Engineering Development Model

Frequency Mixer ADE-ED7079/1

Level 7 (LO Power +7 dBm)

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

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CASE STYLE : CD542

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (fL to fU)	880		2230	MHz
	RF (fL to fU)	880		2230	MHz
	IF	0.2		900	MHz
Conversion Loss			6.8		dB
LO-RF Isolation			32		dB
LO-IF Isolation			27		dB

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

Frequency Mixer ADE-ED7079/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB) @LO (dBm)		
		+4	+7	+10
460.0	490.0	18.88	10.69	8.95
520.0	550.0	17.37	9.62	8.43
580.0	610.0	14.13	8.90	8.11
640.0	670.0	12.00	8.50	7.90
700.0	730.0	11.36	8.29	7.65
760.0	790.0	9.95	8.05	7.53
820.0	850.0	9.47	7.83	7.39
880.0	910.0	9.00	7.69	7.26
940.0	970.0	8.70	7.62	7.10
1000.0	1030.0	8.43	7.54	7.02
1060.0	1090.0	8.24	7.49	7.06
1120.0	1150.0	8.18	7.48	7.09
1180.0	1210.0	8.21	7.50	7.11
1240.0	1270.0	8.23	7.40	6.98
1300.0	1330.0	8.16	7.20	6.76
1360.0	1390.0	8.39	7.16	6.52
1420.0	1450.0	8.41	7.29	6.35
1480.0	1510.0	8.21	7.38	6.49
1540.0	1570.0	7.98	7.27	6.53
1600.0	1630.0	7.66	7.00	6.41
1640.0	1670.0	7.68	7.06	6.52
1700.0	1730.0	7.52	6.96	6.48
1740.0	1770.0	7.55	7.05	6.61
1800.0	1830.0	7.51	7.08	6.70
1840.0	1870.0	7.66	7.23	6.89
1900.0	1930.0	7.75	7.34	7.03
1940.0	1970.0	7.86	7.44	7.12
2000.0	2030.0	8.08	7.65	7.33
2040.0	2070.0	8.23	7.76	7.44
2100.0	2130.0	8.51	8.02	7.69
2140.0	2170.0	8.62	8.10	7.75
2200.0	2230.0	8.97	8.38	8.02
2240.0	2270.0	9.13	8.47	8.10
2300.0	2330.0	9.55	8.80	8.42
2340.0	2370.0	9.86	8.96	8.59
2400.0	2430.0	10.71	9.47	9.01
2440.0	2470.0	11.03	9.68	9.24
2500.0	2530.0	12.18	10.26	9.70
2540.0	2570.0	12.66	10.49	9.94
2600.0	2630.0	14.60	11.14	10.37

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		+4	+7	+10
460.0	490.0	1.40	12.19	19.27
520.0	550.0	0.72	14.71	18.22
580.0	610.0	2.88	18.53	16.99
640.0	670.0	6.06	20.67	17.94
700.0	730.0	6.87	18.48	15.38
760.0	790.0	11.78	17.30	16.61
820.0	850.0	13.97	14.00	15.40
880.0	910.0	16.09	12.78	14.38
940.0	970.0	15.31	12.98	13.90
1000.0	1030.0	15.76	16.34	14.90
1060.0	1090.0	13.24	15.64	15.96
1120.0	1150.0	12.20	14.87	15.91
1180.0	1210.0	11.06	13.84	15.02
1240.0	1270.0	10.23	12.67	14.05
1300.0	1330.0	9.16	11.24	13.75
1360.0	1390.0	9.88	9.31	12.94
1420.0	1450.0	8.64	10.35	10.80
1480.0	1510.0	9.52	10.89	10.07
1540.0	1570.0	8.95	9.34	9.62
1600.0	1630.0	7.75	8.24	8.70
1640.0	1670.0	6.71	7.11	7.87
1700.0	1730.0	5.37	5.79	6.68
1740.0	1770.0	4.96	5.19	5.94
1800.0	1830.0	4.69	4.78	5.31
1840.0	1870.0	4.59	4.68	5.15
1900.0	1930.0	4.85	5.23	5.80
1940.0	1970.0	5.29	5.76	6.44
2000.0	2030.0	6.20	6.94	7.76
2040.0	2070.0	6.68	7.93	8.89
2100.0	2130.0	7.66	9.57	10.93
2140.0	2170.0	7.86	9.96	11.94
2200.0	2230.0	8.48	9.37	11.45
2240.0	2270.0	8.09	8.29	10.61
2300.0	2330.0	7.63	7.86	10.56
2340.0	2370.0	6.92	7.95	11.01
2400.0	2430.0	6.05	9.22	11.91
2440.0	2470.0	5.67	10.32	12.76
2500.0	2530.0	4.74	11.03	13.02
2540.0	2570.0	4.24	9.97	13.69
2600.0	2630.0	4.71	7.47	12.88

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB) @LO (dBm)		
		+4	+7	+10
460.0	490.0	-3.73	-0.26	-0.01
520.0	550.0	-3.78	-0.05	0.01
580.0	610.0	-2.30	0.00	0.00
640.0	670.0	-1.07	0.04	0.01
700.0	730.0	-0.81	0.02	0.03
760.0	790.0	-0.19	0.06	0.01
820.0	850.0	-0.03	0.08	0.00
880.0	910.0	0.14	0.13	0.03
940.0	970.0	0.18	0.07	0.05
1000.0	1030.0	0.36	0.06	0.04
1060.0	1090.0	0.36	0.05	-0.02
1120.0	1150.0	0.51	0.09	-0.02
1180.0	1210.0	0.46	0.11	-0.03
1240.0	1270.0	0.54	0.27	0.04
1300.0	1330.0	0.51	0.41	0.18
1360.0	1390.0	0.37	0.60	0.40
1420.0	1450.0	0.28	0.49	0.60
1480.0	1510.0	0.39	0.39	0.56
1540.0	1570.0	0.67	0.51	0.55
1600.0	1630.0	0.91	0.67	0.62
1640.0	1670.0	1.01	0.72	0.62
1700.0	1730.0	1.18	0.81	0.67
1740.0	1770.0	1.27	0.81	0.63
1800.0	1830.0	1.32	0.81	0.54
1840.0	1870.0	1.41	0.80	0.48
1900.0	1930.0	1.46	0.79	0.47
1940.0	1970.0	1.61	0.88	0.53
2000.0	2030.0	1.57	0.87	0.53
2040.0	2070.0	1.74	0.92	0.58
2100.0	2130.0	1.70	0.91	0.59
2140.0	2170.0	1.86	0.99	0.64
2200.0	2230.0	1.81	0.96	0.65
2240.0	2270.0	1.76	0.99	0.65
2300.0	2330.0	1.80	0.99	0.64
2340.0	2370.0	1.79	1.01	0.60
2400.0	2430.0	1.49	0.92	0.52
2440.0	2470.0	1.27	0.82	0.45
2500.0	2530.0	0.79	0.77	0.41
2540.0	2570.0	0.67	0.86	0.42
2600.0	2630.0	-0.27	1.05	0.49

