2	109.3	5.56	500.8	99.3	6.25
239.7	60.4	6.08	114.1	124.2	5.61	485.9	114.2	6.23
232.6	67.5	6.04	129.0	139.1	5.60	471.0	129.1	6.19
225.4	74.7	6.02	143.8	153.9	5.61	456.2	143.9	6.21
218.2	81.9	6.04	158.7	168.8	5.62	441.3	158.8	6.23
211.0	89.1	6.03	173.6	183.7	5.65	426.4	173.7	6.22
203.8	96.3	6.00	188.5	198.6	5.65	411.5	188.6	6.19
196.7	103.4	5.99	203.3	213.4	5.63	396.7	203.4	6.18
189.5	110.6	6.00	218.2	228.3	5.62	381.8	218.3	6.19
182.3	117.8	5.98	233.1	243.2	5.62	366.9	233.2	6.19
175.1	125.0	5.97	247.9	258.0	5.69	352.1	248.0	6.20
167.9	132.2	5.97	262.8	272.9	5.76	337.2	262.9	6.19
160.8	139.3	5.96	277.7	287.8	5.79	322.3	277.8	6.19
153.6	146.5	5.97	292.6	302.7	5.78	307.4	292.7	6.18
146.4	153.7	5.94	307.4	317.5	5.77	292.6	307.5	6.17
139.2	160.9	5.97	322.3	332.4	5.78	277.7	322.4	6.18
132.1	168.0	5.98	337.2	347.3	5.80	262.8	337.3	6.18
124.9	175.2	5.98	352.1	362.2	5.81	247.9	352.2	6.19
117.7	182.4	5.99	366.9	377.0	5.83	233.1	367.0	6.19
110.5	189.6	5.98	381.8	391.9	5.81	218.2	381.9	6.19
103.3	196.8	5.97	396.7	406.8	5.81	203.3	396.8	6.17
96.2	203.9	5.97	411.5	421.6	5.84	188.5	411.6	6.13
89.0	211.1	5.96	426.4	436.5	5.89	173.6	426.5	6.11
81.8	218.3	5.96	441.3	451.4	5.93	158.7	441.4	6.16
74.6	225.5	5.83	456.2	466.3	5.92	143.8	456.3	6.15
67.4	232.7	5.82	471.0	481.1	5.91	129.0	471.1	6.17
60.3	239.8	5.85	485.9	496.0	5.93	114.1	486.0	6.17
53.1	247.0	5.99	500.8	510.9	5.98	99.2	500.9	6.17
45.9	254.2	5.99	515.6	525.7	5.99	84.4	515.7	6.18
38.7	261.4	6.01	530.5	540.6	6.00	69.5	530.6	6.19
31.5	268.6	6.02	545.4	555.5	6.02	54.6	545.5	6.23
24.4	275.7	6.05	560.3	570.4	6.04	39.7	560.4	6.25
17.2	282.9	6.12	575.1	585.2	6.05	24.9	575.2	6.29
10.0	290.1	6.26	590.0	600.1	6.07	10.0	590.1	6.49

REV. X2
RMS-1BM
100817
Page 2 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

RMS-1BM

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
2.0	76.36	77.45	78.57	61.46	62.05	62.37
4.0	76.01	77.30	78.72	61.31	61.60	61.92
5.0	75.18	76.89	78.20	61.28	61.49	61.60
10.0	71.36	74.36	77.17	60.46	60.26	59.90
49.8	61.05	58.03	56.23	63.32	67.31	61.34
89.5	57.51	53.85	51.74	59.42	59.58	58.15
129.2	55.33	51.12	48.83	58.08	57.67	56.08
168.9	53.36	49.10	46.78	55.79	55.63	54.35
208.6	51.52	47.47	45.17	52.12	53.29	52.85
248.3	49.38	45.71	43.54	49.08	51.28	51.83
287.9	47.61	44.50	42.43	47.07	49.61	51.04
327.6	45.62	43.01	41.17	45.00	47.58	49.48
367.3	43.57	41.24	39.62	43.47	46.00	48.16
446.7	41.85	39.95	38.36	41.39	44.61	47.63
486.4	40.84	39.41	37.89	40.20	43.31	46.14
526.1	39.23	38.38	37.02	38.90	41.50	43.64
565.8	37.84	37.38	36.29	37.47	39.66	41.24
585.6	37.13	36.83	35.92	36.98	39.00	40.44
625.3	36.18	35.99	35.32	36.06	37.81	38.94
645.2	35.71	35.50	34.86	35.92	37.53	38.40
684.9	35.07	34.96	34.49	35.67	37.06	37.58
744.4	34.24	34.35	34.15	34.90	35.59	35.29
764.3	33.94	34.09	33.96	34.48	34.93	34.42
803.9	33.26	33.57	33.61	33.15	32.95	32.07
823.8	32.91	33.19	33.15	32.54	31.92	30.80
863.5	31.93	32.38	32.39	31.02	30.13	28.90
883.3	31.63	32.18	32.29	30.44	29.38	28.06
923.0	30.76	31.35	31.44	28.88	27.66	26.29
942.9	30.32	30.96	31.08	28.33	27.10	25.69
982.6	29.42	30.11	30.24	26.97	25.80	24.44
1002.4	29.21	29.83	29.81	26.16	24.94	23.53
1042.1	28.29	28.96	28.90	24.81	23.71	22.31
1061.9	27.99	28.65	28.53	24.05	22.97	21.57
1101.6	27.21	27.83	27.52	22.57	21.51	20.03
1161.2	25.83	26.42	26.04	20.50	19.55	18.06
1181.0	25.30	25.83	25.39	19.73	18.80	17.34
1220.7	24.37	24.83	24.41	18.37	17.46	16.06
1240.6	23.87	24.19	23.75	17.68	16.75	15.38
1280.3	22.88	23.15	22.78	16.51	15.58	14.36
1300.1	22.30	22.56	22.24	15.95	15.09	13.91

