

Non-Catalog Model

Frequency Mixer

LRMS-860J

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.



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

CASE STYLE : QQQ569

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	800		1050	MHz
	RF (fL to fU)	800		1050	MHz
	IF	0		250	MHz
Conversion Loss			5.5	7.5	dB
LO-RF Isolation		25	36		dB
LO-IF Isolation		18	24		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]

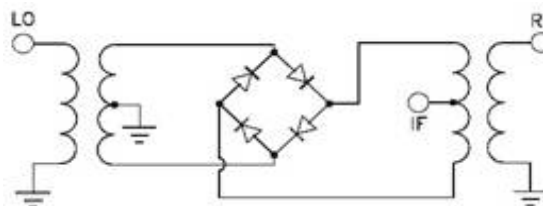
Upper Range = [fU/2 to fU]

Phase detection, positive polarity
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	1
RF	4
IF	5
GROUND	2, 3, 6

Electrical Schematics



Frequency Mixer

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
120.1	150.1	11.13	10.52	10.26
159.5	189.5	9.22	8.77	8.55
198.9	228.9	7.98	7.62	7.43
238.3	268.3	7.23	6.91	6.73
277.6	307.6	6.74	6.43	6.26
317.0	347.0	6.35	6.06	5.89
356.4	386.4	6.06	5.80	5.63
395.8	425.8	5.89	5.59	5.42
435.2	465.2	5.73	5.42	5.23
474.6	504.6	5.68	5.38	5.17
513.9	543.9	5.60	5.29	5.08
553.3	583.3	5.48	5.20	5.01
592.7	622.7	5.48	5.19	5.02
632.1	662.1	5.52	5.24	5.06
671.5	701.5	5.65	5.32	5.13
691.2	721.2	5.70	5.39	5.19
730.6	760.6	5.87	5.53	5.31
750.3	780.3	5.94	5.58	5.34
789.6	819.6	6.14	5.75	5.48
809.3	839.3	6.22	5.84	5.54
848.7	878.7	6.42	6.01	5.71
868.4	898.4	6.49	6.06	5.76
907.8	937.8	6.68	6.16	5.85
927.5	957.5	6.85	6.27	5.92
966.9	996.9	7.12	6.45	6.02
986.6	1016.6	7.22	6.56	6.08
1025.9	1055.9	7.45	6.76	6.25
1045.6	1075.6	7.55	6.87	6.38
1085.0	1115.0	7.73	7.09	6.62
1104.7	1134.7	7.81	7.18	6.74
1144.1	1174.1	7.98	7.40	7.01
1163.8	1193.8	8.07	7.48	7.13
1203.2	1233.2	8.34	7.75	7.38
1222.9	1252.9	8.51	7.90	7.53
1262.3	1292.3	8.85	8.25	7.87
1281.9	1311.9	9.04	8.42	8.06
1321.3	1351.3	9.41	8.81	8.45
1341.0	1371.0	9.59	8.99	8.63
1380.4	1410.4	9.96	9.41	9.04
1400.1	1430.1	10.15	9.63	9.25

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
120.1	150.1	16.18	15.82	15.75
159.5	189.5	13.14	14.07	15.71
198.9	228.9	10.92	12.65	14.93
238.3	268.3	11.28	12.87	15.40
277.6	307.6	10.69	13.03	15.56
317.0	347.0	10.86	12.55	14.69
356.4	386.4	12.15	14.96	15.90
395.8	425.8	12.08	14.33	17.30
435.2	465.2	11.38	12.67	14.68
474.6	504.6	11.42	12.59	13.87
513.9	543.9	10.47	12.02	12.58
553.3	583.3	11.45	12.57	13.28
592.7	622.7	12.37	14.27	15.67
632.1	662.1	18.49	18.41	16.84
671.5	701.5	15.64	19.29	20.39
691.2	721.2	13.69	16.04	21.46
730.6	760.6	10.98	13.65	17.79
750.3	780.3	9.86	12.53	19.12
789.6	819.6	8.79	12.52	16.69
809.3	839.3	8.26	11.94	18.23
848.7	878.7	8.01	11.29	20.09
868.4	898.4	7.83	10.76	20.34
907.8	937.8	8.52	11.39	18.70
927.5	957.5	9.05	11.51	19.36
966.9	996.9	10.44	13.92	14.17
986.6	1016.6	9.42	11.93	13.25
1025.9	1055.9	8.37	10.04	12.55
1045.6	1075.6	7.70	9.97	11.72
1085.0	1115.0	7.58	9.99	12.06
1104.7	1134.7	7.71	10.04	12.06
1144.1	1174.1	8.17	10.58	12.66
1163.8	1193.8	7.92	9.92	12.39
1203.2	1233.2	7.54	9.76	11.42
1222.9	1252.9	7.65	9.86	12.16
1262.3	1292.3	7.53	9.84	12.00
1281.9	1311.9	7.37	9.87	12.40
1321.3	1351.3	7.74	10.23	12.74
1341.0	1371.0	7.64	10.28	13.43
1380.4	1410.4	7.62	10.65	13.13
1400.1	1430.1	8.07	10.57	13.41