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1544.9MHz (dB)
		@LO (dBm)
		+7
10.1	1555.0	8.2
50.1	1595.0	8.0
90.1	1635.0	8.2
130.1	1675.0	8.5
170.1	1715.0	8.6
210.1	1755.0	8.9
250.1	1795.0	9.0
290.1	1835.0	9.0
330.1	1875.0	9.0
370.1	1915.0	8.8
410.1	1955.0	8.8
450.1	1995.0	8.5
490.1	2035.0	8.3
530.1	2075.0	8.2
570.1	2115.0	7.9
610.1	2155.0	8.0
650.1	2195.0	7.6
690.1	2235.0	7.8
730.1	2275.0	7.6
770.1	2315.0	7.6
810.1	2355.0	8.0
850.1	2395.0	7.7
890.1	2435.0	8.8
930.1	2475.0	8.7
970.1	2515.0	9.3
1010.1	2555.0	10.5
1050.1	2595.0	10.1
1070.1	2615.0	11.0
1110.1	2655.0	12.5
1130.1	2675.0	11.9
1170.1	2715.0	13.1
1190.1	2735.0	14.0
1230.1	2775.0	13.5
1250.1	2795.0	13.3
1290.1	2835.0	15.2
1310.1	2855.0	15.2
1350.1	2895.0	14.0
1370.1	2915.0	14.8
1410.1	2955.0	15.4
1430.1	2975.0	14.4

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=869.9MHz (dB)
		@LO (dBm)
		+7
10.1	880.0	7.88
30.1	900.0	7.68
50.1	920.0	7.79
70.1	940.0	7.86
90.1	960.0	7.85
110.1	980.0	7.91
130.1	1000.0	8.00
150.1	1020.0	8.09
170.1	1040.0	8.18
180.1	1050.0	8.18
200.1	1070.0	8.19
210.1	1080.0	8.19
230.1	1100.0	8.30
240.1	1110.0	8.34
260.1	1130.0	8.43
270.1	1140.0	8.45
290.1	1160.0	8.43
300.1	1170.0	8.46
320.1	1190.0	8.51
330.1	1200.0	8.59
350.1	1220.0	8.64
360.1	1230.0	8.71
380.1	1250.0	8.74
390.1	1260.0	8.78
410.1	1280.0	8.88
420.1	1290.0	8.87
440.1	1310.0	8.96
450.1	1320.0	9.08
470.1	1340.0	9.21
480.1	1350.0	9.23
500.1	1370.0	9.42
510.1	1380.0	9.46
530.1	1400.0	9.61
540.1	1410.0	9.68
560.1	1430.0	9.93
570.1	1440.0	10.07
590.1	1460.0	10.30
600.1	1470.0	10.41
620.1	1490.0	10.48
630.1	1500.0	10.51

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2240.1MHz (dB)
		@LO (dBm)
		+7
1930.1	310.0	11.43
1890.1	350.0	10.62
1850.1	390.0	9.35
1810.1	430.0	8.89
1770.1	470.0	8.42
1710.1	530.0	7.83
1670.1	570.0	7.56
1610.1	630.0	7.39
1570.1	670.0	7.22
1510.1	730.0	7.13
1470.1	770.0	6.97
1410.1	830.0	6.88
1370.1	870.0	6.77
1310.1	930.0	6.67
1270.1	970.0	6.57
1210.1	1030.0	6.39
1170.1	1070.0	6.29
1110.1	1130.0	6.21
1070.1	1170.0	6.24
1010.1	1230.0	6.36
970.1	1270.0	6.45
910.1	1330.0	6.56
870.1	1370.0	6.67
810.1	1430.0	6.83
770.1	1470.0	6.98
710.1	1530.0	7.07
670.1	1570.0	7.19
610.1	1630.0	7.24
570.1	1670.0	7.34
510.1	1730.0	7.37
470.1	1770.0	7.48
410.1	1830.0	7.61
370.1	1870.0	7.77
310.1	1930.0	8.01
270.1	1970.0	8.20
210.1	2030.0	8.47
170.1	2070.0	8.62
110.1	2130.0	8.73
70.1	2170.0	8.77
10.1	2230.0	8.82

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+4	+7	+10	+4	+7	+10
490.0	47.13	46.42	47.27	49.31	41.21	41.02
550.0	44.38	43.75	45.24	46.89	39.86	40.21
610.0	42.20	42.38	44.26	42.47	38.93	39.74
670.0	40.40	41.28	43.33	39.98	38.79	39.60
730.0	38.88	39.92	41.87	39.79	39.07	39.93
790.0	37.64	39.20	41.41	39.34	39.79	40.42
850.0	36.78	38.39	40.58	39.66	40.54	40.37
910.0	35.82	37.76	40.10	39.69	41.19	40.56
970.0	34.89	36.93	38.93	39.75	41.36	40.44
1030.0	33.96	36.35	38.59	39.48	40.86	39.44
1090.0	33.33	35.65	38.01	39.04	40.35	38.96
1150.0	32.62	34.99	37.25	38.37	39.29	37.94
1210.0	32.06	34.46	36.66	37.98	38.39	36.70
1270.0	31.33	33.77	35.92	37.50	37.80	35.62
1330.0	30.78	33.19	35.32	36.09	36.34	34.47
1390.0	29.83	31.97	33.95	33.46	33.96	33.01
1450.0	29.19	31.57	33.35	31.75	31.18	30.83
1510.0	28.53	31.13	33.43	30.73	29.72	28.92
1570.0	27.68	30.21	32.73	30.01	28.94	27.86
1630.0	27.40	30.00	32.62	29.21	27.98	27.20
1670.0	26.75	29.32	31.94	28.66	27.41	26.74
1730.0	26.68	29.42	32.29	27.67	26.48	26.01
1770.0	26.29	29.11	32.10	26.89	25.93	25.52
1830.0	26.25	29.22	32.52	25.85	25.21	24.72
1870.0	25.83	28.86	32.33	24.96	24.56	24.26
1930.0	26.04	29.39	33.45	23.72	23.59	23.56
1970.0	25.80	29.31	33.66	22.67	22.96	23.16
2030.0	25.88	29.58	34.48	21.53	22.12	22.45
2070.0	25.67	29.70	35.04	20.64	21.40	22.11
2130.0	25.73	30.13	36.37	19.46	20.44	21.37
2170.0	25.31	29.95	36.55	18.49	19.70	20.84
2230.0	24.82	29.69	36.27	17.53	18.81	20.14
2270.0	24.47	29.63	36.14	16.61	18.09	19.56
2330.0	23.43	28.46	34.28	15.74	17.27	18.89
2370.0	22.89	27.83	33.17	15.00	16.53	18.34
2430.0	21.66	25.85	30.50	14.23	15.63	17.51
2470.0	21.41	25.23	29.07	13.71	15.02	16.85
2530.0	20.28	23.54	27.02	12.96	14.21	16.13
2570.0	19.96	22.97	26.04	12.51	13.76	15.64
2630.0	18.85	21.63	24.66	11.76	13.06	15.05

