

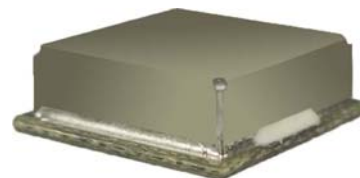
Frequency Mixer

LAVI-ED14082/3

Level 21 (LO Power + 21 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.



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

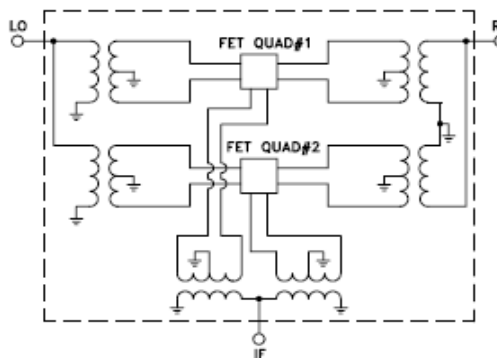
CASE STYLE : 99-01-1474

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
ParameterS		Min.	Typ.	Max.	Units
Frequency	LO (f _L to f _U)	1470		3550	MHz
	RF (f _L to f _U)	930		3010	MHz
	IF	250		1550	MHz
Conversion Loss	Mid Range		7.3		dB
	Total Range		8.3		dB
LO-RF Isolation			47		dB
LO-IF Isolation			42		dB
Input IP3			+31		dBm
1 dB Compression			+20		dBm

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

PIN CONNECTIONS	
LO	2
RF	10
IF	14
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Electrical Schematic