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
120.1	150.1	-0.01	-0.03	-0.03
159.5	189.5	0.05	-0.01	-0.04
198.9	228.9	0.06	0.01	0.00
238.3	268.3	0.25	0.12	0.06
277.6	307.6	0.37	0.22	0.14
317.0	347.0	0.52	0.35	0.25
356.4	386.4	0.66	0.48	0.37
395.8	425.8	0.78	0.59	0.47
435.2	465.2	0.89	0.70	0.57
474.6	504.6	0.96	0.74	0.62
513.9	543.9	1.08	0.86	0.73
553.3	583.3	1.20	0.94	0.80
592.7	622.7	1.25	0.98	0.81
632.1	662.1	1.35	1.04	0.84
671.5	701.5	1.35	1.03	0.82
691.2	721.2	1.36	1.05	0.85
730.6	760.6	1.40	1.10	0.91
750.3	780.3	1.47	1.17	0.98
789.6	819.6	1.47	1.20	1.03
809.3	839.3	1.50	1.24	1.08
848.7	878.7	1.50	1.27	1.11
868.4	898.4	1.51	1.27	1.12
907.8	937.8	1.46	1.28	1.13
927.5	957.5	1.40	1.27	1.12
966.9	996.9	1.26	1.19	1.10
986.6	1016.6	1.17	1.13	1.05
1025.9	1055.9	1.08	1.02	0.98
1045.6	1075.6	1.01	0.97	0.92
1085.0	1115.0	0.93	0.83	0.77
1104.7	1134.7	0.86	0.75	0.68
1144.1	1174.1	0.79	0.64	0.52
1163.8	1193.8	0.75	0.58	0.45
1203.2	1233.2	0.62	0.46	0.34
1222.9	1252.9	0.54	0.40	0.31
1262.3	1292.3	0.45	0.35	0.27
1281.9	1311.9	0.42	0.33	0.27
1321.3	1351.3	0.34	0.31	0.25
1341.0	1371.0	0.29	0.28	0.24
1380.4	1410.4	0.29	0.26	0.24
1400.1	1430.1	0.25	0.24	0.24

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=925.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=800.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1050.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
125.0	800.1	6.31	10.0	810.1	5.77	250.0	800.1	6.98
118.9	806.2	6.31	16.2	816.3	5.75	243.8	806.3	6.99
112.9	812.2	6.32	22.3	822.4	5.76	237.7	812.4	6.99
106.8	818.3	6.31	28.5	828.6	5.76	231.5	818.6	6.99
100.8	824.3	6.32	34.6	834.7	5.77	225.4	824.7	6.99
94.7	830.4	6.33	40.8	840.9	5.76	219.2	830.9	6.99
88.7	836.4	6.35	46.9	847.0	5.76	213.1	837.0	7.00
82.6	842.5	6.34	53.1	853.2	5.77	206.9	843.2	7.01
76.6	848.5	6.37	59.2	859.3	5.79	200.8	849.3	7.02
70.5	854.6	6.36	65.4	865.5	5.78	194.6	855.5	7.02
64.5	860.6	6.37	71.5	871.6	5.78	188.5	861.6	7.03
58.4	866.7	6.37	77.7	877.8	5.77	182.3	867.8	7.03
52.4	872.7	6.35	83.8	883.9	5.74	176.2	873.9	7.04
46.3	878.8	6.36	90.0	890.1	5.75	170.0	880.1	7.05
40.3	884.8	6.35	96.2	896.3	5.73	163.8	886.3	7.05
34.2	890.9	6.36	102.3	902.4	5.70	157.7	892.4	7.08
28.2	896.9	6.35	108.5	908.6	5.69	151.5	898.6	7.07
22.1	903.0	6.33	114.6	914.7	5.67	145.4	904.7	7.08
16.1	909.0	6.32	120.8	920.9	5.68	139.2	910.9	7.08
10.0	915.1	6.31	126.9	927.0	5.67	133.1	917.0	7.07
10.0	935.1	6.30	133.1	933.2	5.65	126.9	923.2	7.08
16.1	941.2	6.23	139.2	939.3	5.63	120.8	929.3	7.06
22.1	947.2	6.21	145.4	945.5	5.61	114.6	935.5	7.03
28.2	953.3	6.21	151.5	951.6	5.59	108.5	941.6	7.03
34.2	959.3	6.19	157.7	957.8	5.57	102.3	947.8	7.04
40.3	965.4	6.18	163.8	963.9	5.56	96.2	953.9	7.06
46.3	971.4	6.16	170.0	970.1	5.53	90.0	960.1	7.03
52.4	977.5	6.15	176.2	976.3	5.51	83.8	966.3	7.02
58.4	983.5	6.16	182.3	982.4	5.49	77.7	972.4	7.00
64.5	989.6	6.16	188.5	988.6	5.49	71.5	978.6	7.00
70.5	995.6	6.13	194.6	994.7	5.48	65.4	984.7	6.99
76.6	1001.7	6.13	200.8	1000.9	5.46	59.2	990.9	6.98
82.6	1007.7	6.13	206.9	1007.0	5.46	53.1	997.0	6.95
88.7	1013.8	6.14	213.1	1013.2	5.45	46.9	1003.2	6.92
94.7	1019.8	6.13	219.2	1019.3	5.44	40.8	1009.3	6.93
100.8	1025.9	6.12	225.4	1025.5	5.44	34.6	1015.5	6.94
106.8	1031.9	6.10	231.5	1031.6	5.44	28.5	1021.6	6.92
112.9	1038.0	6.11	237.7	1037.8	5.44	22.3	1027.8	6.91
118.9	1044.0	6.09	243.8	1043.9	5.43	16.2	1033.9	6.88
125.0	1050.1	6.11	250.0	1050.1	5.43	10.0	1040.1	6.90