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	48.26	44.55	43.44
49.8	79.8	33.73	33.89	33.97
89.5	119.5	29.47	29.43	29.62
129.2	159.2	26.81	26.85	26.95
168.9	198.9	25.17	25.28	25.39
208.6	238.6	24.06	24.22	24.32
248.3	278.3	23.48	23.63	23.71
287.9	317.9	23.15	23.39	23.58
327.6	357.6	23.04	23.35	23.60
367.3	397.3	23.24	23.54	23.76
407.0	437.0	23.92	24.18	24.41
446.7	476.7	24.64	25.13	25.47
486.4	516.4	24.54	25.25	25.86
526.1	556.1	23.32	23.89	24.41
565.8	595.8	21.24	21.52	21.72
585.6	615.6	20.30	20.45	20.60
625.3	655.3	18.25	18.25	18.28
645.2	675.2	17.48	17.43	17.42
684.9	714.9	16.03	15.89	15.86
704.7	734.7	15.47	15.32	15.28
744.4	774.4	14.55	14.40	14.35
764.3	794.3	14.22	14.07	14.04
803.9	833.9	13.66	13.55	13.56
823.8	853.8	13.45	13.37	13.37
863.5	893.5	13.10	13.07	13.11
883.3	913.3	12.92	12.95	13.04
923.0	953.0	12.62	12.73	12.88
942.9	972.9	12.48	12.63	12.82
982.6	1012.6	12.22	12.46	12.75
1002.4	1032.4	12.05	12.31	12.62
1042.1	1072.1	11.81	12.13	12.47
1061.9	1091.9	11.70	12.05	12.38
1101.6	1131.6	11.45	11.79	12.04
1121.5	1151.5	11.35	11.67	11.83
1161.2	1191.2	11.02	11.24	11.25
1181.0	1211.0	10.81	10.96	10.91
1220.7	1250.7	10.35	10.34	10.15
1240.6	1270.6	10.04	10.02	9.83
1280.3	1310.3	9.43	9.33	9.09
1300.1	1330.1	9.11	8.97	8.73

REV. X2

RMS-1BM

100817

Page 3 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

RMS-1BM

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)		
		@LO (dBm)		
		+4	+7	+10
5.0	35.0	1.14	1.16	1.20
10.0	40.0	1.06	1.10	1.15
49.8	79.8	1.02	1.08	1.13
89.5	119.5	1.04	1.10	1.15
129.2	159.2	1.06	1.12	1.17
168.9	198.9	1.09	1.14	1.19
208.6	238.6	1.11	1.17	1.21
248.3	278.3	1.13	1.18	1.23
287.9	317.9	1.16	1.21	1.25
327.6	357.6	1.17	1.22	1.27
367.3	397.3	1.19	1.24	1.28
407.0	437.0	1.23	1.28	1.32
446.7	476.7	1.27	1.31	1.36
486.4	516.4	1.31	1.36	1.41
526.1	556.1	1.35	1.40	1.45
565.8	595.8	1.38	1.42	1.47
585.6	615.6	1.39	1.43	1.48
625.3	655.3	1.41	1.44	1.48
645.2	675.2	1.43	1.46	1.49
684.9	714.9	1.47	1.49	1.52
704.7	734.7	1.51	1.52	1.55
744.4	774.4	1.62	1.62	1.64
764.3	794.3	1.70	1.70	1.71
803.9	833.9	1.89	1.87	1.87
823.8	853.8	1.99	1.96	1.96
863.5	893.5	2.19	2.16	2.15
883.3	913.3	2.30	2.26	2.25
923.0	953.0	2.49	2.46	2.44
942.9	972.9	2.60	2.57	2.55
982.6	1012.6	2.78	2.75	2.73
1002.4	1032.4	2.84	2.82	2.80
1042.1	1072.1	2.97	2.95	2.93
1061.9	1091.9	3.02	3.00	2.99
1101.6	1131.6	3.13	3.12	3.11
1121.5	1151.5	3.19	3.17	3.16
1161.2	1191.2	3.26	3.25	3.24
1181.0	1211.0	3.30	3.29	3.27
1220.7	1250.7	3.35	3.33	3.31
1240.6	1270.6	3.35	3.34	3.31
1280.3	1310.3	3.38	3.35	3.31
1300.1	1330.1	3.36	3.32	3.29

