Non-Catalog Model

Frequency Mixer ADE-18

Level 7 (LO Power +7 dBm)

Important Note

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

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CASE STYLE : CD542

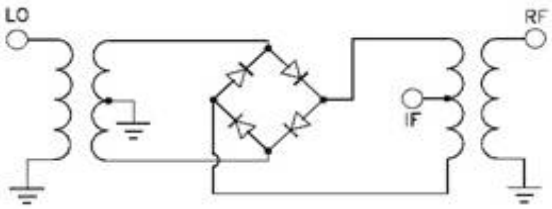
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (fL to fU)	1700		2500	MHz
	RF (fL to fU)	1700		2500	MHz
	IF	0		600	MHz
Conversion Loss			4.9	7.3	dB
LO-RF Isolation		22	27		dB
LO-IF Isolation		7	10		dB
IP3 Input			+10		dBm
1 dB Comp. Input Power			+1		dBm

Note: Aqueous washable.

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	4
RF	6
IF	3
GROUND	1, 2, 5

Electrical Schematics



Frequency Mixer ADE-18

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+4	+7	+10
800.1	830.1	14.12	10.19	8.57
880.6	910.6	12.12	9.20	8.21
961.2	991.2	10.98	8.50	7.82
1041.7	1071.7	10.04	7.89	7.26
1122.2	1152.2	8.94	7.36	6.86
1202.8	1232.8	8.14	6.99	6.51
1283.3	1313.3	7.71	6.80	6.33
1363.9	1393.9	7.36	6.63	6.23
1444.4	1474.4	6.86	6.30	6.01
1524.9	1554.9	6.29	5.78	5.51
1605.5	1635.5	6.05	5.51	5.29
1686.0	1716.0	5.90	5.46	5.24
1766.5	1796.5	5.79	5.41	5.21
1847.1	1877.1	5.65	5.34	5.21
1927.6	1957.6	5.58	5.31	5.18
2008.2	2038.2	5.57	5.24	5.04
2088.7	2118.7	5.60	5.23	4.99
2169.2	2199.2	5.61	5.22	4.94
2249.8	2279.8	5.68	5.29	5.05
2330.3	2360.3	5.79	5.35	5.15
2410.8	2440.8	5.83	5.45	5.20
2491.4	2521.4	5.78	5.41	5.19
2571.9	2601.9	5.74	5.43	5.33
2652.4	2682.4	5.85	5.56	5.46
2733.0	2763.0	6.05	5.78	5.61
2813.5	2843.5	6.41	6.09	5.89
2894.1	2924.1	6.95	6.53	6.27
2954.5	2984.5	7.55	6.99	6.65
3035.0	3065.0	8.09	7.53	7.19
3095.4	3125.4	8.35	7.90	7.48
3175.9	3205.9	8.63	8.21	7.91
3236.3	3266.3	8.87	8.47	8.18
3316.9	3346.9	9.10	8.74	8.48
3377.3	3407.3	9.20	8.81	8.61
3457.8	3487.8	9.41	9.03	8.74
3518.2	3548.2	9.61	9.18	8.94
3598.8	3628.8	9.83	9.42	9.19
3659.2	3689.2	10.00	9.61	9.40
3739.7	3769.7	10.28	9.84	9.65
3800.1	3830.1	10.46	9.98	9.75

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+4	+7	+10
800.1	830.1	4.37	12.19	14.54
880.6	910.6	5.69	9.05	10.15
961.2	991.2	6.97	10.47	9.41
1041.7	1071.7	9.70	12.11	12.01
1122.2	1152.2	18.44	12.05	11.17
1202.8	1232.8	10.45	10.98	9.75
1283.3	1313.3	7.84	8.81	9.21
1363.9	1393.9	6.72	7.35	8.10
1444.4	1474.4	6.88	7.00	7.63
1524.9	1554.9	8.19	9.46	10.71
1605.5	1635.5	8.98	9.89	11.01
1686.0	1716.0	9.11	9.44	9.98
1766.5	1796.5	8.68	8.92	10.04
1847.1	1877.1	7.35	7.86	8.61
1927.6	1957.6	6.91	6.49	7.20
2008.2	2038.2	8.54	6.57	6.76
2088.7	2118.7	8.32	6.09	5.62
2169.2	2199.2	8.87	7.26	6.44
2249.8	2279.8	8.72	8.02	7.38
2330.3	2360.3	8.98	8.45	7.98
2410.8	2440.8	10.66	10.62	11.31
2491.4	2521.4	10.96	10.21	11.53
2571.9	2601.9	8.67	10.87	13.34
2652.4	2682.4	9.12	12.11	15.72
2733.0	2763.0	10.67	12.24	15.71
2813.5	2843.5	12.37	13.12	14.51
2894.1	2924.1	16.51	14.73	15.75
2954.5	2984.5	17.22	21.82	18.16
3035.0	3065.0	12.32	15.73	18.15
3095.4	3125.4	10.86	12.35	19.49
3175.9	3205.9	11.03	10.98	12.55
3236.3	3266.3	14.24	11.58	11.82
3316.9	3346.9	14.80	15.35	13.27
3377.3	3407.3	15.27	15.36	15.43
3457.8	3487.8	14.49	16.15	16.71
3518.2	3548.2	14.88	15.78	18.05
3598.8	3628.8	13.21	20.38	16.69
3659.2	3689.2	14.54	15.75	19.75
3739.7	3769.7	15.49	17.24	20.16
3800.1	3830.1	14.30	18.76	19.27

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB) @LO (dBm)		
		+4	+7	+10
800.1	830.1	-1.48	-0.03	0.17
880.6	910.6	-0.65	0.19	0.19
961.2	991.2	-0.20	0.46	0.33
1041.7	1071.7	0.16	0.63	0.51
1122.2	1152.2	0.57	0.64	0.50
1202.8	1232.8	0.69	0.60	0.47
1283.3	1313.3	0.82	0.66	0.52
1363.9	1393.9	1.10	0.85	0.65
1444.4	1474.4	1.38	1.05	0.80
1524.9	1554.9	1.59	1.24	0.96
1605.5	1635.5	1.74	1.38	1.08
1686.0	1716.0	1.90	1.55	1.27
1766.5	1796.5	1.95	1.61	1.36
1847.1	1877.1	1.96	1.64	1.41
1927.6	1957.6	1.86	1.55	1.34
2008.2	2038.2	1.66	1.37	1.20
2088.7	2118.7	1.39	1.18	1.06
2169.2	2199.2	1.24	1.08	0.96
2249.8	2279.8	1.13	0.97	0.85
2330.3	2360.3	1.15	0.98	0.83
2410.8	2440.8	1.13	0.92	0.75
2491.4	2521.4	1.11	0.82	0.59
2571.9	2601.9	1.01	0.63	0.41
2652.4	2682.4	0.96	0.56	0.36
2733.0	2763.0	0.83	0.50	0.34
2813.5	2843.5	0.86	0.58	0.44
2894.1	2924.1	0.76	0.58	0.48
2954.5	2984.5	0.68	0.56	0.50
3035.0	3065.0	0.52	0.48	0.48
3095.4	3125.4	0.45	0.43	0.43
3175.9	3205.9	0.42	0.40	0.41
3236.3	3266.3	0.39	0.35	0.38
3316.9	3346.9	0.41	0.36	0.39
3377.3	3407.3	0.37	0.33	0.34
3457.8	3487.8	0.40	0.32	0.28
3518.2	3548.2	0.40	0.31	0.26
3598.8	3628.8	0.36	0.25	0.19
3659.2	3689.2	0.35	0.22	0.17
3739.7	3769.7	0.34	0.20	0.15
3800.1	3830.1	0.40	0.22	0.15