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+4	+7	+10
460.0	490.0	21.12	23.08	23.01
520.0	550.0	19.91	22.40	22.46
580.0	610.0	19.66	22.14	22.38
640.0	670.0	19.73	21.87	21.99
700.0	730.0	19.10	20.95	21.46
760.0	790.0	18.72	20.20	20.87
820.0	850.0	18.30	19.94	20.69
880.0	910.0	18.23	20.33	21.29
940.0	970.0	18.67	20.91	22.60
1000.0	1030.0	19.53	21.43	23.05
1060.0	1090.0	20.09	21.54	22.45
1120.0	1150.0	19.71	20.68	21.17
1180.0	1210.0	18.95	19.55	19.83
1240.0	1270.0	18.33	18.79	18.95
1300.0	1330.0	17.62	17.91	18.03
1360.0	1390.0	16.97	17.13	17.31
1420.0	1450.0	16.62	16.66	16.72
1480.0	1510.0	16.42	16.44	16.44
1540.0	1570.0	16.32	16.38	16.36
1600.0	1630.0	16.21	16.29	16.31
1640.0	1670.0	16.32	16.40	16.49
1700.0	1730.0	16.37	16.56	16.73
1740.0	1770.0	16.46	16.62	16.82
1800.0	1830.0	16.65	16.92	17.17
1840.0	1870.0	16.75	17.03	17.25
1900.0	1930.0	16.93	17.41	17.50
1940.0	1970.0	16.94	17.52	17.55
2000.0	2030.0	16.83	17.46	17.41
2040.0	2070.0	16.60	17.22	17.01
2100.0	2130.0	16.18	16.55	16.19
2140.0	2170.0	15.58	15.83	15.41
2200.0	2230.0	14.68	14.69	14.21
2240.0	2270.0	13.89	13.80	13.27
2300.0	2330.0	12.84	12.70	12.31
2340.0	2370.0	12.04	11.92	11.60
2400.0	2430.0	11.26	10.90	10.76
2440.0	2470.0	10.85	10.28	10.16
2500.0	2530.0	10.96	9.67	9.52
2540.0	2570.0	11.02	9.41	9.08
2600.0	2630.0	11.24	9.23	8.55

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+4	+7	+10
460.0	490.0	18.50	10.02	7.94
520.0	550.0	14.62	8.20	6.83
580.0	610.0	11.03	6.97	6.17
640.0	670.0	8.81	6.28	5.68
700.0	730.0	7.76	5.77	5.19
760.0	790.0	6.53	5.28	4.88
820.0	850.0	5.65	4.72	4.41
880.0	910.0	5.23	4.52	4.23
940.0	970.0	4.68	4.17	3.86
1000.0	1030.0	4.33	3.94	3.68
1060.0	1090.0	3.97	3.67	3.50
1120.0	1150.0	3.73	3.47	3.31
1180.0	1210.0	3.59	3.33	3.19
1240.0	1270.0	3.36	3.10	2.95
1300.0	1330.0	3.17	2.89	2.74
1360.0	1390.0	2.97	2.67	2.49
1420.0	1450.0	2.80	2.56	2.33
1480.0	1510.0	2.48	2.32	2.14
1540.0	1570.0	2.19	2.07	1.95
1600.0	1630.0	1.87	1.77	1.70
1640.0	1670.0	1.70	1.61	1.57
1700.0	1730.0	1.45	1.39	1.38
1740.0	1770.0	1.32	1.28	1.31
1800.0	1830.0	1.13	1.16	1.26
1840.0	1870.0	1.10	1.20	1.31
1900.0	1930.0	1.25	1.39	1.51
1940.0	1970.0	1.36	1.51	1.63
2000.0	2030.0	1.57	1.75	1.89
2040.0	2070.0	1.70	1.91	2.06
2100.0	2130.0	1.97	2.22	2.38
2140.0	2170.0	2.09	2.37	2.53
2200.0	2230.0	2.34	2.71	2.89
2240.0	2270.0	2.45	2.87	3.06
2300.0	2330.0	2.67	3.17	3.37
2340.0	2370.0	2.80	3.34	3.54
2400.0	2430.0	3.00	3.51	3.78
2440.0	2470.0	3.09	3.53	3.80
2500.0	2530.0	3.25	3.48	3.79
2540.0	2570.0	3.52	3.60	3.88
2600.0	2630.0	3.92	3.65	3.82

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+4	+7	+10
490.0	17.75	9.69	5.75
550.0	18.11	8.43	5.22
610.0	16.11	6.61	4.79
670.0	12.99	5.51	4.62
730.0	11.46	5.09	4.50
790.0	8.43	4.55	4.48
850.0	7.00	4.30	4.51
910.0	5.87	4.08	4.56
970.0	4.93	3.93	4.61
1030.0	4.38	3.88	4.66
1090.0	3.90	3.86	4.80
1150.0	3.57	3.85	4.92
1210.0	3.35	3.89	5.10
1270.0	3.19	3.86	5.13
1330.0	3.15	3.99	5.38
1390.0	3.14	4.01	5.38
1450.0	3.21	4.17	5.56
1510.0	3.34	4.43	5.89
1570.0	3.33	4.44	5.87
1630.0	3.55	4.77	6.28
1670.0	3.53	4.72	6.19
1730.0	3.82	5.07	6.58
1770.0	3.86	5.09	6.53
1830.0	4.18	5.42	6.89
1870.0	4.26	5.46	6.86
1930.0	4.63	5.81	7.14
1970.0	4.78	5.89	7.17
2030.0	5.17	6.19	7.38
2070.0	5.42	6.35	7.47
2130.0	5.89	6.63	7.63
2170.0	6.21	6.78	7.70
2230.0	6.78	7.02	7.73
2270.0	7.25	7.25	7.90
2330.0	8.08	7.63	7.94
2370.0	8.81	8.01	8.20
2430.0	9.74	8.60	8.35
2470.0	10.25	9.13	8.64
2530.0	10.82	9.69	8.95
2570.0	10.62	9.85	9.13
2630.0	10.56	9.96	9.33