LO (MHz)	LO VSWR (:1)		
	@LO (dBm)		
	+4	+7	+10
5.0	1.68	2.41	3.33
10.0	1.64	2.36	3.28
49.8	1.76	2.56	3.60
89.5	1.75	2.55	3.54
129.2	1.75	2.53	3.52
168.9	1.77	2.53	3.50
208.6	1.77	2.52	3.46
248.3	1.81	2.57	3.51
287.9	1.85	2.59	3.54
327.6	1.88	2.65	3.60
367.3	1.95	2.73	3.70
407.0	1.96	2.72	3.65
446.7	2.03	2.80	3.75
486.4	2.05	2.78	3.69
526.1	2.10	2.84	3.75
565.8	2.17	2.91	3.82
585.6	2.19	2.92	3.83
625.3	2.26	3.00	3.90
645.2	2.32	3.07	3.98
684.9	2.37	3.10	3.98
704.7	2.38	3.09	3.95
744.4	2.49	3.20	4.07
764.3	2.48	3.18	4.02
803.9	2.55	3.25	4.07
823.8	2.64	3.37	4.22
863.5	2.67	3.36	4.18
883.3	2.70	3.38	4.18
923.0	2.80	3.50	4.31
942.9	2.78	3.45	4.23
982.6	2.82	3.45	4.19
1002.4	2.89	3.53	4.28
1042.1	2.91	3.51	4.22
1061.9	2.94	3.52	4.21
1101.6	2.97	3.52	4.17
1121.5	2.97	3.49	4.10
1161.2	2.98	3.45	4.01
1181.0	2.98	3.43	3.96
1220.7	3.00	3.40	3.88
1240.6	3.02	3.40	3.86
1280.3	2.99	3.32	3.71
1300.1	2.97	3.27	3.63

IF (OUT) (MHz)	IF VSWR @LO=600.1MHz (:1)		
	@LO (dBm)		
	+4	+7	+10
5.0	1.39	1.24	1.14
10.0	1.40	1.25	1.15
25.0	1.74	1.58	1.40
39.8	1.66	1.46	1.33
54.7	1.63	1.43	1.28
69.6	1.61	1.43	1.29
84.5	1.62	1.45	1.31
99.3	1.64	1.46	1.32
114.2	1.65	1.47	1.33
129.1	1.63	1.46	1.32
143.9	1.63	1.46	1.32
158.8	1.63	1.45	1.32
173.7	1.63	1.47	1.34
188.6	1.65	1.48	1.35
203.4	1.66	1.49	1.36
218.3	1.66	1.49	1.36
233.2	1.64	1.47	1.35
248.0	1.63	1.46	1.35
262.9	1.64	1.48	1.36
277.8	1.68	1.52	1.40
292.7	1.68	1.52	1.40
307.5	1.67	1.51	1.40
322.4	1.67	1.51	1.40
337.3	1.68	1.52	1.41
352.2	1.68	1.53	1.42
367.0	1.68	1.54	1.44
381.9	1.70	1.55	1.45
396.8	1.71	1.56	1.46
411.6	1.72	1.57	1.47
426.5	1.73	1.58	1.49
441.4	1.73	1.59	1.49
456.3	1.74	1.60	1.50
471.1	1.74	1.61	1.51
486.0	1.75	1.61	1.52
500.9	1.76	1.62	1.53
515.7	1.76	1.63	1.54
530.6	1.77	1.64	1.55
545.5	1.80	1.66	1.57
560.4	1.82	1.69	1.60
575.2	1.83	1.70	1.61
590.1	1.83	1.70	1.61

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	26	18	23	37	19	35	26	44	35	36
1	-	17	+0	27	12	30	19	37	35	39	39	39
2	103	65	69	63	68	63	67	66	60	71	59	68
3	127	77	74	79	69	77	64	80	71	80	70	75
4	111	95	97	96	90	88	89	96	93	91	100	97
5	114	107	109	113	88	88	88	89	98	106	91	99
6	119	109	102	102	98	101	89	92	102	94	102	106
7	114	104	112	103	102	108	90	83	95	102	99	103
8	110	102	107	106	102	103	101	94	83	98	97	100
9	117	100	102	104	110	107	111	101	106	83	86	97
10	111	106	106	109	104	107	114	109	107	99	78	99
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -14.00 dBm.
LO IN: 330.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -20.12 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	36	28	33	50	31	46	38	51	47	48
1	-	17	+0	27	12	31	19	40	35	44	40	44
2	99	57	59	58	59	76	58	64	50	65	54	72
3	115	56	51	55	54	60	48	62	48	64	56	56
4	111	68	73	64	87	62	97	61	70	65	70	71
5	113	77	68	67	60	68	57	66	56	95	58	73
6	120	86	95	78	84	81	81	84	79	85	85	78
7	131	87	85	84	75	97	78	82	81	79	77	86
8	119	95	95	94	92	84	92	85	91	87	98	83
9	116	97	103	100	93	90	90	107	94	91	93	112
10	118	100	113	106	104	104	98	91	107	91	99	100
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -4.00 dBm.
LO IN: 330.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -10.11 dBm

- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

REV. X2
RMS-1BM
100817
Page 5 of 5

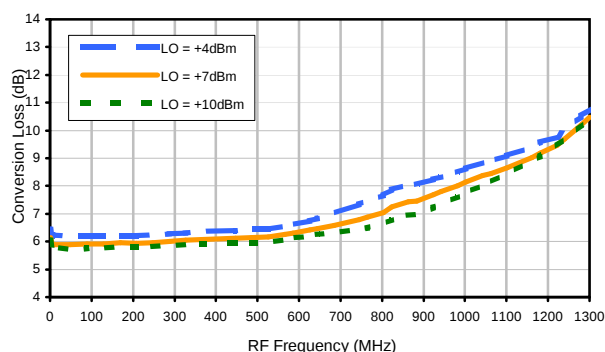


Frequency Mixer

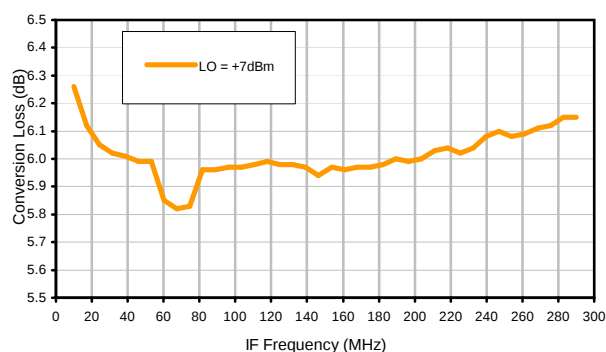
RMS-1BM

Typical Performance Curves

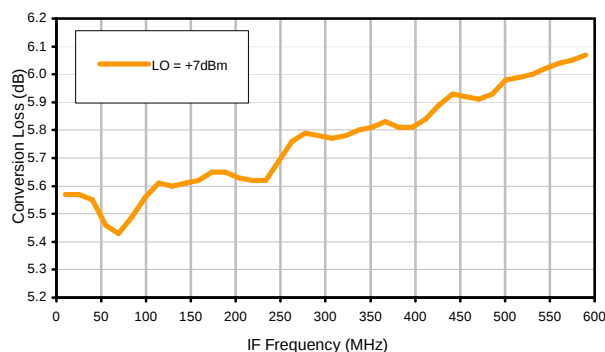
Conversion Loss @ IF=30MHz



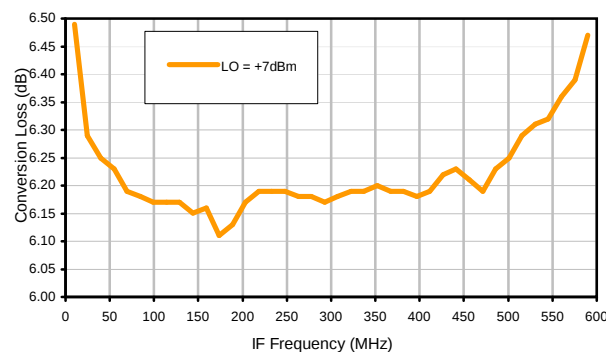
Conversion Loss vs. IF @ RF=300.1MHz



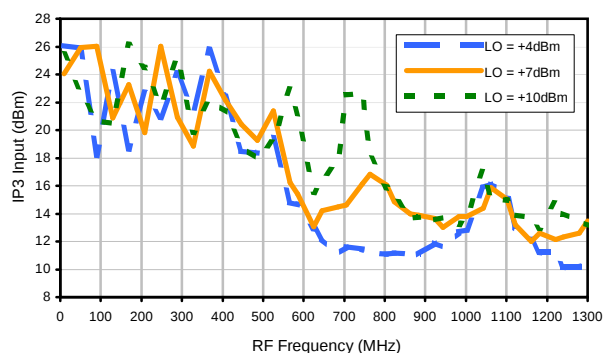
Conversion Loss vs. IF @ RF=10.1MHz



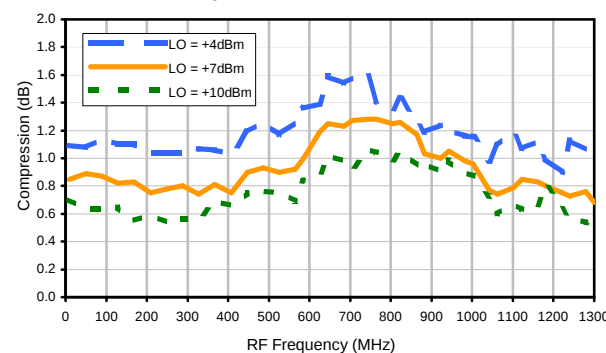
Conversion Loss vs. IF @ RF=600.1MHz



IP3 Input



Compression @ RF IN=+1dBm



REV. X2
RMS-1BM
100817
Page 1 of 3

Mini-Circuits®

IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

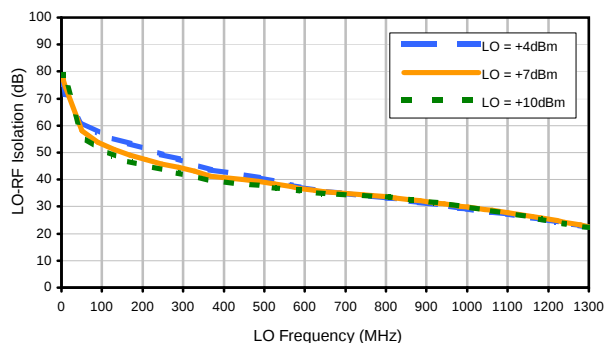


The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see

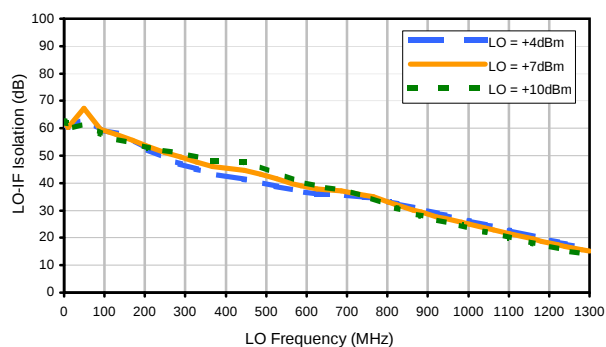


Typical Performance Curves

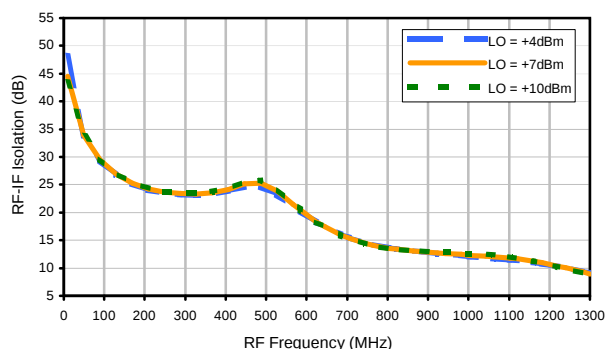
LO-RF Isolation



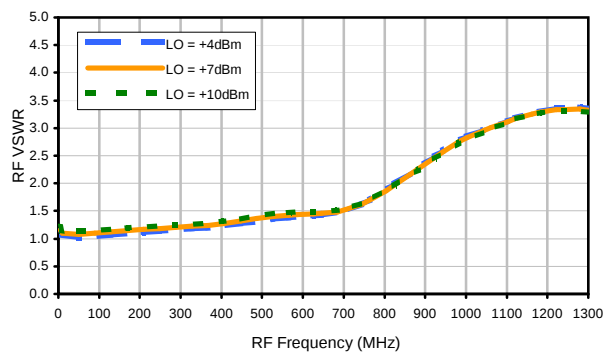
LO-IF Isolation



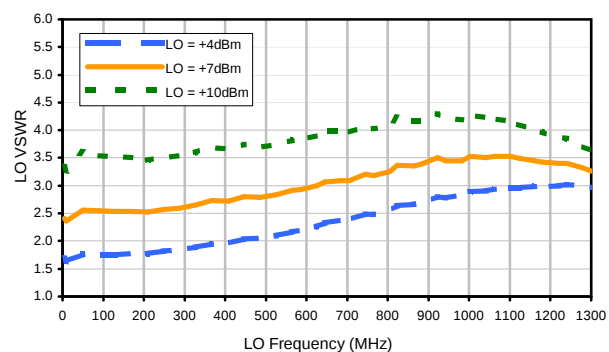
RF-IF Isolation



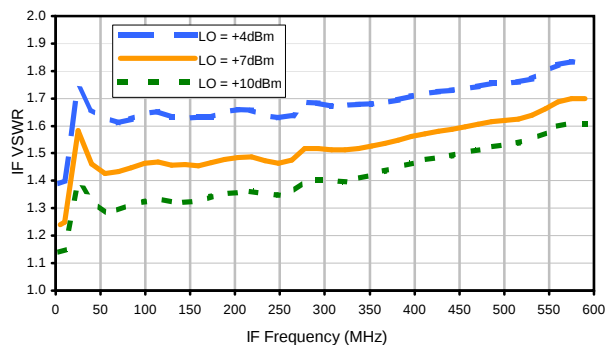
RF VSWR



LO VSWR



IF VSWR



REV. X2

RMS-1BM

100817

Page 2 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	26	18	23	37	19	35	26	44	35	36
1	-	17	+0	27	12	30	19	37	35	39	39	39