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2100.1001MHz (dB) @LO (dBm) +7
400.0	1700.1	6.61
379.5	1720.6	6.55
358.9	1741.2	6.40
338.4	1761.7	6.31
317.9	1782.2	6.21
297.4	1802.7	6.10
276.8	1823.3	6.04
256.3	1843.8	5.93
235.8	1864.3	5.81
215.3	1884.8	5.74
194.7	1905.4	5.66
174.2	1925.9	5.59
153.7	1946.4	5.52
133.2	1966.9	5.44
112.6	1987.5	5.38
92.1	2008.0	5.32
71.6	2028.5	5.27
51.1	2049.0	5.21
30.5	2069.6	5.19
10.0	2090.1	5.30
10.0	2110.1	5.32
29.5	2129.6	5.23
49.0	2149.1	5.27
68.5	2168.6	5.36
88.0	2188.1	5.41
107.5	2207.6	5.47
127.0	2227.1	5.52
146.5	2246.6	5.57
166.0	2266.1	5.63
185.5	2285.6	5.63
205.0	2305.1	5.64
224.5	2324.6	5.65
244.0	2344.1	5.70
263.5	2363.6	5.73
283.0	2383.1	5.74
302.5	2402.6	5.72
322.0	2422.1	5.76
341.5	2441.6	5.80
380.5	2480.6	5.91
400.0	2500.1	5.92

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1700.1MHz (dB) @LO (dBm) +7
10.0	1710.1	5.48
24.8	1724.9	5.36
39.5	1739.6	5.43
54.3	1754.4	5.52
69.0	1769.1	5.59
83.8	1783.9	5.65
98.5	1798.6	5.73
113.3	1813.4	5.78
128.0	1828.1	5.83
142.8	1842.9	5.93
157.5	1857.6	6.01
172.3	1872.4	6.07
187.0	1887.1	6.15
201.8	1901.9	6.19
216.5	1916.6	6.25
231.3	1931.4	6.31
246.0	1946.1	6.38
260.8	1960.9	6.45
275.5	1975.6	6.52
290.3	1990.4	6.54
305.0	2005.1	6.57
319.8	2019.9	6.62
334.5	2034.6	6.66
349.3	2049.4	6.67
364.0	2064.1	6.73
378.8	2078.9	6.77
393.5	2093.6	6.77
408.3	2108.3	6.76
423.0	2123.1	6.78
437.8	2137.9	6.83
452.5	2152.6	6.86
467.3	2167.4	6.89
482.0	2182.1	6.87
496.7	2196.8	6.89
511.5	2211.6	6.93
526.3	2226.4	6.97
541.0	2241.1	7.02
555.8	2255.9	7.08
585.2	2285.3	7.19
600.0	2300.1	7.24

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2500.1MHz (dB) @LO (dBm) +7
600.0	1900.1	7.02
585.3	1914.9	6.94
570.5	1929.6	6.85
555.8	1944.4	6.75
541.0	1959.1	6.66
526.3	1973.9	6.58
511.5	1988.6	6.51
496.8	2003.4	6.45
482.0	2018.1	6.41
467.3	2032.9	6.41
452.5	2047.6	6.37
437.8	2062.3	6.31
423.0	2077.1	6.26
408.3	2091.9	6.23
393.5	2106.6	6.22
378.8	2121.4	6.21
364.0	2136.1	6.17
349.3	2150.9	6.13
334.5	2165.6	6.13
319.8	2180.3	6.10
305.0	2195.1	6.07
290.3	2209.9	6.06
275.5	2224.6	6.06
260.8	2239.4	6.05
246.0	2254.1	6.04
231.3	2268.8	6.02
216.5	2283.6	5.99
201.8	2298.4	5.99
187.0	2313.1	5.95
172.3	2327.9	5.95
157.5	2342.6	5.94
142.8	2357.3	5.93
128.0	2372.1	5.88
113.3	2386.9	5.84
98.5	2401.6	5.80
83.8	2416.3	5.76
69.0	2431.1	5.72
54.3	2445.9	5.66
24.8	2475.4	5.55
10.0	2490.1	5.80

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+4	+7	+10	+4	+7	+10
800.1	25.52	24.73	24.72	19.93	24.23	27.61
880.6	24.85	24.47	24.50	20.88	24.58	26.36
961.2	24.57	24.45	24.44	21.57	23.45	23.55
1041.7	24.55	24.62	24.58	20.81	21.21	20.61
1122.2	24.73	24.84	24.80	19.55	18.98	18.05
1202.8	25.21	25.32	25.28	18.35	17.19	16.08
1283.3	25.96	26.04	26.02	17.07	15.50	14.46
1363.9	26.97	27.05	27.03	15.89	14.22	13.20
1444.4	28.32	28.53	28.55	15.02	13.37	12.39
1524.9	29.75	30.10	30.15	14.05	12.57	11.68
1605.5	31.75	32.52	32.58	12.94	11.69	10.95
1686.0	33.74	35.61	35.87	12.15	11.09	10.48
1766.5	35.58	38.72	39.25	11.58	10.72	10.20
1847.1	36.67	41.06	41.70	11.14	10.52	10.10
1927.6	35.87	40.62	44.10	10.79	10.43	10.16
2008.2	33.81	37.42	42.57	10.61	10.50	10.39
2088.7	32.32	35.17	39.19	10.55	10.65	10.65
2169.2	31.57	34.28	37.33	10.61	10.96	11.10
2249.8	31.23	33.86	36.32	10.79	11.44	11.77
2330.3	30.84	33.48	35.86	11.08	12.06	12.64
2410.8	30.15	32.53	34.64	11.38	12.70	13.59
2491.4	29.00	31.02	32.71	11.47	13.09	14.28
2571.9	28.15	29.98	31.47	11.33	13.09	14.53
2652.4	28.23	29.89	31.15	11.49	13.41	15.12
2733.0	28.31	29.79	30.83	11.70	13.78	15.73
2813.5	28.48	29.75	30.58	12.10	14.29	16.44
2894.1	27.72	28.66	29.29	12.56	14.81	17.06
2954.5	27.01	27.69	28.21	12.84	15.11	17.36
3035.0	26.75	27.11	27.43	13.37	15.59	17.72
3095.4	27.03	27.12	27.22	14.04	16.19	18.11
3175.9	27.52	27.31	27.08	14.34	16.25	17.80
3236.3	27.75	27.51	27.13	14.68	16.28	17.49
3316.9	27.80	27.58	27.22	15.08	16.21	16.93
3377.3	27.62	27.36	27.06	15.33	16.09	16.49
3457.8	27.26	26.92	26.63	15.61	15.96	16.06
3518.2	27.17	26.79	26.50	15.97	16.03	15.94
3598.8	27.17	26.73	26.42	16.58	16.20	15.80
3659.2	27.25	26.75	26.42	17.15	16.40	15.79
3739.7	27.40	26.83	26.47	17.89	16.65	15.80
3800.1	27.59	26.99	26.61	18.39	16.81	15.80