IF (OUT) (MHz)	IF VSWR @LO=2230MHz (:1) @LO (dBm)		
	+4	+7	+10
10.0	4.79	4.02	3.48
30.0	4.80	4.03	3.48
50.0	4.83	4.06	3.51
70.0	4.87	4.09	3.53
90.0	4.79	4.02	3.48
110.0	4.78	4.02	3.48
130.0	4.79	4.03	3.49
150.0	4.77	4.02	3.48
170.0	4.70	3.97	3.45
190.0	4.67	3.95	3.42
210.0	4.66	3.93	3.42
230.0	4.62	3.90	3.40
250.0	4.60	3.90	3.42
270.0	4.54	3.86	3.38
290.0	4.44	3.78	3.31
310.0	4.39	3.74	3.27
330.0	4.39	3.76	3.31
350.0	4.34	3.72	3.27
390.0	4.21	3.62	3.20
410.0	4.14	3.57	3.16
450.0	4.01	3.48	3.10
470.0	3.95	3.43	3.07
510.0	3.79	3.31	2.97
530.0	3.76	3.30	2.97
570.0	3.57	3.16	2.85
590.0	3.54	3.13	2.84
630.0	3.40	3.03	2.76
650.0	3.34	2.99	2.73
690.0	3.20	2.87	2.63
710.0	3.18	2.86	2.64
750.0	3.06	2.76	2.56
770.0	3.00	2.71	2.52
810.0	2.89	2.62	2.46
830.0	2.84	2.59	2.43
870.0	2.76	2.52	2.37
890.0	2.70	2.46	2.33
930.0	2.62	2.41	2.29
950.0	2.58	2.37	2.26
990.0	2.51	2.31	2.22
1010.0	2.44	2.25	2.16

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	1	14	12	28	30	30	36	38	33	41
1	-	9	0	20	17	32	45	36	56	52	59	40
2	64	48	44	45	49	55	58	56	60	62	65	61
3	121	67	68	53	56	54	54	74	81	65	90	85
4	111	92	102	82	74	82	100	86	86	84	89	88
5	117	89	89	99	87	85	90	88	86	92	89	108
6	119	117	93	97	90	89	94	99	89	103	86	86
7	118	86	92	95	101	90	91	94	88	96	89	107
8	119	84	106	92	90	91	102	100	84	99	84	97
9	127	90	89	92	99	105	97	96	88	102	95	94
10	112	90	95	100	90	85	93	103	90	85	90	91
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1555 MHz; -14.00 dBm.**
LO IN: 1585 MHz; +7.00 dBm
IF OUT: 30 MHz; -21.3 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	10	25	23	40	40	44	51	57	52	70
1	-	9	0	22	19	35	48	40	59	58	61	50
2	64	39	34	35	35	51	46	50	60	57	61	60
3	121	48	49	36	34	39	39	54	63	51	81	70
4	111	63	70	64	49	47	56	60	72	62	73	67
5	117	63	69	84	72	59	51	54	56	80	74	62
6	119	79	74	80	80	70	63	61	71	92	79	72
7	118	95	91	81	87	92	82	68	64	85	81	93
8	119	98	99	99	87	96	96	94	70	70	74	85
9	127	98	106	120	96	95	98	95	96	83	75	80
10	112	107	98	98	105	106	93	98	101	93	85	82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

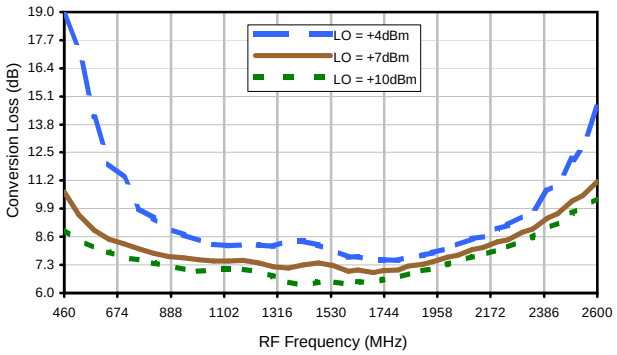
LO HARMONICS ORDER

Test conditions: **RF IN: 1555 MHz; -4.00 dBm.**
LO IN: 1585 MHz; +7.00 dBm
IF OUT: 30 MHz; -11.32 dBm

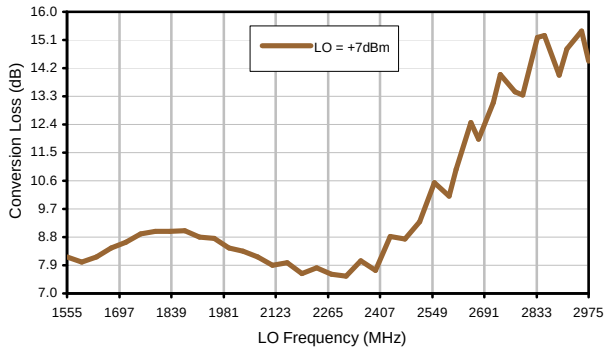
Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Typical Performance Curves