2	103	65	69	63	68	63	67	66	60	71	59	68
3	127	77	74	79	69	77	64	80	71	80	70	75
4	111	95	97	96	90	88	89	96	93	91	100	97
5	114	107	109	113	88	88	88	89	98	106	91	99
6	119	109	102	102	98	101	89	92	102	94	102	106
7	114	104	112	103	102	108	90	83	95	102	99	103
8	110	102	107	106	102	103	101	94	83	98	97	100
9	117	100	102	104	110	107	111	101	106	83	86	97
10	111	106	106	109	104	107	114	109	107	99	78	99
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -14.00 dBm.

LO IN: 330.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -20.12 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	36	28	33	50	31	46	38	51	47	48
1	-	17	+0	27	12	31	19	40	35	44	40	44
2	99	57	59	58	59	76	58	64	50	65	54	72
3	115	56	51	55	54	60	48	62	48	64	56	56
4	111	68	73	64	87	62	97	61	70	65	70	71
5	113	77	68	67	60	68	57	66	56	95	58	73
6	120	86	95	78	84	81	81	84	79	85	85	78
7	131	87	85	84	75	97	78	82	81	79	77	86
8	119	95	95	94	92	84	92	85	91	87	98	83
9	116	97	103	100	93	90	90	107	94	91	93	112
10	118	100	113	106	104	104	98	91	107	91	99	100
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -4.00 dBm.

LO IN: 330.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -10.11 dBm

Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.

2. + entry denotes harmonics are in (dBc) above IF OUTPUT.