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+4	+7	+10
800.1	830.1	12.25	11.76	11.61
880.6	910.6	12.76	12.53	12.39
961.2	991.2	13.48	13.36	13.23
1041.7	1071.7	14.21	14.29	14.15
1122.2	1152.2	15.08	15.37	15.40
1202.8	1232.8	15.99	16.31	16.47
1283.3	1313.3	17.25	17.60	17.81
1363.9	1393.9	18.80	19.17	19.44
1444.4	1474.4	20.71	21.20	21.60
1524.9	1554.9	22.73	23.26	23.57
1605.5	1635.5	24.45	24.68	24.85
1686.0	1716.0	25.73	25.79	25.66
1766.5	1796.5	25.52	25.45	25.29
1847.1	1877.1	24.47	24.24	24.05
1927.6	1957.6	23.91	23.54	23.24
2008.2	2038.2	23.81	23.41	23.03
2088.7	2118.7	24.06	23.65	23.15
2169.2	2199.2	24.05	23.78	23.44
2249.8	2279.8	23.46	23.37	23.31
2330.3	2360.3	22.98	22.99	23.11
2410.8	2440.8	22.63	22.76	23.05
2491.4	2521.4	22.56	22.88	23.38
2571.9	2601.9	23.18	23.64	24.06
2652.4	2682.4	24.21	24.51	24.76
2733.0	2763.0	25.47	25.54	25.66
2813.5	2843.5	26.61	26.63	26.68
2894.1	2924.1	26.93	27.02	27.07
2954.5	2984.5	26.76	26.83	26.97
3035.0	3065.0	26.53	26.61	26.83
3095.4	3125.4	26.64	26.72	26.96
3175.9	3205.9	27.02	27.02	27.16
3236.3	3266.3	27.48	27.33	27.36
3316.9	3346.9	28.07	27.82	27.67
3377.3	3407.3	28.62	28.36	28.13
3457.8	3487.8	29.43	29.15	28.93
3518.2	3548.2	29.98	29.78	29.64
3598.8	3628.8	30.98	30.79	30.71
3659.2	3689.2	31.49	31.33	31.27
3739.7	3769.7	32.10	32.03	31.91
3800.1	3830.1	32.66	32.68	32.60

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+4	+7	+10
800.1	830.1	8.01	7.05	6.56
880.6	910.6	7.28	6.42	6.11
961.2	991.2	6.71	5.83	5.49
1041.7	1071.7	6.03	5.19	4.80
1122.2	1152.2	5.12	4.48	4.09
1202.8	1232.8	4.50	4.10	3.79
1283.3	1313.3	4.17	3.90	3.71
1363.9	1393.9	3.98	3.79	3.67
1444.4	1474.4	3.62	3.43	3.33
1524.9	1554.9	3.13	2.91	2.81
1605.5	1635.5	2.82	2.58	2.48
1686.0	1716.0	2.54	2.33	2.21
1766.5	1796.5	2.27	2.07	1.97
1847.1	1877.1	1.92	1.72	1.62
1927.6	1957.6	1.65	1.43	1.30
2008.2	2038.2	1.51	1.30	1.15
2088.7	2118.7	1.42	1.23	1.09
2169.2	2199.2	1.62	1.43	1.27
2249.8	2279.8	1.69	1.52	1.39
2330.3	2360.3	1.67	1.54	1.44
2410.8	2440.8	1.72	1.60	1.54
2491.4	2521.4	1.77	1.67	1.65
2571.9	2601.9	1.80	1.71	1.69
2652.4	2682.4	1.73	1.65	1.62
2733.0	2763.0	1.67	1.59	1.56
2813.5	2843.5	1.73	1.66	1.62
2894.1	2924.1	2.11	2.03	1.98
2954.5	2984.5	2.65	2.55	2.47
3035.0	3065.0	3.24	3.13	3.03
3095.4	3125.4	3.75	3.64	3.54
3175.9	3205.9	4.27	4.19	4.09
3236.3	3266.3	4.78	4.72	4.60
3316.9	3346.9	6.24	6.09	5.89
3377.3	3407.3	9.04	8.72	8.35
3457.8	3487.8	9.69	9.28	8.86
3518.2	3548.2	8.01	7.70	7.41
3598.8	3628.8	8.23	7.90	7.70
3659.2	3689.2	8.99	8.60	8.35
3739.7	3769.7	10.07	9.48	9.13
3800.1	3830.1	11.61	10.69	10.25

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+4	+7	+10
800.1	15.53	10.62	7.34
880.6	12.89	8.39	6.35
961.2	10.25	6.73	5.74
1041.7	8.47	5.81	5.36
1122.2	6.94	5.09	4.93
1202.8	5.72	4.52	4.56
1283.3	4.68	4.12	4.35
1363.9	4.10	3.87	4.18
1444.4	3.70	3.67	4.04
1524.9	3.34	3.47	3.89
1605.5	3.03	3.25	3.73
1686.0	2.83	3.11	3.60
1766.5	2.69	3.01	3.50
1847.1	2.57	2.94	3.44
1927.6	2.51	2.95	3.50
2008.2	2.49	2.98	3.56
2088.7	2.41	2.89	3.46
2169.2	2.35	2.86	3.41
2249.8	2.34	2.89	3.48
2330.3	2.37	2.99	3.61
2410.8	2.40	3.02	3.68
2491.4	2.34	2.94	3.58
2571.9	2.23	2.80	3.43
2652.4	2.18	2.75	3.40
2733.0	2.16	2.73	3.35
2813.5	2.17	2.72	3.33
2894.1	2.22	2.74	3.34
2954.5	2.21	2.71	3.27
3035.0	2.25	2.72	3.26
3095.4	2.36	2.84	3.40
3175.9	2.43	2.89	3.42
3236.3	2.42	2.86	3.35
3316.9	2.50	2.93	3.43
3377.3	2.58	3.02	3.53
3457.8	2.61	3.04	3.54
3518.2	2.72	3.11	3.58
3598.8	2.95	3.33	3.82
3659.2	3.12	3.45	3.91
3739.7	3.40	3.65	4.06
3800.1	3.72	3.91	4.31