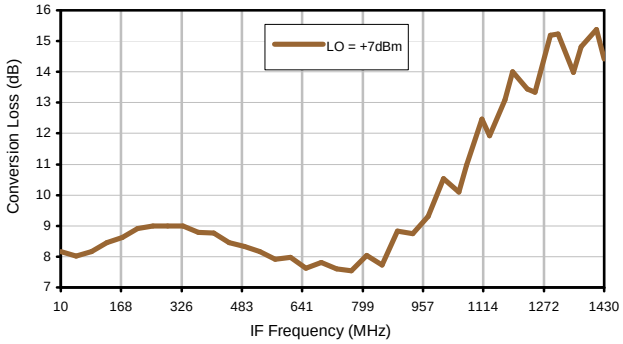
Conversion Loss @ IF=30MHz



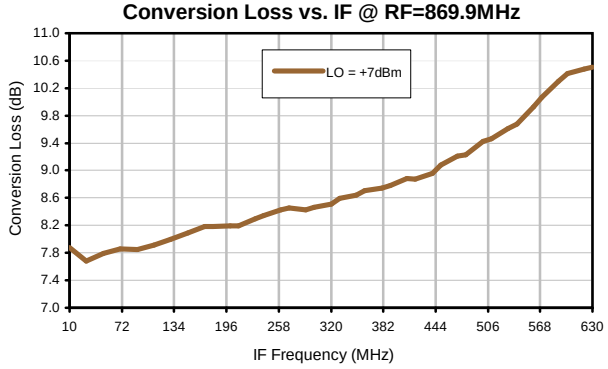
Conversion Loss vs. LO @ RF=1544.9MHz



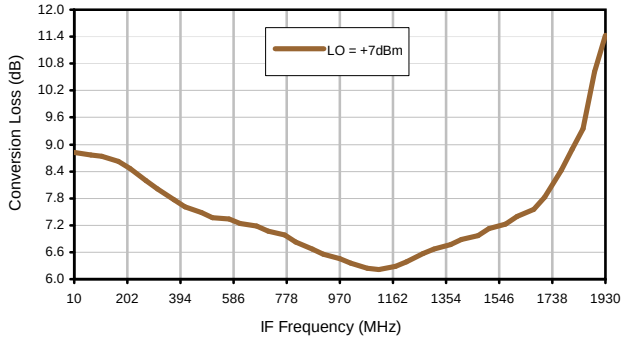
Conversion Loss vs. IF @ RF=1544.9MHz



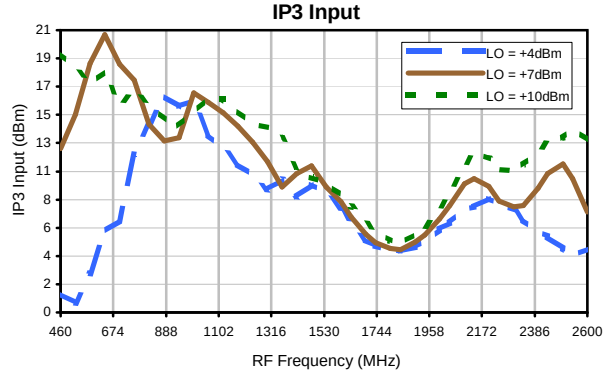
Conversion Loss vs. IF @ RF=869.9MHz



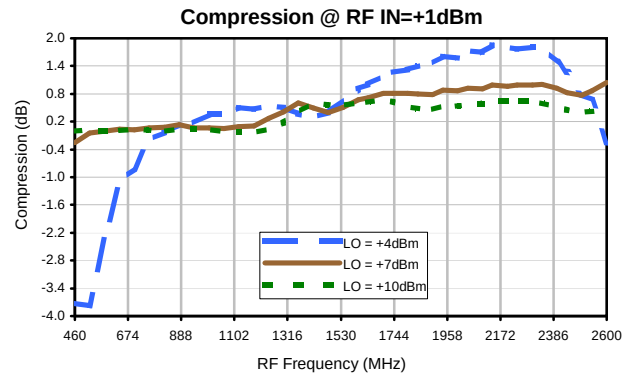
Conversion Loss vs. IF @ RF=2240.1MHz



IP3 Input

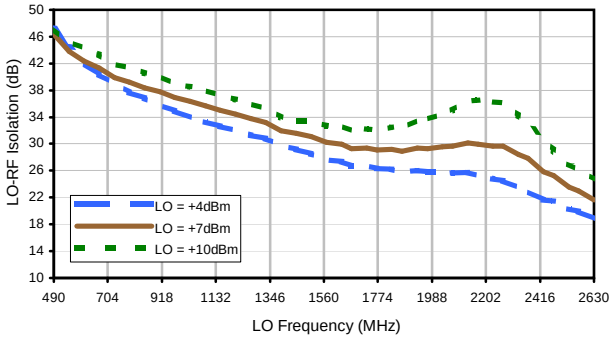


Compression @ RF IN=+1dBm

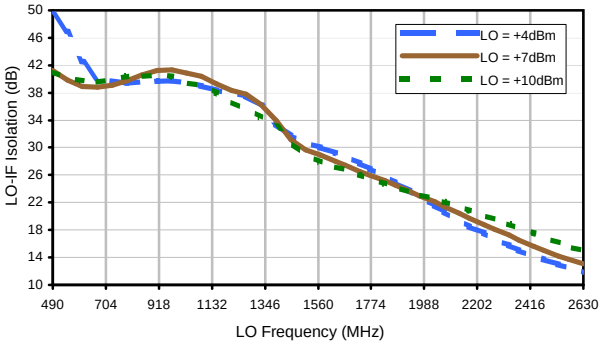


Typical Performance Curves

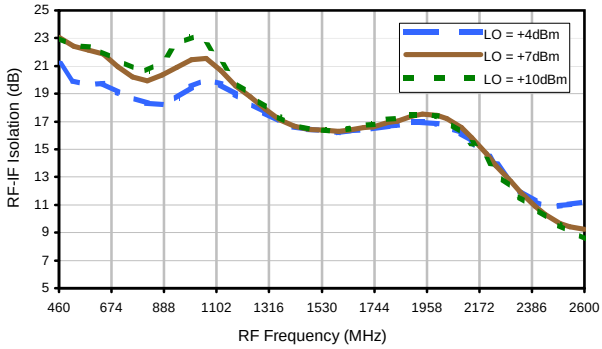
LO-RF Isolation



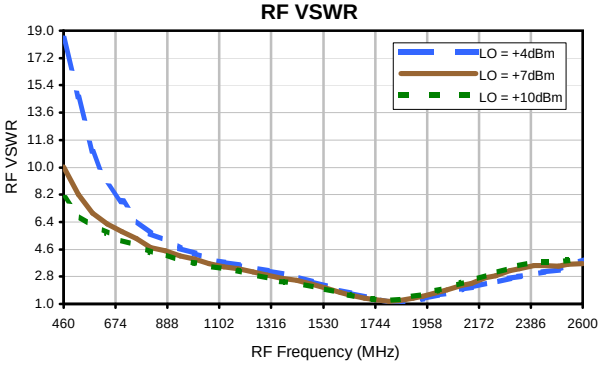
LO-IF Isolation



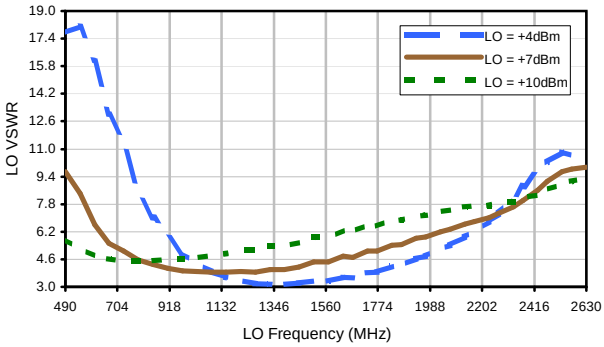
RF-IF Isolation



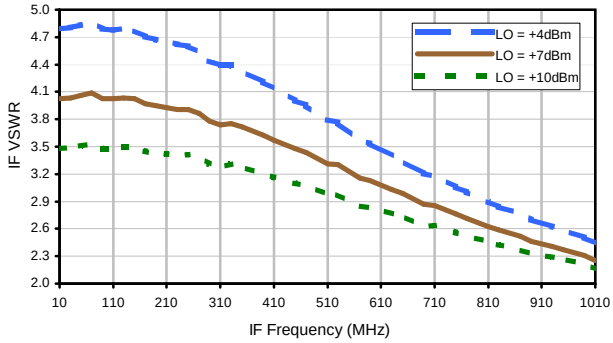
RF VSWR



LO VSWR



IF VSWR



Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	1	14	12	28	30	30	36	38	33	41
1	-	9	0	20	17	32	45	36	56	52	59	40
2	64	48	44	45	49	55	58	56	60	62	65	61
3	121	67	68	53	56	54	54	74	81	65	90	85
4	111	92	102	82	74	82	100	86	86	84	89	88
5	117	89	89	99	87	85	90	88	86	92	89	108
6	119	117	93	97	90	89	94	99	89	103	86	86
7	118	86	92	95	101	90	91	94	88	96	89	107
8	119	84	106	92	90	91	102	100	84	99	84	97