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
120.1	29.48	31.55	33.75	54.29	47.46	44.78
159.5	29.49	31.86	34.03	54.25	46.88	44.03
198.9	30.09	32.41	34.59	48.06	44.86	42.37
238.3	30.95	33.33	35.39	43.40	41.76	40.23
277.6	31.70	33.96	35.83	40.01	39.43	38.72
317.0	32.73	34.82	36.31	37.34	37.04	36.60
356.4	33.66	35.52	36.58	35.24	35.48	35.29
395.8	34.45	35.77	36.48	33.50	33.94	33.99
435.2	34.82	35.73	36.03	31.51	32.00	32.03
474.6	35.18	35.85	36.01	30.12	30.84	31.11
513.9	35.69	36.08	36.16	28.67	29.49	29.99
553.3	36.06	36.10	35.99	27.65	28.46	29.05
592.7	36.04	35.83	35.53	27.05	27.84	28.20
632.1	35.03	35.13	35.04	26.17	27.16	27.41
671.5	33.55	34.16	34.55	25.31	26.77	27.25
691.2	32.90	33.70	34.26	24.86	26.49	27.06
730.6	31.90	32.85	33.67	23.72	25.60	26.63
750.3	31.73	32.58	33.53	23.31	25.23	26.54
789.6	31.91	32.77	33.71	22.47	24.33	25.88
809.3	32.31	33.18	34.02	22.17	23.93	25.40
848.7	33.61	34.66	35.44	21.43	23.06	24.47
868.4	34.68	35.84	36.54	21.26	22.89	24.31
907.8	37.06	38.44	38.87	20.50	22.00	23.43
927.5	39.01	40.25	40.06	20.32	21.77	23.17
966.9	42.15	41.51	39.96	19.77	21.11	22.45
986.6	41.97	40.01	38.58	19.63	20.88	22.17
1025.9	38.78	36.77	35.62	19.09	20.21	21.32
1045.6	37.03	35.28	34.36	19.01	20.15	21.26
1085.0	33.94	32.60	32.02	18.77	19.89	21.01
1104.7	33.13	31.81	31.17	18.62	19.78	20.91
1144.1	31.67	30.48	29.88	18.49	19.89	21.10
1163.8	31.00	29.95	29.36	18.43	19.99	21.32
1203.2	29.63	29.05	28.59	17.99	19.78	21.38
1222.9	28.97	28.65	28.25	17.76	19.61	21.28
1262.3	27.34	27.43	27.35	17.26	19.19	21.04
1281.9	26.64	26.82	26.88	17.09	19.03	20.94
1321.3	25.38	25.72	25.95	16.71	18.61	20.60
1341.0	24.92	25.31	25.59	16.60	18.54	20.56
1380.4	23.95	24.37	24.85	16.42	18.31	20.35
1400.1	23.60	24.08	24.61	16.29	18.17	20.23

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
120.1	150.1	31.84	31.53	31.29
159.5	189.5	27.97	27.67	27.48
198.9	228.9	25.29	25.12	24.98
238.3	268.3	23.46	23.41	23.39
277.6	307.6	22.39	22.32	22.28
317.0	347.0	21.82	21.95	21.97
356.4	386.4	21.80	22.04	22.27
395.8	425.8	22.42	22.77	23.12
435.2	465.2	23.63	23.75	23.87
474.6	504.6	26.09	25.88	25.71
513.9	543.9	29.09	29.12	29.09
553.3	583.3	26.57	27.20	27.77
592.7	622.7	22.19	22.71	23.05
632.1	662.1	18.98	19.18	19.39
671.5	701.5	16.74	16.74	16.89
691.2	721.2	15.93	15.84	15.98
730.6	760.6	14.60	14.41	14.43
750.3	780.3	13.98	13.80	13.76
789.6	819.6	13.03	12.84	12.74
809.3	839.3	12.60	12.36	12.31
848.7	878.7	11.90	11.80	11.72
868.4	898.4	11.68	11.57	11.57
907.8	937.8	11.28	11.29	11.33
927.5	957.5	11.08	11.15	11.22
966.9	996.9	10.99	11.15	11.36
986.6	1016.6	11.05	11.28	11.56
1025.9	1055.9	11.23	11.56	12.06
1045.6	1075.6	11.35	11.79	12.29
1085.0	1115.0	11.62	12.22	12.83
1104.7	1134.7	11.77	12.38	13.00
1144.1	1174.1	12.07	12.71	13.20
1163.8	1193.8	12.20	12.81	13.24
1203.2	1233.2	12.40	13.01	13.42
1222.9	1252.9	12.45	13.09	13.44
1262.3	1292.3	12.34	12.96	13.26
1281.9	1311.9	12.20	12.80	13.02
1321.3	1351.3	11.82	12.24	12.33
1341.0	1371.0	11.56	11.90	11.95
1380.4	1410.4	11.02	11.20	11.11
1400.1	1430.1	10.76	10.82	10.69

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Frequency Mixer

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)		
		@LO (dBm)		
		+4	+7	+10
120.1	150.1	13.60	12.35	11.69
159.5	189.5	8.35	7.66	7.31
198.9	228.9	5.70	5.36	5.12
238.3	268.3	4.32	4.05	3.92
277.6	307.6	3.43	3.26	3.17
317.0	347.0	2.81	2.69	2.63
356.4	386.4	2.38	2.29	2.24
395.8	425.8	2.04	1.98	1.95
435.2	465.2	1.77	1.73	1.72
474.6	504.6	1.57	1.53	1.53
513.9	543.9	1.37	1.35	1.36
553.3	583.3	1.21	1.22	1.26
592.7	622.7	1.11	1.18	1.25
632.1	662.1	1.06	1.18	1.26
671.5	701.5	1.09	1.20	1.29
691.2	721.2	1.11	1.21	1.29
730.6	760.6	1.16	1.22	1.30
750.3	780.3	1.18	1.23	1.29
789.6	819.6	1.27	1.28	1.32
809.3	839.3	1.31	1.31	1.34
848.7	878.7	1.45	1.43	1.45
868.4	898.4	1.53	1.49	1.50
907.8	937.8	1.72	1.67	1.66
927.5	957.5	1.84	1.77	1.75
966.9	996.9	2.12	2.03	1.99
986.6	1016.6	2.25	2.16	2.11
1025.9	1055.9	2.57	2.47	2.40
1045.6	1075.6	2.71	2.60	2.53
1085.0	1115.0	3.01	2.92	2.84
1104.7	1134.7	3.15	3.04	3.00
1144.1	1174.1	3.39	3.31	3.25
1163.8	1193.8	3.51	3.42	3.35
1203.2	1233.2	3.73	3.64	3.58
1222.9	1252.9	3.84	3.76	3.68
1262.3	1292.3	3.99	3.92	3.85
1281.9	1311.9	4.05	4.00	3.94
1321.3	1351.3	4.18	4.14	4.08
1341.0	1371.0	4.23	4.20	4.13
1380.4	1410.4	4.25	4.24	4.15
1400.1	1430.1	4.27	4.26	4.19