IF (OUT) (MHz)	IF VSWR @LO=2500.1MHz (:1) @LO (dBm)		
	+4	+7	+10
10.1	1.50	1.62	1.20
25.2	1.50	1.38	1.25
40.4	1.47	1.37	1.23
55.5	1.41	1.28	1.20
70.6	1.42	1.26	1.17
85.7	1.39	1.23	1.17
100.9	1.42	1.31	1.21
116.0	1.47	1.33	1.23
131.1	1.48	1.35	1.28
146.3	1.47	1.34	1.28
161.4	1.49	1.36	1.29
176.5	1.51	1.38	1.33
191.6	1.53	1.40	1.36
206.8	1.56	1.45	1.40
221.9	1.54	1.45	1.43
237.0	1.53	1.47	1.44
252.2	1.54	1.47	1.47
267.3	1.55	1.49	1.50
282.4	1.57	1.52	1.52
297.5	1.59	1.55	1.56
312.7	1.60	1.58	1.60
327.8	1.62	1.61	1.64
342.9	1.61	1.62	1.66
358.0	1.60	1.62	1.68
373.2	1.61	1.64	1.69
388.3	1.66	1.69	1.75
403.4	1.70	1.75	1.81
418.6	1.72	1.78	1.87
433.7	1.71	1.79	1.87
448.8	1.72	1.80	1.89
463.9	1.77	1.84	1.93
479.1	1.83	1.92	2.02
494.2	1.90	2.00	2.11
509.3	1.94	2.05	2.17
524.5	1.96	2.08	2.21
539.6	1.99	2.12	2.25
554.7	2.03	2.17	2.31
569.8	2.09	2.23	2.37
585.0	2.16	2.33	2.47
600.1	2.23	2.40	2.55

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+16	30	8	20	26	41	28	42	39	46
1	-	19	+0	38	35	38	34	44	46	46	56	56
2	100	57	46	47	37	60	45	56	57	60	63	59
3	108	64	61	70	60	68	68	81	58	68	64	71
4	105	84	70	89	72	76	66	85	72	76	80	79
5	110	96	88	99	95	107	79	87	97	90	85	86
6	109	102	102	113	94	109	95	91	96	100	98	101
7	114	101	103	104	103	102	104	112	84	108	106	98
8	114	95	103	105	100	104	107	102	96	92	115	105
9	111	96	96	100	93	107	99	107	109	101	91	103
10	113	101	97	94	104	97	100	102	103	111	102	97
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 2100.1 MHz; -14.00 dBm.
LO IN: 2130.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -19.47 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+6	41	20	35	33	56	38	66	50	67
1	-	18	+0	41	34	43	41	52	63	56	70	65
2	80	57	42	39	34	59	43	48	65	71	55	68
3	115	41	41	51	31	57	56	64	53	69	65	68
4	90	62	53	60	53	54	44	66	55	60	65	79
5	119	73	63	69	59	64	50	62	62	72	59	75
6	113	75	68	76	61	71	64	65	55	74	65	73
7	117	78	88	84	73	78	79	83	60	69	70	79
8	106	84	85	87	76	79	70	82	73	70	65	80
9	104	88	92	86	100	96	89	80	87	81	70	77
10	111	94	95	92	99	95	87	87	79	95	80	78
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

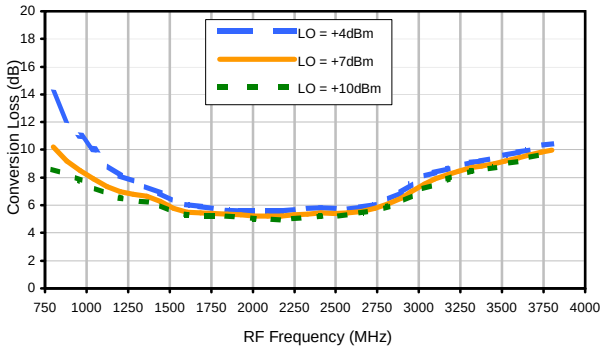
LO HARMONICS ORDER

Test conditions:
RF IN: 2100.1 MHz; -4.00 dBm.
LO IN: 2130.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -9.68 dBm

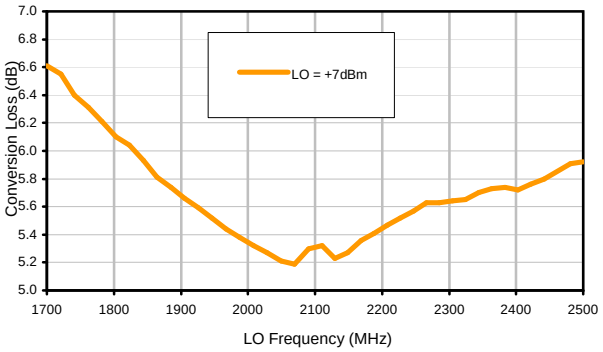
Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Typical Performance Curves