9	127	90	89	92	99	105	97	96	88	102	95	94
10	112	90	95	100	90	85	93	103	90	85	90	91
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 1555 MHz; -14.00 dBm.**
LO IN: 1585 MHz; +7.00 dBm
IF OUT: 30 MHz; -21.3 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	10	25	23	40	40	44	51	57	52	70
1	-	9	0	22	19	35	48	40	59	58	61	50
2	64	39	34	35	35	51	46	50	60	57	61	60
3	121	48	49	36	34	39	39	54	63	51	81	70
4	111	63	70	64	49	47	56	60	72	62	73	67
5	117	63	69	84	72	59	51	54	56	80	74	62
6	119	79	74	80	80	70	63	61	71	92	79	72
7	118	95	91	81	87	92	82	68	64	85	81	93
8	119	98	99	99	87	96	96	94	70	70	74	85
9	127	98	106	120	96	95	98	95	96	83	75	80
10	112	107	98	98	105	106	93	98	101	93	85	82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

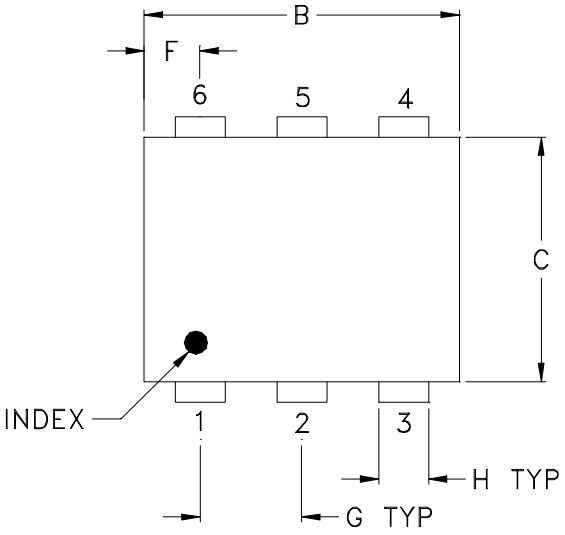
Test conditions: **RF IN: 1555 MHz; -4.00 dBm.**
LO IN: 1585 MHz; +7.00 dBm
IF OUT: 30 MHz; -11.32 dBm

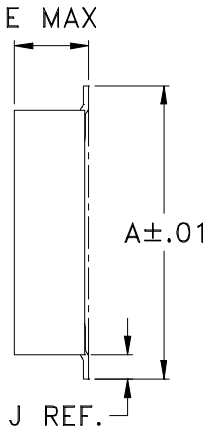
Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Case Style CD

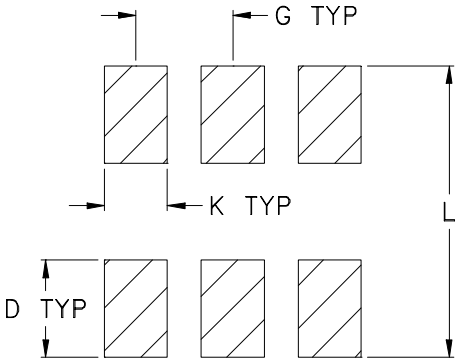
CD541
CD542
CD636
CD637

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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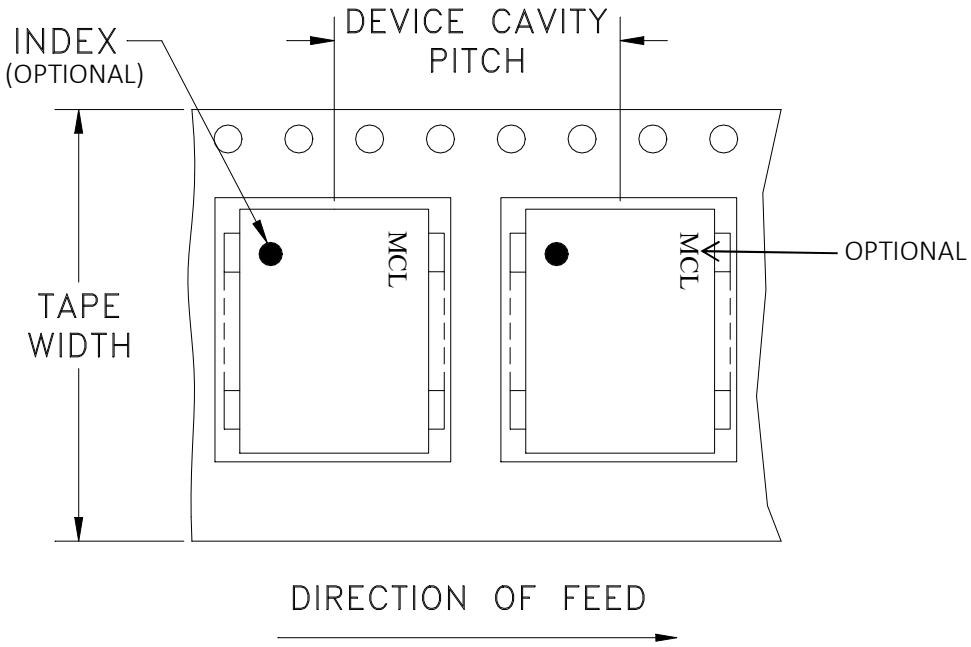
Tape & Reel Packaging TR-F34