LO (MHz)	LO VSWR (:1)		
	@LO (dBm)		
	+4	+7	+10
120.1	3.82	3.70	4.34
159.5	2.82	3.12	3.95
198.9	2.33	2.86	3.77
238.3	2.11	2.78	3.79
277.6	1.96	2.66	3.65
317.0	1.92	2.69	3.72
356.4	1.87	2.67	3.70
395.8	1.85	2.65	3.65
435.2	1.89	2.71	3.75
474.6	1.89	2.69	3.69
513.9	1.93	2.73	3.74
553.3	1.97	2.77	3.76
592.7	2.01	2.78	3.75
632.1	2.07	2.82	3.79
671.5	2.13	2.85	3.78
691.2	2.16	2.87	3.79
730.6	2.23	2.93	3.85
750.3	2.25	2.95	3.85
789.6	2.32	2.99	3.88
809.3	2.34	3.01	3.90
848.7	2.40	3.04	3.91
868.4	2.42	3.05	3.91
907.8	2.46	3.06	3.90
927.5	2.47	3.06	3.90
966.9	2.50	3.05	3.86
986.6	2.51	3.05	3.86
1025.9	2.55	3.05	3.84
1045.6	2.58	3.05	3.83
1085.0	2.63	3.06	3.80
1104.7	2.67	3.07	3.79
1144.1	2.77	3.12	3.82
1163.8	2.83	3.14	3.82
1203.2	2.98	3.20	3.83
1222.9	3.08	3.26	3.87
1262.3	3.25	3.37	3.93
1281.9	3.33	3.40	3.93
1321.3	3.48	3.48	3.97
1341.0	3.58	3.55	4.02
1380.4	3.71	3.62	4.04
1400.1	3.77	3.64	4.03

IF (OUT) (MHz)	IF VSWR @LO=1050.1MHz (:1)		
	@LO (dBm)		
	+4	+7	+10
10.1	2.70	1.75	1.36
16.3	2.02	1.69	1.66
22.4	2.33	1.83	1.73
28.6	2.03	1.70	1.49
34.7	1.97	1.74	1.48
40.9	2.00	1.64	1.38
47.0	1.98	1.70	1.38
53.2	2.04	1.60	1.50
59.3	1.93	1.63	1.41
65.5	2.01	1.68	1.47
71.6	1.99	1.65	1.45
77.8	2.03	1.67	1.43
83.9	1.99	1.70	1.48
90.1	2.02	1.70	1.47
96.3	1.98	1.69	1.46
102.4	1.98	1.67	1.48
108.6	2.00	1.69	1.47
114.7	2.03	1.73	1.50
120.9	2.00	1.70	1.47
127.0	2.03	1.70	1.47
133.2	2.00	1.71	1.47
139.3	2.00	1.70	1.50
145.5	2.04	1.69	1.49
151.6	2.00	1.69	1.48
157.8	2.00	1.69	1.48
163.9	1.96	1.68	1.49
170.1	1.99	1.68	1.49
176.3	2.00	1.68	1.49
182.4	1.99	1.69	1.50
188.6	2.01	1.70	1.51
194.7	2.02	1.71	1.52
200.9	2.00	1.72	1.50
207.0	1.98	1.69	1.52
213.2	1.99	1.71	1.53
219.3	2.01	1.71	1.53
225.5	2.01	1.71	1.53
231.6	1.99	1.72	1.53
237.8	2.00	1.72	1.54
243.9	2.01	1.72	1.54
250.1	2.02	1.74	1.55

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+7	13	2	23	21	52	38	44	33	41
1	-	5	+0	22	15	36	38	32	48	50	52	55
2	111	46	41	44	42	45	49	63	61	65	83	74
3	109	66	58	72	55	61	66	68	68	79	74	85
4	110	94	103	87	81	95	86	98	87	93	86	93
5	115	95	98	113	107	96	87	95	97	104	97	99
6	131	106	110	116	113	112	99	91	116	108	100	101
7	125	105	107	106	103	104	98	97	89	108	101	101
8	107	93	102	100	100	115	108	109	93	86	104	96
9	121	102	104	101	100	105	107	98	109	107	90	100
10	135	97	106	101	101	104	100	99	108	103	89	92
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 920.1 MHz; -14.00 dBm.