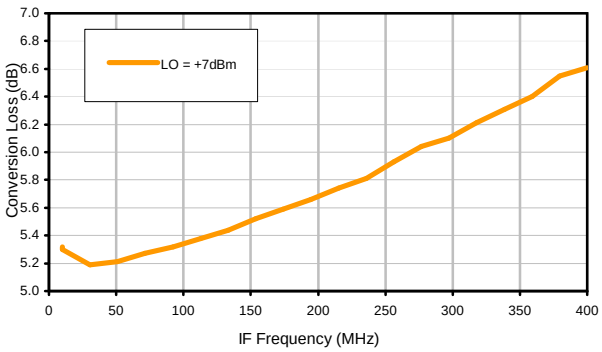
Conversion Loss @ IF=30MHz



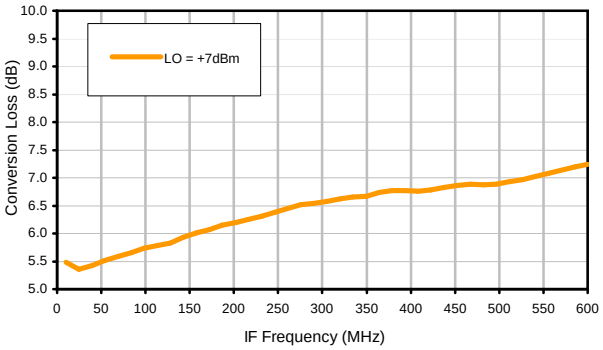
Conversion Loss vs. LO @ RF=2100.1MHz



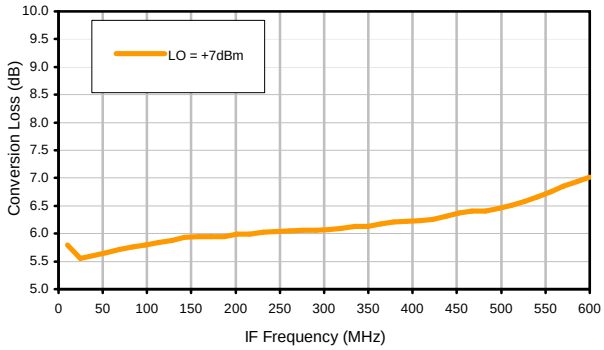
Conversion Loss vs. IF @ RF=2100.1MHz



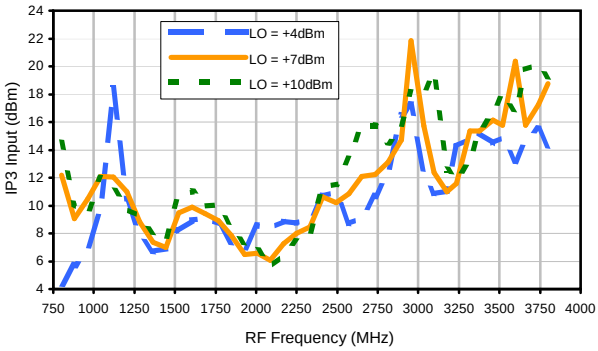
Conversion Loss vs. IF @ RF=1700.1MHz



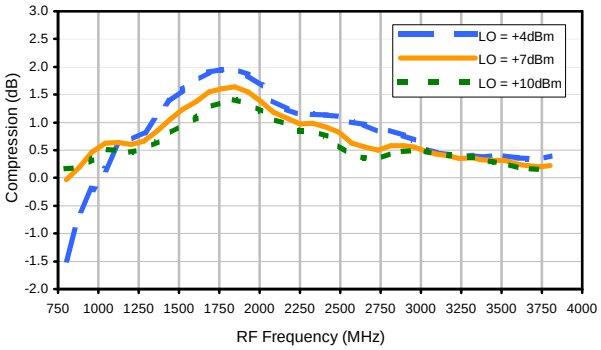
Conversion Loss vs. IF @ RF=2500.1MHz



IP3 Input

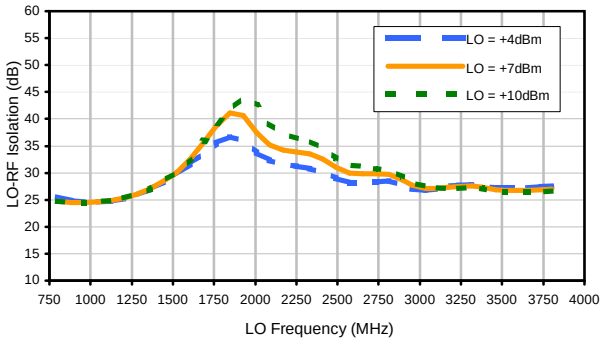


Compression @ RF IN=+1dBm

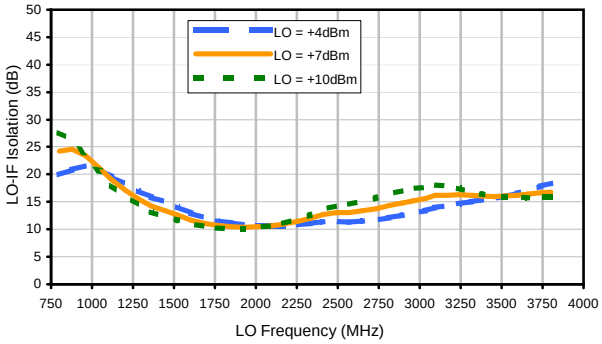


Typical Performance Curves

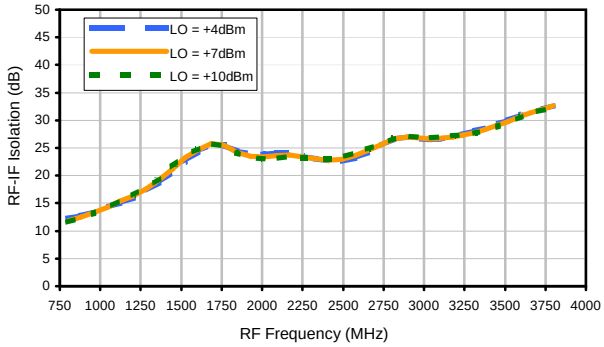
LO-RF Isolation



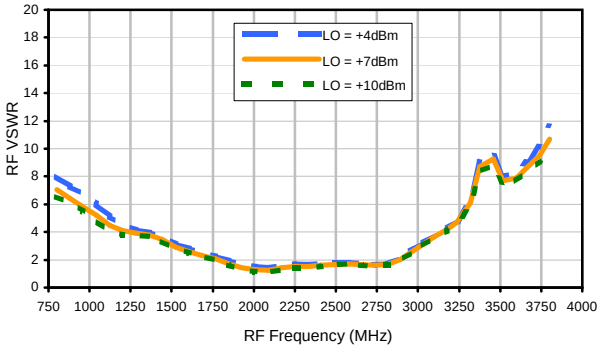
LO-IF Isolation



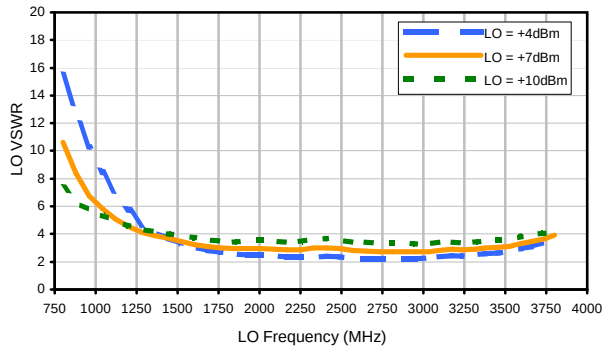
RF-IF Isolation



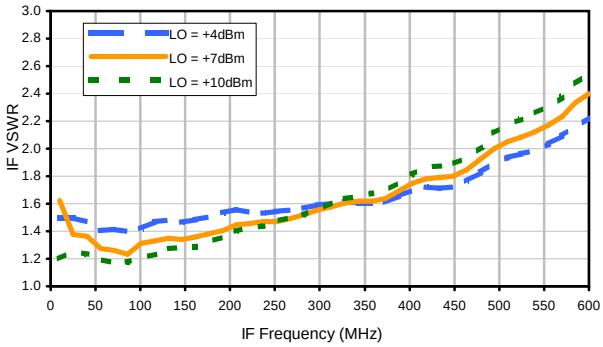
RF VSWR



LO VSWR



IF VSWR



Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+16	30	8	20	26	41	28	42	39	46
1	-	19	+0	38	35	38	34	44	46	46	56	56
2	100	57	46	47	37	60	45	56	57	60	63	59
3	108	64	61	70	60	68	68	81	58	68	64	71
4	105	84	70	89	72	76	66	85	72	76	80	79
5	110	96	88	99	95	107	79	87	97	90	85	86
6	109	102	102	113	94	109	95	91	96	100	98	101
7	114	101	103	104	103	102	104	112	84	108	106	98
8	114	95	103	105	100	104	107	102	96	92	115	105
9	111	96	96	100	93	107	99	107	109	101	91	103
10	113	101	97	94	104	97	100	102	103	111	102	97
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:
RF IN: 2100.1 MHz; -14.00 dBm.
LO IN: 2130.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -19.47 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+6	41	20	35	33	56	38	66	50	67
1	-	18	+0	41	34	43	41	52	63	56	70	65
2	80	57	42	39	34	59	43	48	65	71	55	68
3	115	41	41	51	31	57	56	64	53	69	65	68
4	90	62	53	60	53	54	44	66	55	60	65	79
5	119	73	63	69	59	64	50	62	62	72	59	75
6	113	75	68	76	61	71	64	65	55	74	65	73
7	117	78	88	84	73	78	79	83	60	69	70	79
8	106	84	85	87	76	79	70	82	73	70	65	80
9	104	88	92	86	100	96	89	80	87	81	70	77
10	111	94	95	92	99	95	87	87	79	95	80	78
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