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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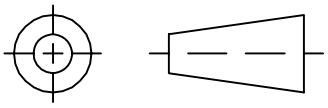
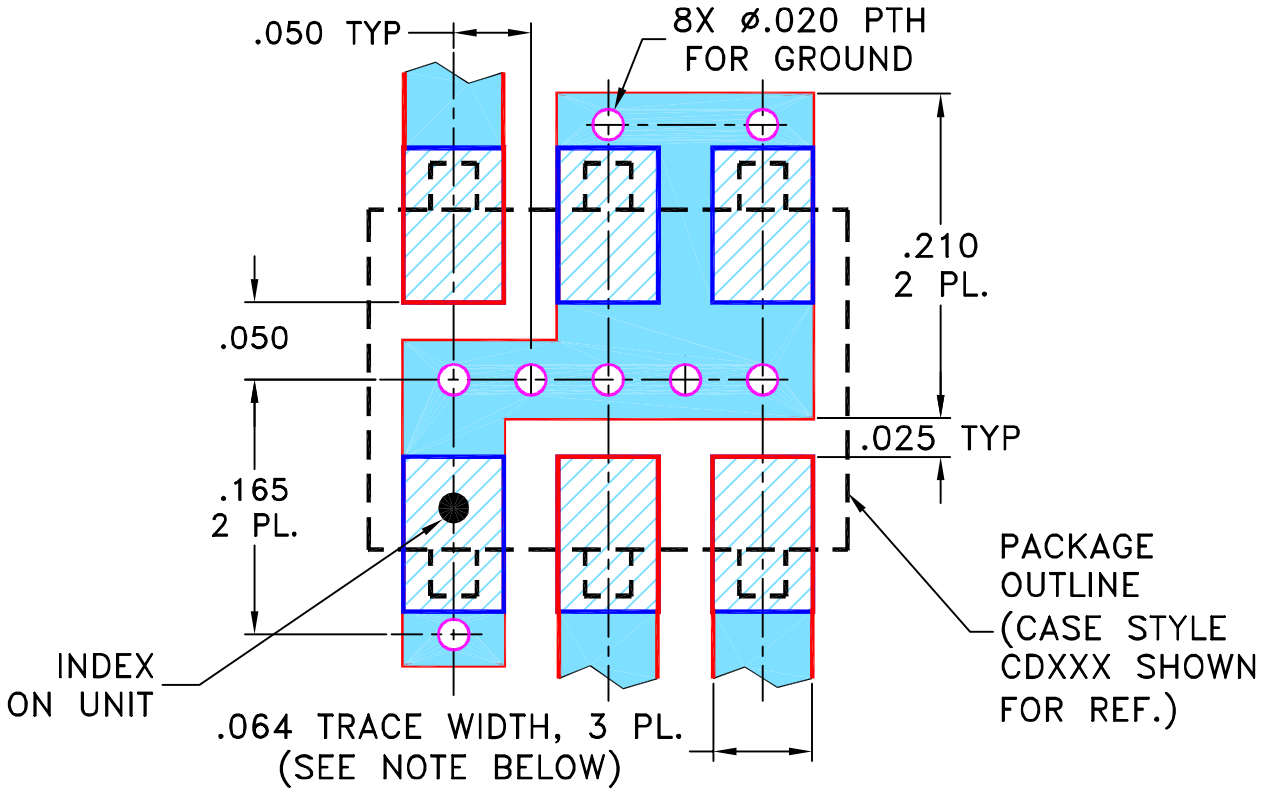
THIRD ANGLE PROJECTION



REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
A	M101143	ADDED "gk" PIN CONNECTION, 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 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 ±			

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

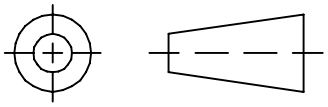
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

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

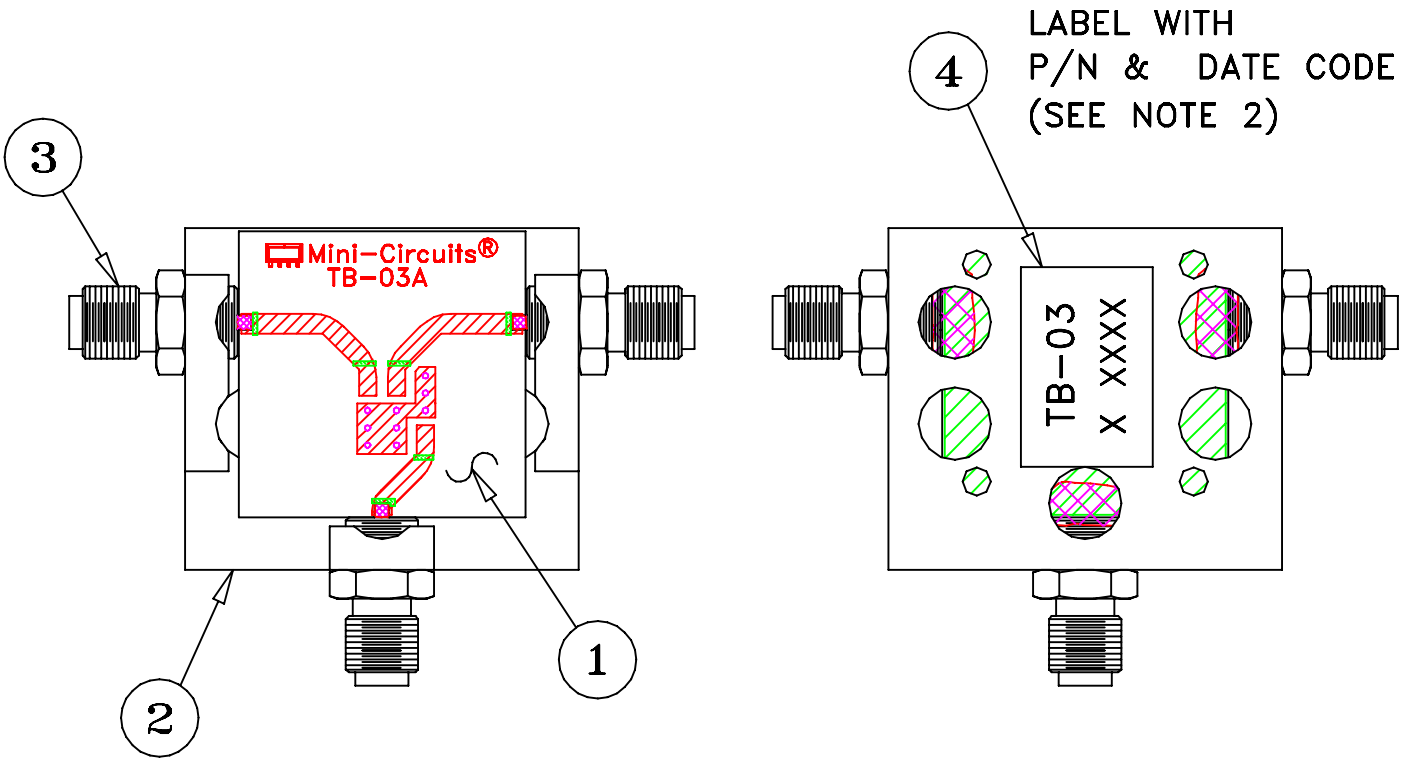
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-052	C