LO IN: 950.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -20.94 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	4	26	13	34	33	66	46	57	45	58
1	-	5	+0	23	16	41	43	37	53	58	57	64
2	92	36	33	39	32	39	40	62	67	62	70	68
3	116	44	38	48	41	53	51	53	51	54	61	69
4	117	54	73	58	52	50	55	59	68	64	66	65
5	117	55	65	64	57	63	54	60	59	67	71	75
6	123	77	67	76	93	63	65	67	70	71	74	82
7	107	93	85	76	74	89	70	77	77	76	80	87
8	106	103	96	88	82	82	91	82	89	75	90	81
9	127	102	105	116	97	81	92	94	81	82	86	84
10	122	110	112	111	106	104	90	92	102	92	89	92
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 920.1 MHz; -4.00 dBm.

LO IN: 950.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -10.99 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.

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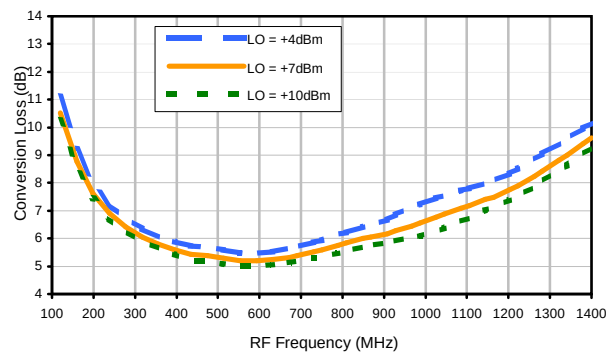


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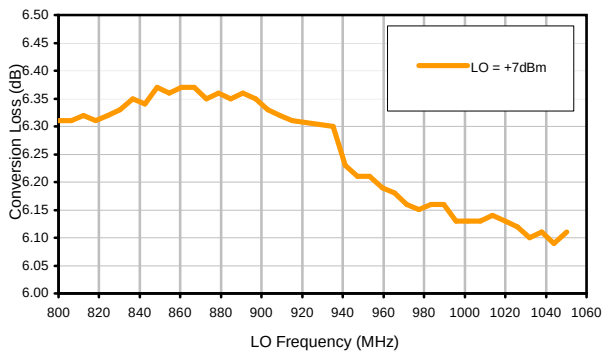