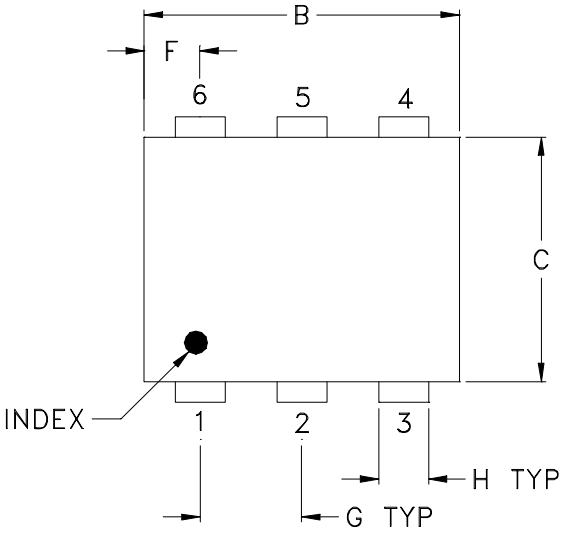
Test conditions:
RF IN: 2100.1 MHz; -4.00 dBm.
LO IN: 2130.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -9.68 dBm

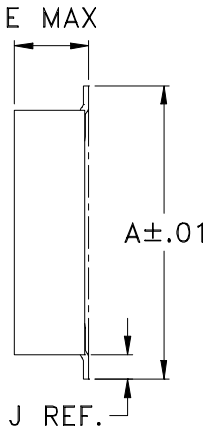
Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Case Style CD

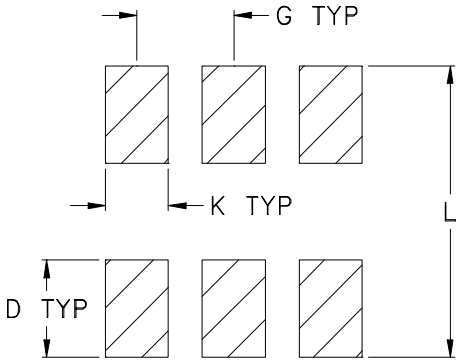
CD541
CD542
CD636
CD637

Outline Dimensions





PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
CD541	.272 (6.91)	.310 (7.87)	.220 (5.58)	.100 (2.54)	.082 (2.08)	.055 (1.40)	.100 (2.54)	.030 (0.76)	.026 (0.66)	.065 (1.65)	.300 (7.62)	.15
CD542					.112 (2.84)							.20
CD636					.162 (4.11)							.25
CD637					.206 (5.23)							.40

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

Notes:

1. Case material: Plastic.
2. Termination finish:
   For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
   For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

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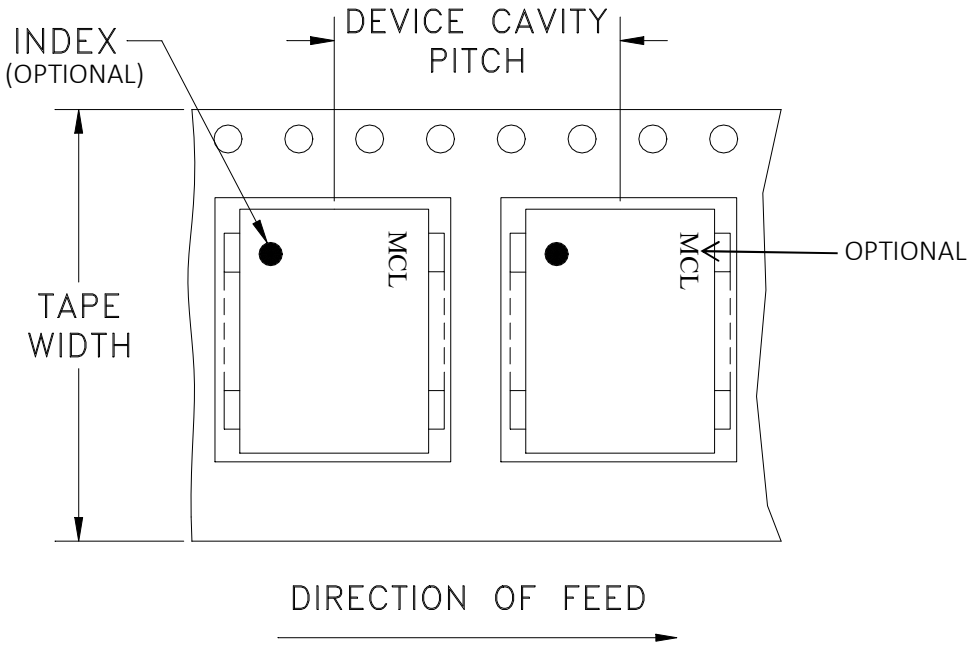
Tape & Reel Packaging TR-F34

DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
16	12	7	Small quantity standard (see note)	20
				50
				100
				200
		13	Standard	500
				1000

Note: Availability of small reel quantity varies by model.
Refer to pricing and availability on individual model dashboard.