3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

REV. X2

RMS-1BM

100817

Page 3 of 3



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

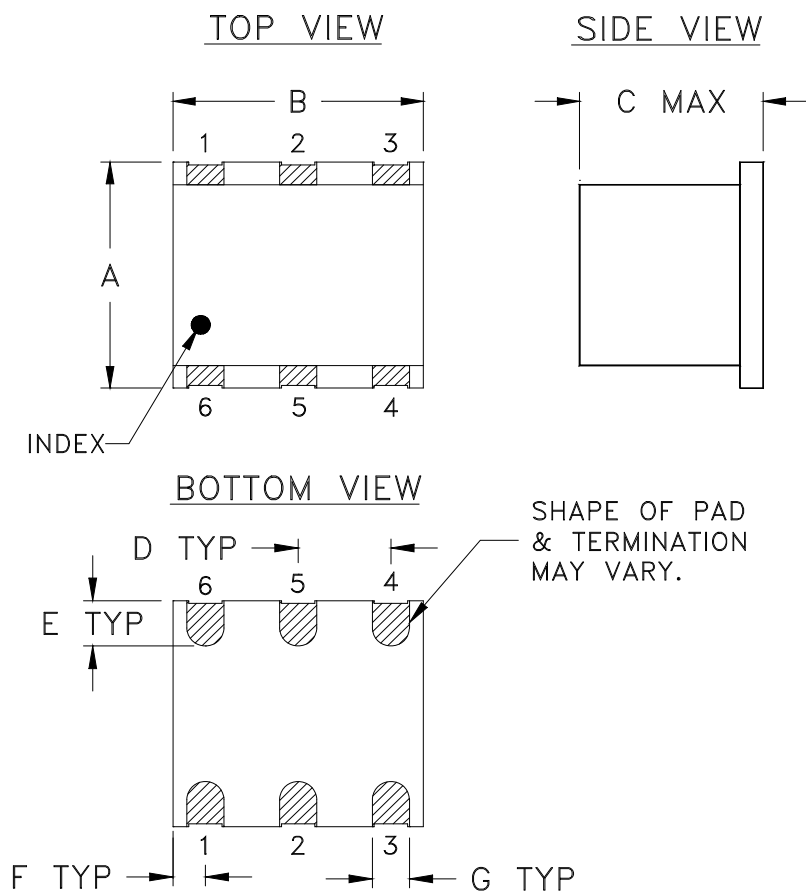
P.O. Box 350166, Brooklyn, New York 11235-0006 (718) 934-4500 Fax (718) 332-4661



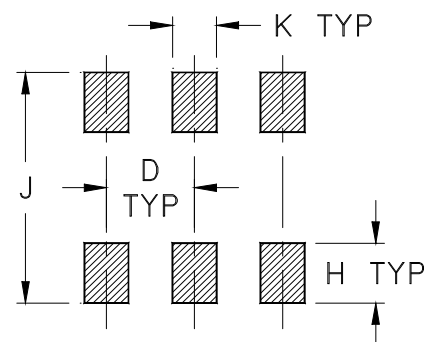
The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE #	A	B	C	D	E	F	G	H	J	K	WT. GRAM
TT240	.250 (6.35)	.31 (7.87)	.20 (5.08)	.100 (2.54)	.050 (1.27)	.055 (1.40)	.040 (1.02)	.070 (1.78)	.270 (6.86)	.050 (1.27)	.50

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Case material: Ceramic.
- Termination finish:
 - For RoHS Case Styles: 2-10 μ inch (.05-.25 microns) Gold plate over 100-300 μ inch (2.54-7.62 microns) Nickel plate. All models, (+) suffix.
 - For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.



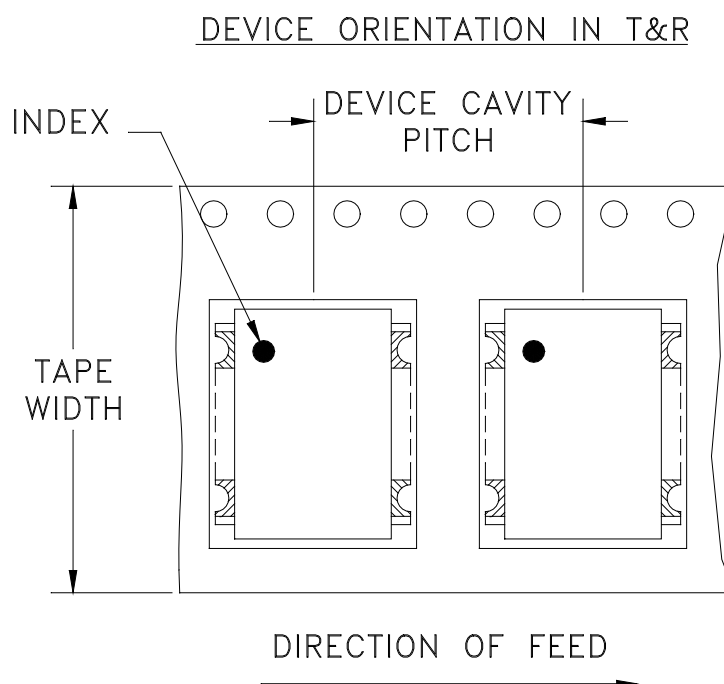
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



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

RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F2



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel See note
16	12	7	10
			20
			50
			100
			200
		13	500
			1000