Typical Performance Curves

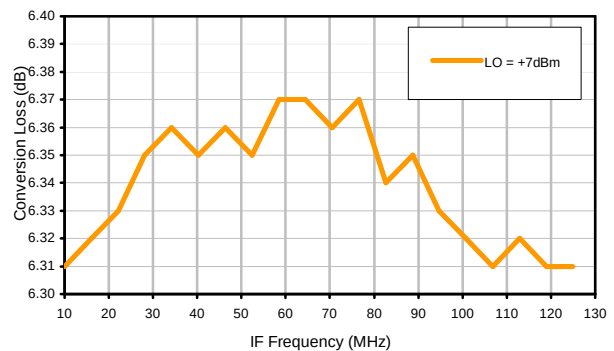
Conversion Loss @ IF=30MHz



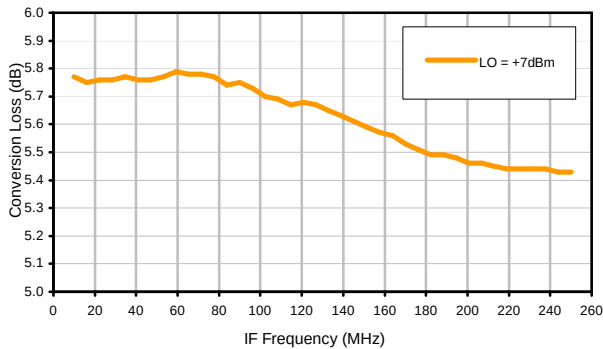
Conversion Loss vs. LO @ RF=925.1MHz



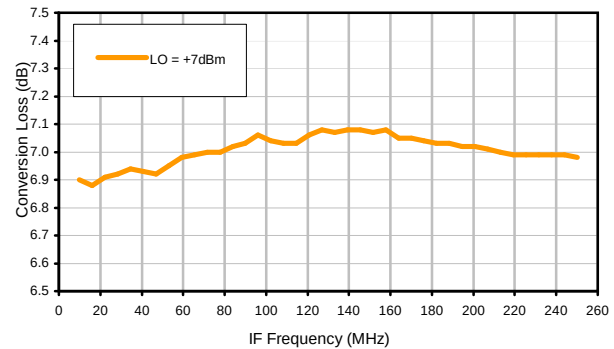
Conversion Loss vs. IF @ RF=925.1MHz



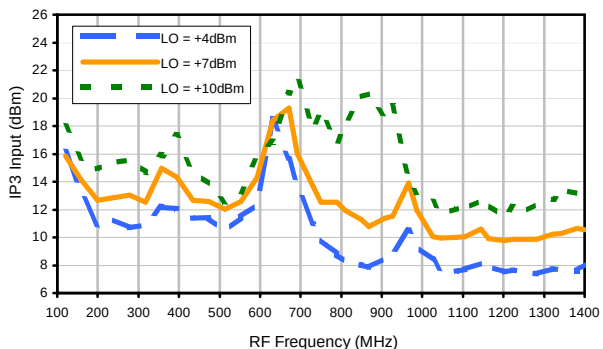
Conversion Loss vs. IF @ RF=800.1MHz



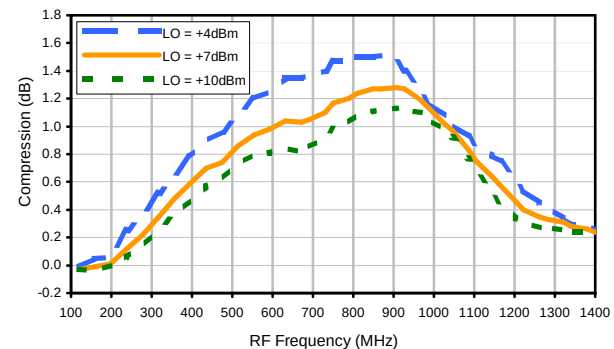
Conversion Loss vs. IF @ RF=1050.1MHz



IP3 Input

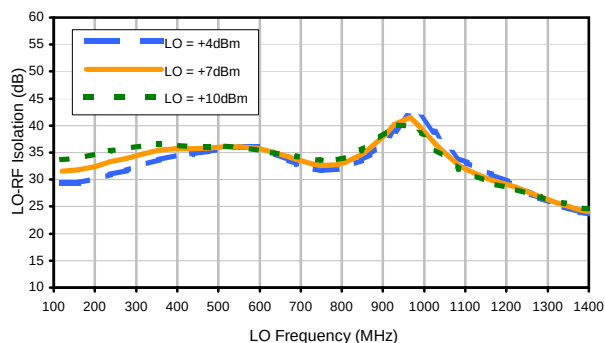


Compression @ RF IN=+1dBm

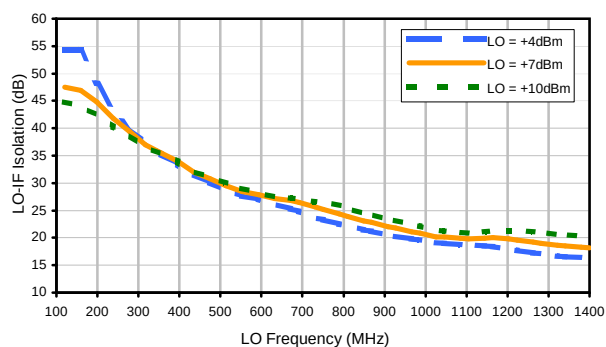


Typical Performance Curves

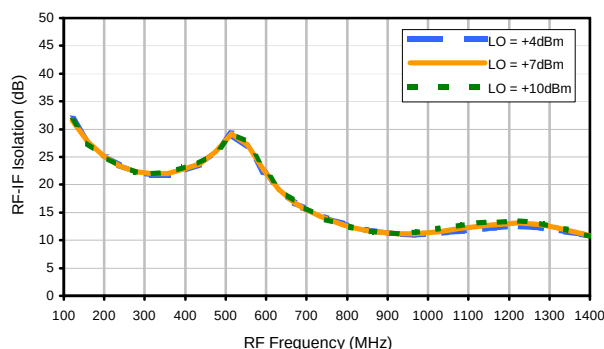
LO-RF Isolation



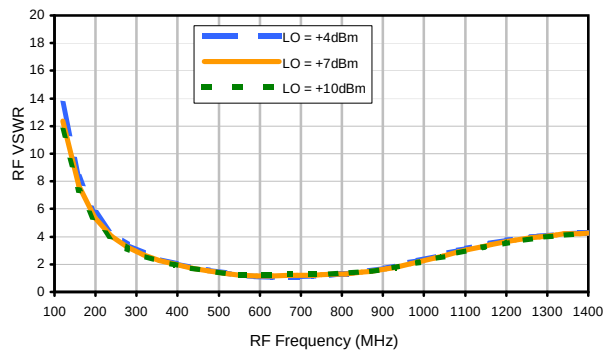
LO-IF Isolation



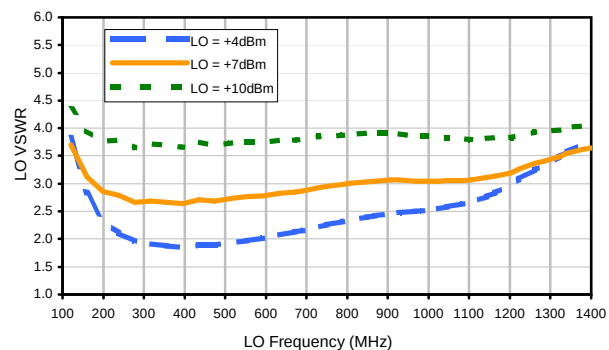
RF-IF Isolation



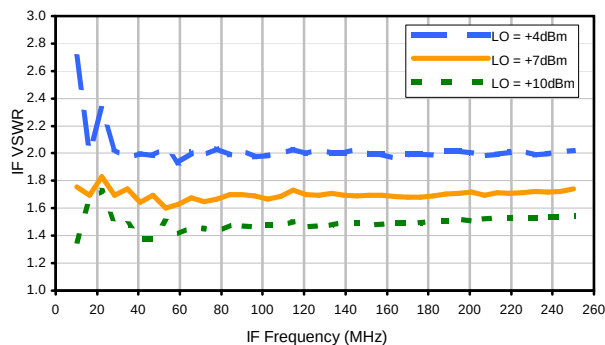
RF VSWR



LO VSWR



IF VSWR



Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+7	13	2	23	21	52	38	44	33	41
1	-	5	+0	22	15	36	38	32	48	50	52	55
2	111	46	41	44	42	45	49	63	61	65	83	74
3	109	66	58	72	55	61	66	68	68	79	74	85
4	110	94	103	87	81	95	86	98	87	93	86	93
5	115	95	98	113	107	96	87	95	97	104	97	99
6	131	106	110	116	113	112	99	91	116	108	100	101
7	125	105	107	106	103	104	98	97	89	108	101	101
8	107	93	102	100	100	115	108	109	93	86	104	96
9	121	102	104	101	100	105	107	98	109	107	90	100
10	135	97	106	101	101	104	100	99	108	103	89	92
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 920.1 MHz; -14.00 dBm.