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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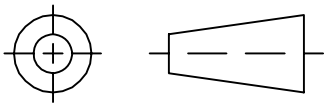
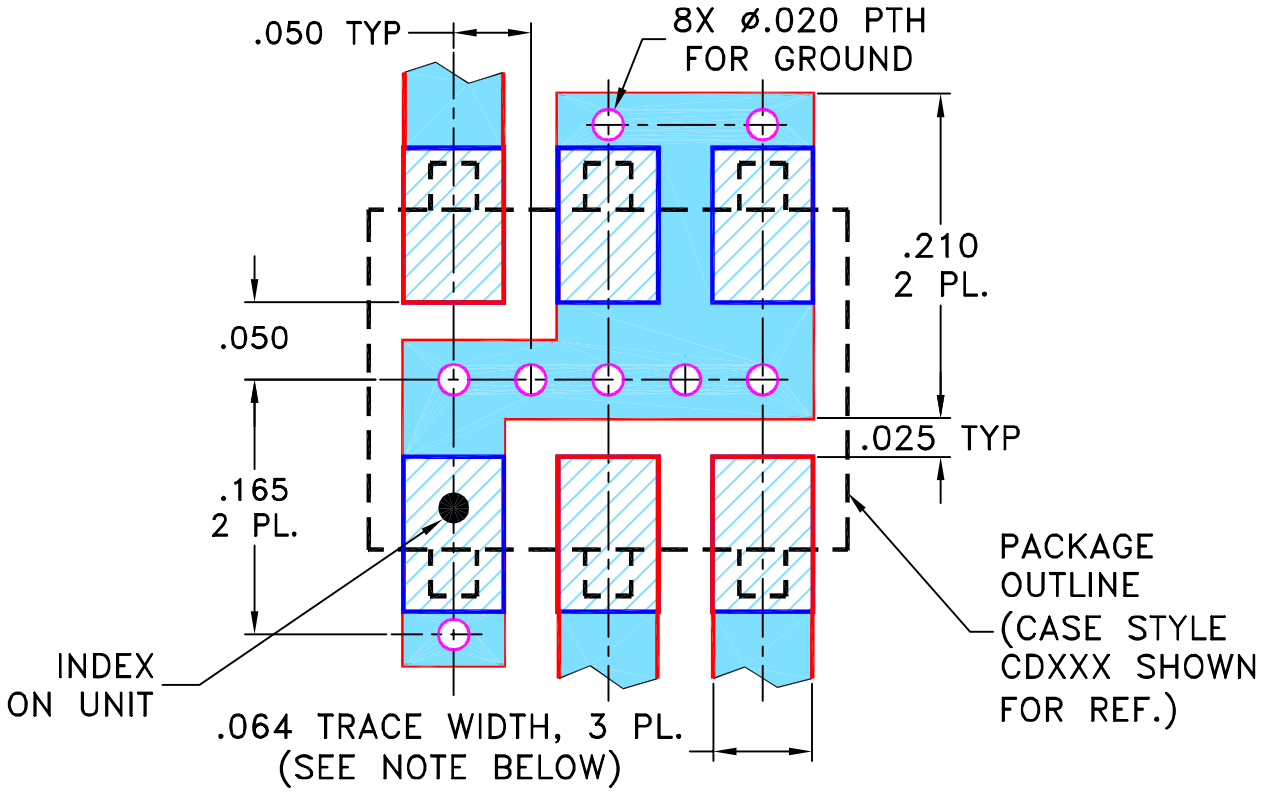
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
A	M101143	ADDED "gk" PIN CONNECTION,	10/10/05	MMG	DJ
		TT100 CASE STYLE & NOTE 2			
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 RO4350B WITH DIELECTRIC THICKNESS .030" ± .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	DRAWN	MMG	07/17/02
TOLERANCES ON:	CHECKED	WL	08/02/02
2 PL DECIMALS ±	APPROVED	DJ	08/05/02
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

Mini-Circuits®

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

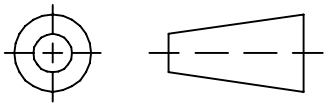
Mini-Circuits®
13 Neptune Avenue
Brooklyn NY 11235

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

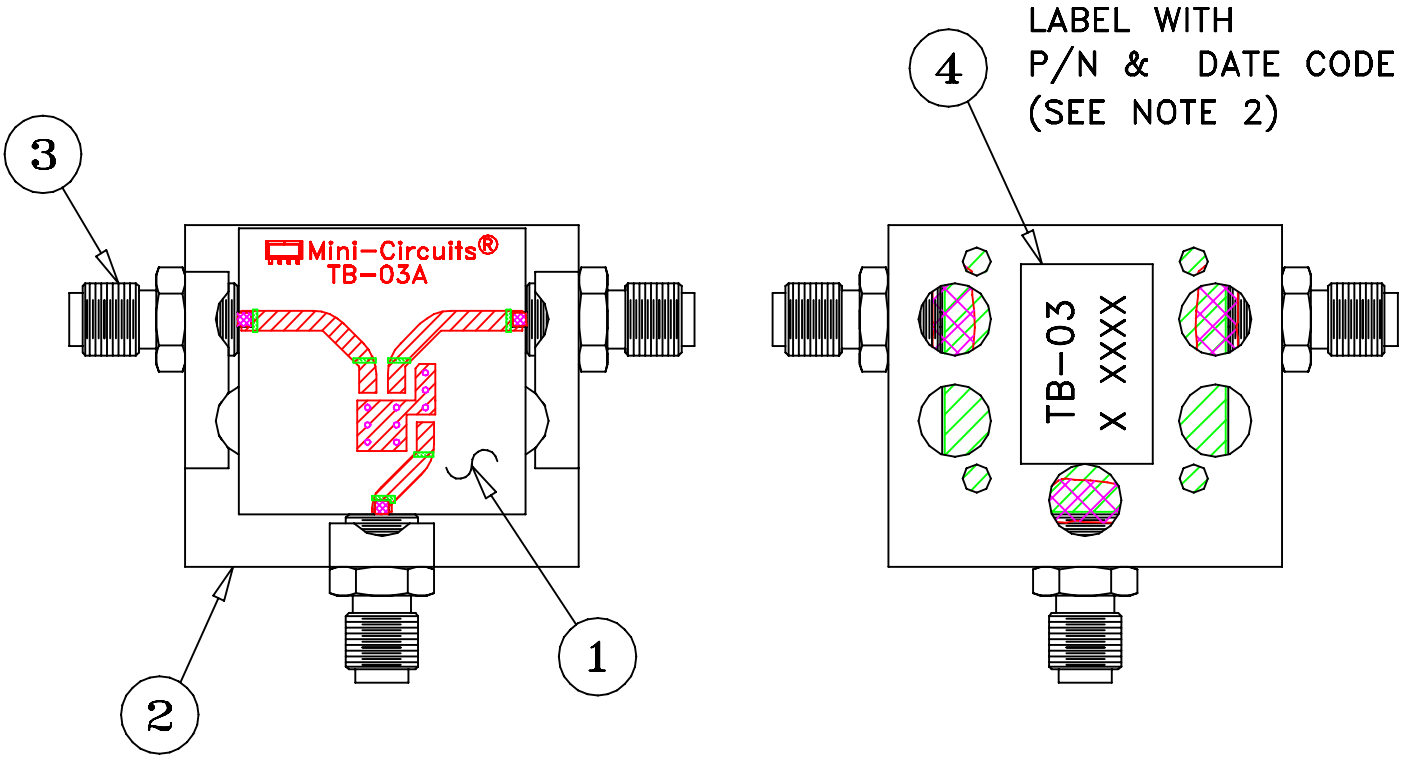
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-052	C

FILE:	SCALE:	SHEET:
98PL052	8:1	1 OF 1

THIRD ANGLE PROJECTION



REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
E	**M119737**	**UPDATED PCB**	**10.08**	**MF**	**AD**
F	M127659	UPDATED CARR	06.10	SW	SG
G	M127846	UPDATED SCHEMATIC DIAGRAM	06.10	SW	SG
H	M131840	UPDATED DWG	05.11	MF	AD



NOTES:

1. REFER TO -09 PAGE FOR ITEM DESCRIPTIONS. DESIGNATION NUMBERS ON -20 PAGE CORRESPOND TO THE NUMBERS ON -09 PAGE.
2. FOR TEXT HEIGHT & STYLE ON THE LABEL REFER TO: D3-G209.