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

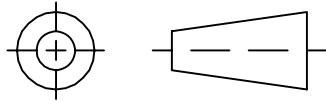


Mini-Circuits[®]
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

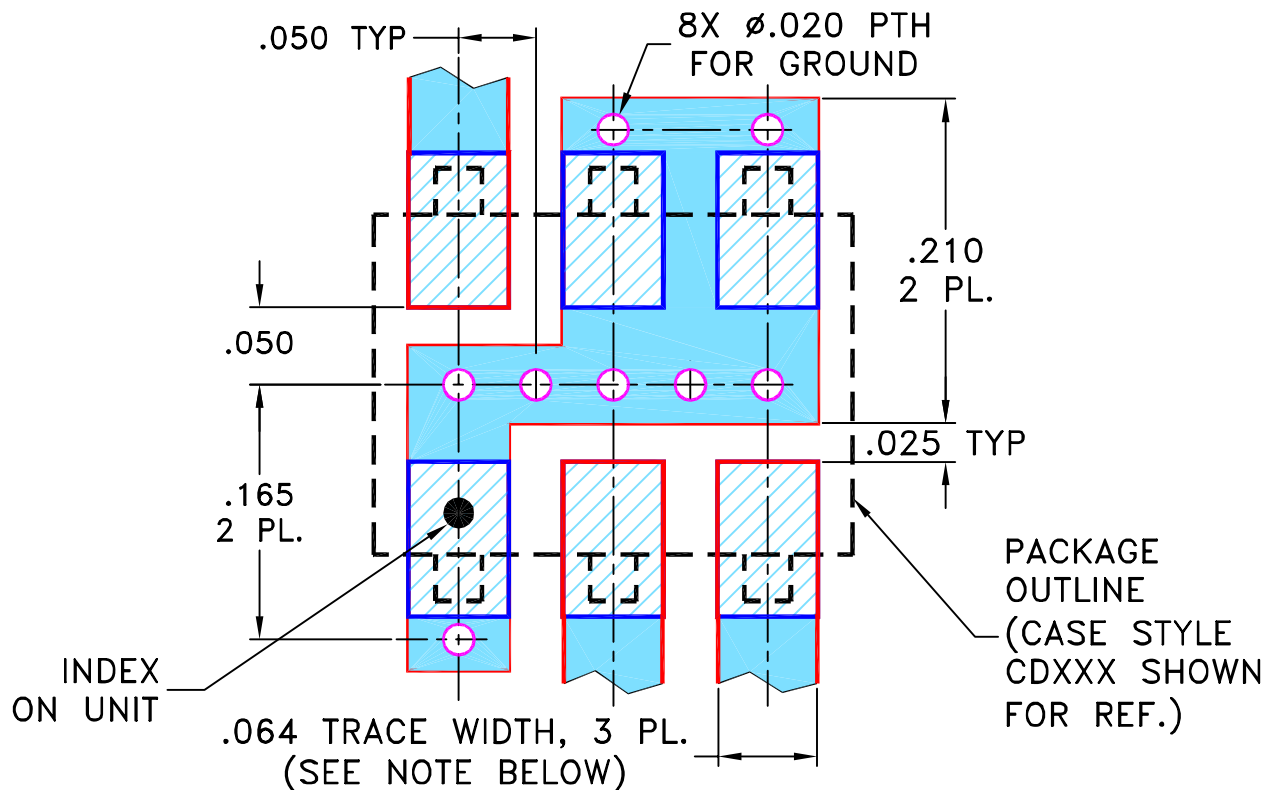
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
A	M101143	ADDED "gk" PIN CONNECTION, TT100 CASE STYLE & NOTE 2	10/10/05	MMG	DJ
B	M102713	ADDED "...WITH SMOBC"	01/17/06	MMG	IL
C	M108637	REMOVED "PIN 1", ADDED INDEX ON UNIT	12/01/06	MYG	FL

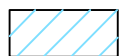
SUGGESTED MOUNTING CONFIGURATION
FOR BH292, CD541/542/636/637, TT100/240 CASE
STYLES, "gk", "ht", "hu", "nd", "w" PIN CONNECTIONS



- NOTES:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" $\pm$.002"; 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

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE

DIMENSIONS ARE IN INCHES

TOLERANCES ON:

2 PL DECIMALS $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

MMG

07/17/02

CHECKED

WL

08/02/02

APPROVED

DJ

08/05/02

Mini-Circuits®

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE, MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

ASHEETA1.DWG REV:A DATE:01/12/95


Mini-Circuits®

 13 Neptune Avenue
 Brooklyn NY 11235

PL, gk/ht/hu/nd/w, BH292,
 CD541/542/636/637, TT100/240, TB-03

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-052

REV:

C

FILE: 98PL052

SCALE:

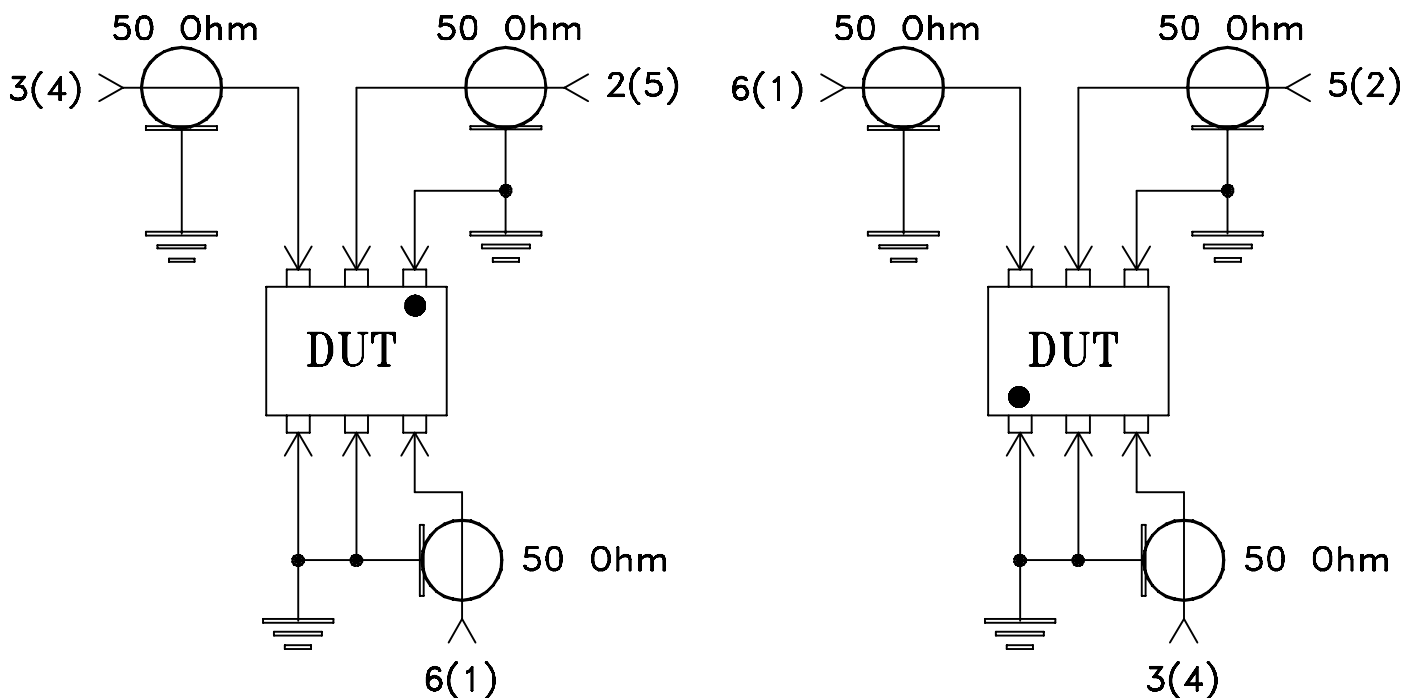
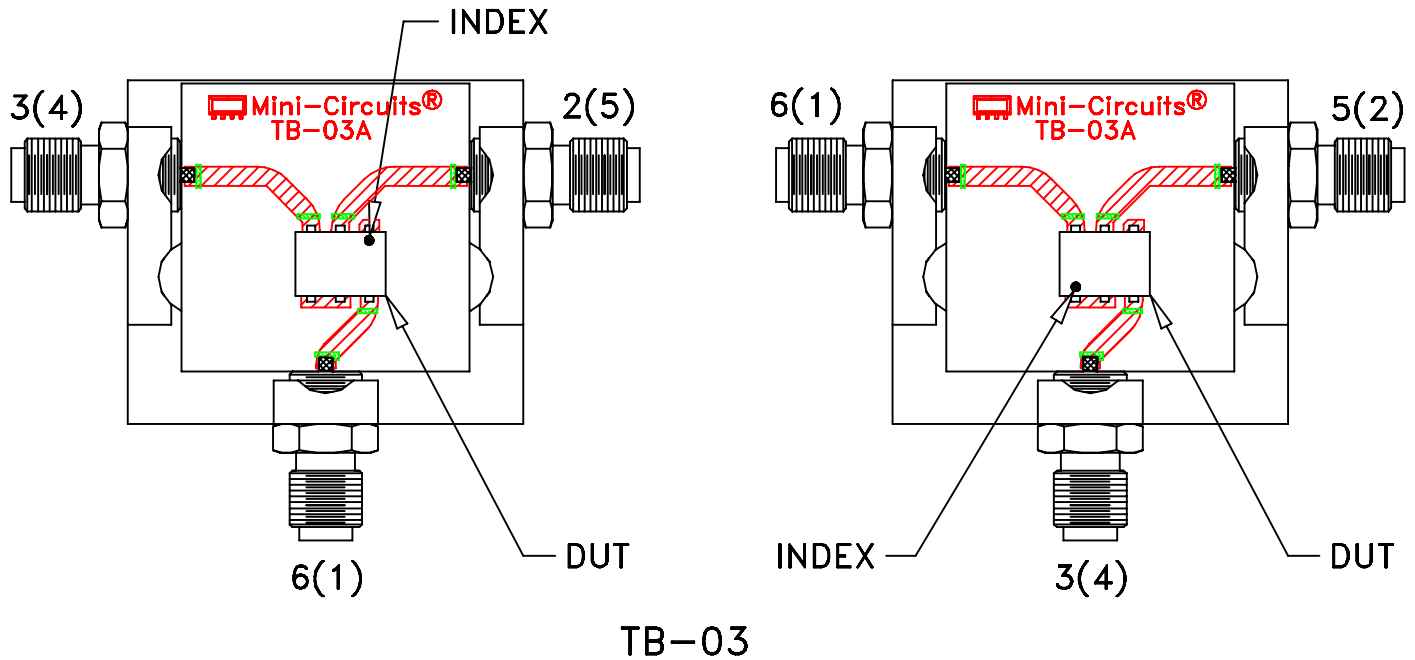
8:1

SHEET:

1 OF 1

Evaluation Board and Circuit

For Pin Connections and DUT Orientation Refer to
Data Sheet of the DUT



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.

 **Mini-Circuits®**