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

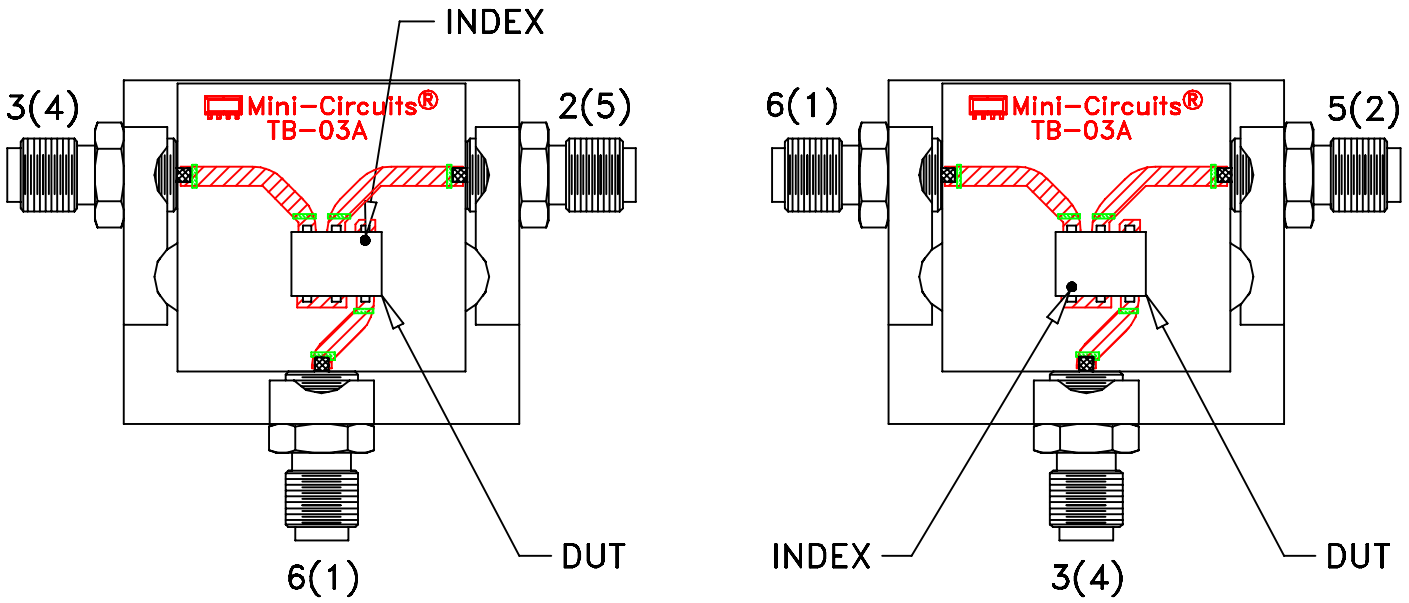
TB,ADE,CD542/636,06MX01,50

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

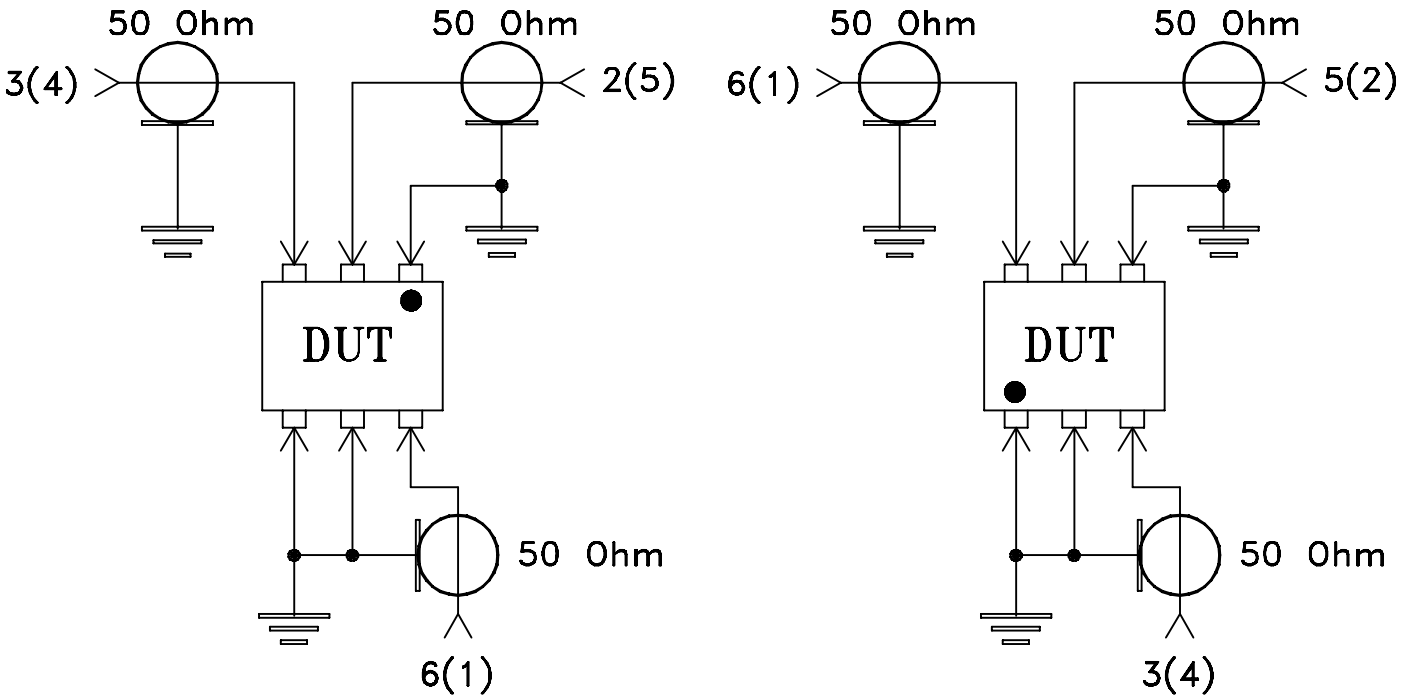
FILE:	SCALE:	SHEET:
WTB-03	1.5:1	1 OF 2

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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Environmental Specifications ENV02T1

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	-40° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° 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 Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
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