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	S.WOLYNSKI	06.29.99
TOLERANCES ON:	CHECKED	SG	07.06.99
2 PL DECIMALS ±	APPROVED	MG	07.10.99
3 PL DECIMALS ±			
ANGLES ±			
FRACTIONS ±			

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

Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

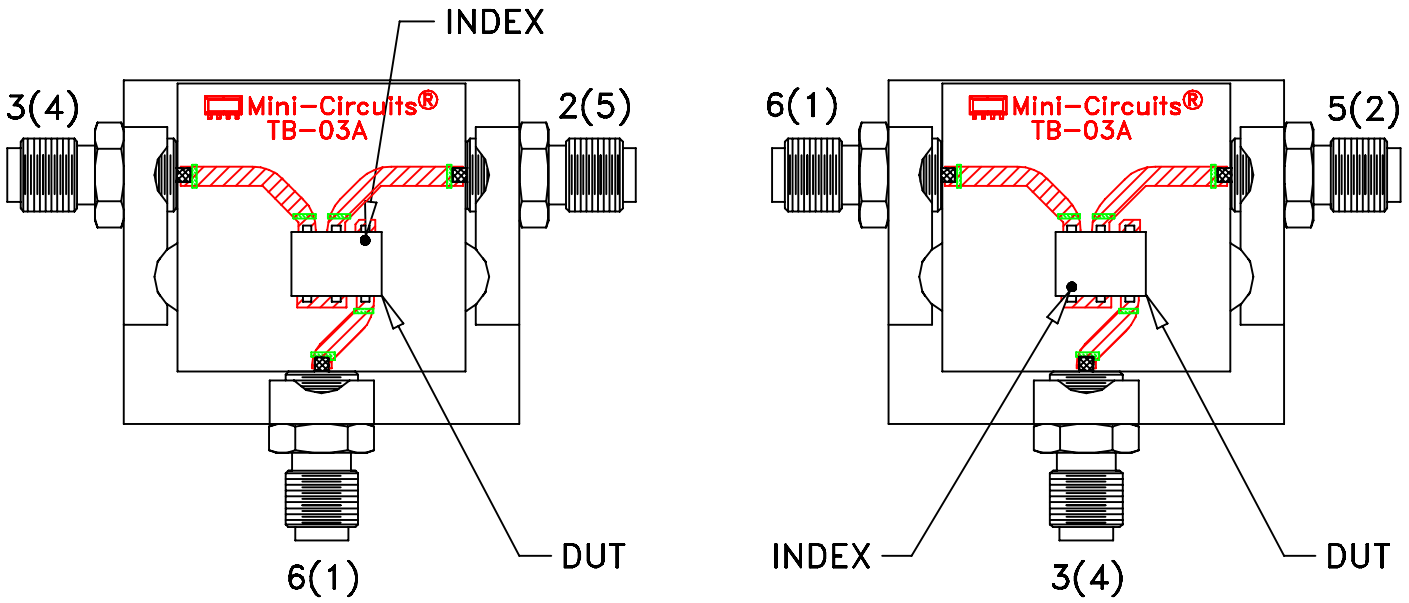
TB,ADE,CD542/636,06MX01,50

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	TB-03-20	H

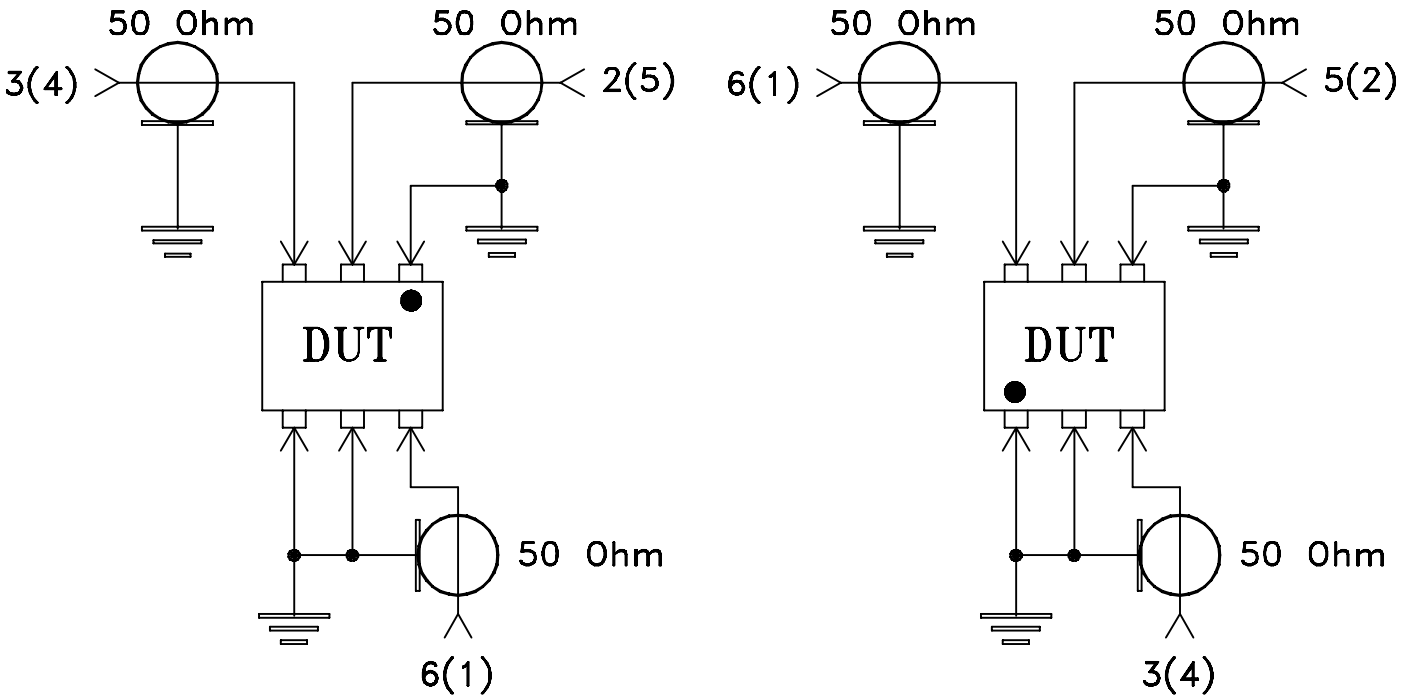
FILE:	SCALE:	SHEET:
WTB-03	1.5:1	1 OF 2

Evaluation Board and Circuit

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



TB-03



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: Rogers RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.030 inch.

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