LO IN: 950.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -20.94 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	4	26	13	34	33	66	46	57	45	58
1	-	5	+0	23	16	41	43	37	53	58	57	64
2	92	36	33	39	32	39	40	62	67	62	70	68
3	116	44	38	48	41	53	51	53	51	54	61	69
4	117	54	73	58	52	50	55	59	68	64	66	65
5	117	55	65	64	57	63	54	60	59	67	71	75
6	123	77	67	76	93	63	65	67	70	71	74	82
7	107	93	85	76	74	89	70	77	77	76	80	87
8	106	103	96	88	82	82	91	82	89	75	90	81
9	127	102	105	116	97	81	92	94	81	82	86	84
10	122	110	112	111	106	104	90	92	102	92	89	92
RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions:

RF IN: 920.1 MHz; -4.00 dBm.

LO IN: 950.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -10.99 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.

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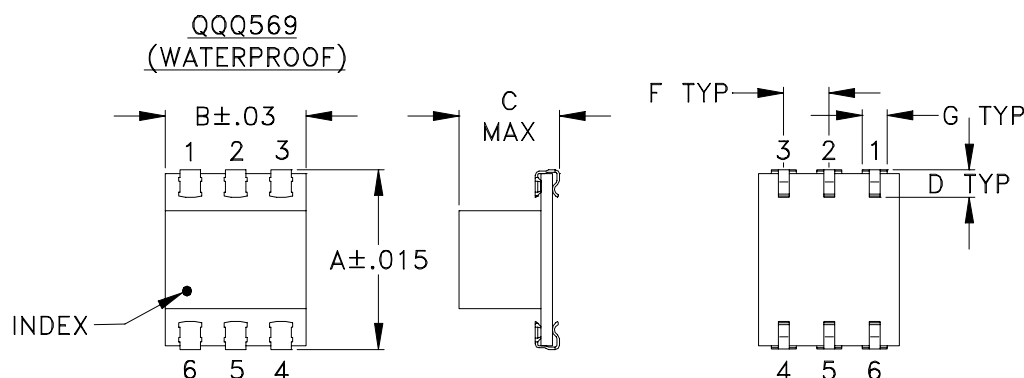


Case Style

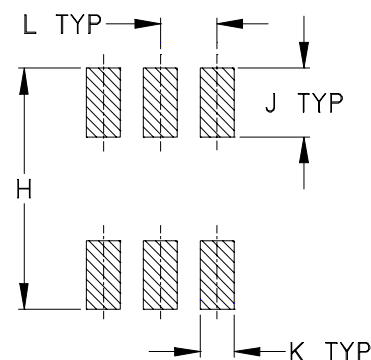
QQQ

QQQ569 (waterproof)

Outline Dimensions



PCB Land Pattern



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

CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
QQQ569	.390 (9.90)	.31 (7.87)	.225 (5.72)	.060 (1.52)	-	.100 (2.54)	.045 (1.14)	.420 (10.67)	.120 (3.05)	.060 (1.52)	.100 (2.54)	-	.50

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

Notes:

- Case material: Ceramic.
- Termination finish:
 - For RoHS Case Styles: Tin plate over Nickel plate.
 - For RoHS-5 Case Styles: Tin-Lead plate.



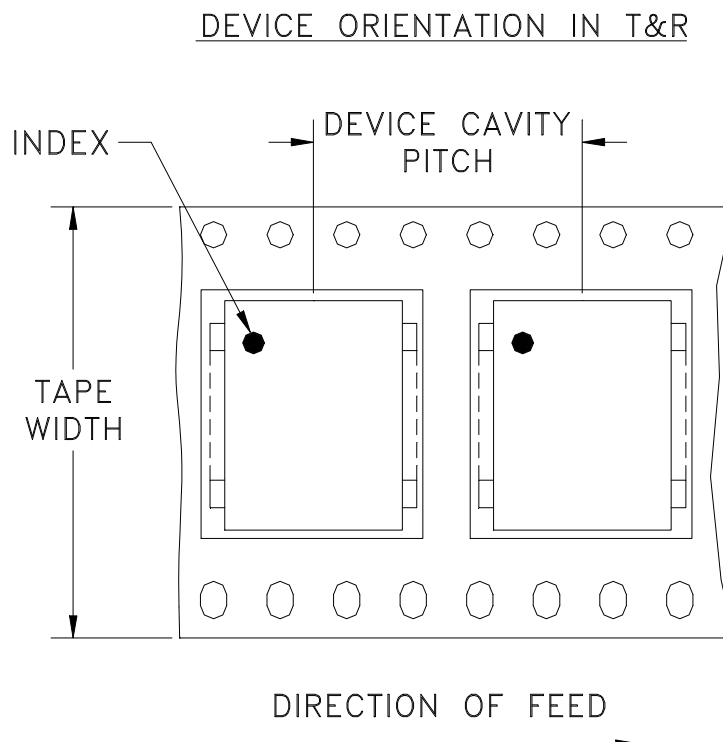
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Tape & Reel Packaging TR-F5



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	16	13	500

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.

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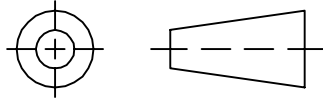
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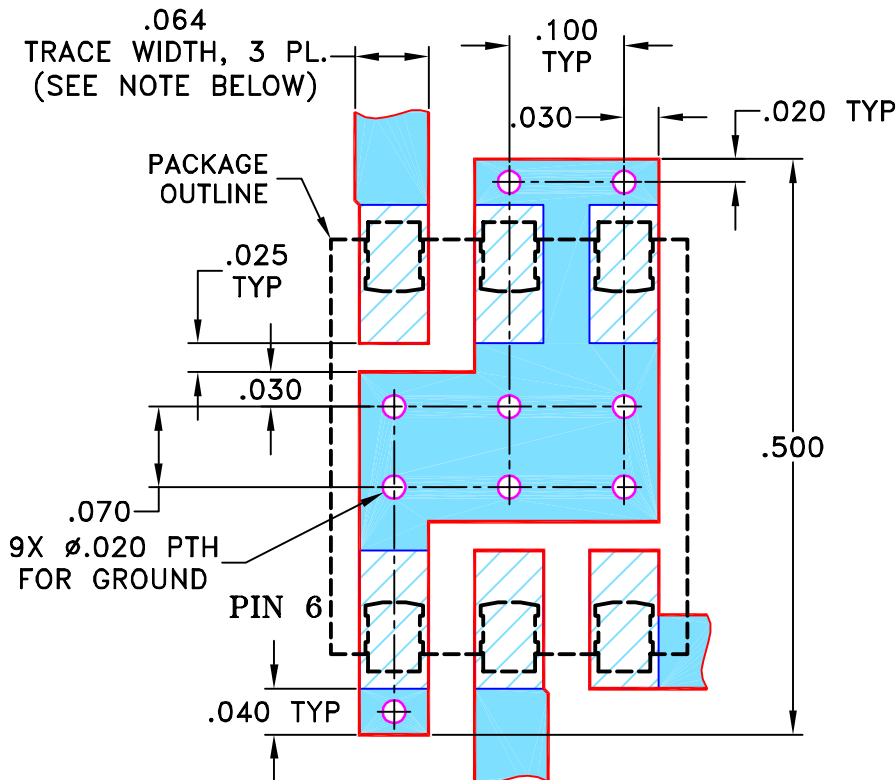
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/02/02	AV	DJ
A	M102713	UPDATED NOTES	01/14/06	GF	IL

SUGGESTED MOUNTING CONFIGURATION FOR QQQ569 CASE STYLE, "w" PIN CONNECTION



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" $\pm$ 0.002"; 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

AV

07/19/02

TOLERANCES ON:

CHECKED

WL

08/02/02

2 PL DECIMALS $\pm$.005

APPROVED

DJ

08/02/02

ANGLES $\pm$

FRACTIONS $\pm$

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



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Brooklyn NY 11235

PL, w, QQQ569, LRMS-J, TB-44

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-083

REV:

A

FILE: 98PL083

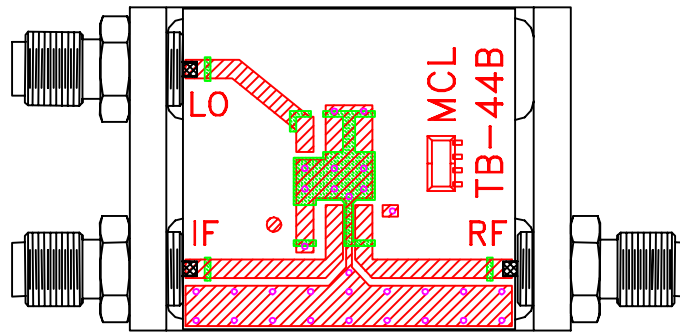
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6:1

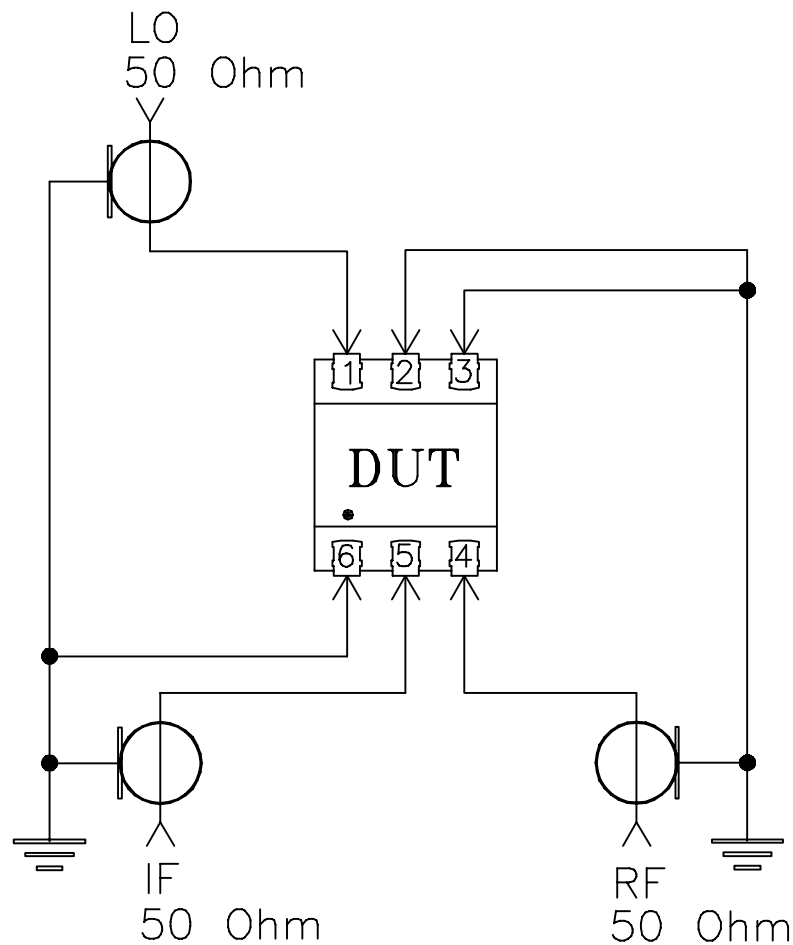
SHEET:

1 OF 1

Evaluation Board and Circuit



TB-44+



Schematic Diagram

Notes:

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

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