Frequency Mixer

LAVI-ED14082/3

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=540MHz (dB)			RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm)			RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+20dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+19	+21	+23			+19	+21	+23			+19	+21	+23
50.1	590.1	11.94	10.58	9.34	50.1	590.1	14.94	15.23	15.59	50.1	590.1	8.81	8.49	8.12
140.1	680.1	11.10	9.70	8.56	140.1	680.1	14.79	15.15	15.66	140.1	680.1	9.62	9.35	8.90
240.1	780.1	10.93	9.56	8.49	240.1	780.1	13.98	14.53	15.29	240.1	780.1	11.06	10.68	9.97
350.1	890.1	8.35	7.86	7.53	350.1	890.1	17.71	19.36	21.30	350.1	890.1	7.14	5.99	4.77
440.1	980.1	7.99	7.63	7.36	440.1	980.1	19.39	20.96	22.62	440.1	980.1	5.52	4.40	3.38
540.1	1080.1	7.77	7.48	7.25	540.1	1080.1	20.69	22.26	23.91	540.1	1080.1	4.86	3.79	2.76
640.1	1180.1	7.73	7.50	7.34	640.1	1180.1	22.19	24.19	26.07	640.1	1180.1	3.90	2.91	2.01
740.1	1280.1	7.79	7.63	7.51	740.1	1280.1	24.08	26.19	28.23	740.1	1280.1	3.11	2.16	1.38
830.1	1370.1	7.84	7.69	7.59	830.1	1370.1	25.47	27.27	29.17	830.1	1370.1	2.42	1.63	0.95
930.1	1470.1	7.78	7.65	7.54	930.1	1470.1	26.61	28.15	29.73	930.1	1470.1	1.88	1.16	0.68
1030.1	1570.1	7.71	7.59	7.52	1030.1	1570.1	27.83	29.47	31.19	1030.1	1570.1	1.42	0.83	0.46
1130.1	1670.1	7.44	7.32	7.23	1130.1	1670.1	28.65	30.21	31.73	1130.1	1670.1	1.16	0.65	0.37
1230.1	1770.1	7.40	7.29	7.18	1230.1	1770.1	29.87	31.58	33.13	1230.1	1770.1	0.93	0.49	0.28
1330.1	1870.1	7.26	7.13	7.02	1330.1	1870.1	30.56	32.28	33.92	1330.1	1870.1	0.79	0.41	0.23
1430.1	1970.1	7.30	7.15	7.03	1430.1	1970.1	31.31	33.17	34.94	1430.1	1970.1	0.63	0.33	0.19
1530.1	2070.1	7.36	7.23	7.10	1530.1	2070.1	30.96	32.96	35.35	1530.1	2070.1	0.53	0.27	0.14
1620.1	2160.1	7.37	7.23	7.09	1620.1	2160.1	30.17	32.48	35.02	1620.1	2160.1	0.56	0.28	0.14
1720.1	2260.1	7.36	7.20	7.07	1720.1	2260.1	29.73	32.36	35.28	1720.1	2260.1	0.59	0.30	0.15
1820.1	2360.1	7.23	7.09	6.95	1820.1	2360.1	29.21	31.67	35.14	1820.1	2360.1	0.76	0.42	0.23
1920.1	2460.1	7.30	7.16	7.04	1920.1	2460.1	29.09	31.56	35.22	1920.1	2460.1	0.76	0.45	0.26
2020.1	2560.1	7.42	7.29	7.17	2020.1	2560.1	29.32	31.82	35.49	2020.1	2560.1	0.82	0.52	0.29
2120.1	2660.1	7.58	7.47	7.34	2120.1	2660.1	29.46	31.95	35.71	2120.1	2660.1	0.73	0.39	0.18
2220.1	2760.1	7.64	7.50	7.39	2220.1	2760.1	29.59	32.28	35.56	2220.1	2760.1	0.73	0.39	0.20
2320.1	2860.1	7.69	7.55	7.44	2320.1	2860.1	29.43	31.79	34.91	2320.1	2860.1	0.72	0.40	0.20
2410.1	2950.1	7.58	7.44	7.33	2410.1	2950.1	29.35	31.56	34.72	2410.1	2950.1	0.86	0.53	0.31
2510.1	3050.1	7.71	7.58	7.48	2510.1	3050.1	28.90	31.10	34.08	2510.1	3050.1	0.76	0.41	0.21
2610.1	3150.1	7.92	7.80	7.74	2610.1	3150.1	28.93	31.04	33.80	2610.1	3150.1	0.67	0.33	0.15
2710.1	3250.1	8.04	7.97	7.90	2710.1	3250.1	29.08	30.93	33.31	2710.1	3250.1	0.78	0.38	0.16
2810.1	3350.1	8.19	8.09	8.02	2810.1	3350.1	28.29	29.98	32.35	2810.1	3350.1	0.73	0.35	0.09
2910.1	3450.1	8.18	8.10	8.02	2910.1	3450.1	27.91	29.52	31.39	2910.1	3450.1	0.84	0.46	0.25
3010.1	3550.1	8.47	8.35	8.32	3010.1	3550.1	27.72	29.27	31.08	3010.1	3550.1	0.81	0.44	0.17
3110.1	3650.1	8.76	8.67	8.63	3110.1	3650.1	27.83	29.28	31.00	3110.1	3650.1	0.84	0.45	0.16
3200.1	3740.1	9.09	9.01	8.85	3200.1	3740.1	27.74	29.29	30.66	3200.1	3740.1	0.81	0.38	0.25
3300.1	3840.1	9.35	9.27	9.23	3300.1	3840.1	27.94	29.75	30.66	3300.1	3840.1	0.89	0.40	0.23
3400.1	3940.1	9.64	9.58	9.48	3400.1	3940.1	28.08	30.24	30.72	3400.1	3940.1	0.99	0.43	0.41
3500.1	4040.1	9.84	9.82	9.80	3500.1	4040.1	28.60	30.88	32.29	3500.1	4040.1	1.07	0.54	0.32
3600.1	4140.1	10.29	10.28	10.11	3600.1	4140.1	28.30	31.28	33.96	3600.1	4140.1	1.13	0.51	0.41
3700.1	4240.1	10.69	10.67	10.51	3700.1	4240.1	28.77	31.59	34.41	3700.1	4240.1	0.97	0.42	0.32
3800.1	4340.1	11.13	11.18	11.21	3800.1	4340.1	30.13	32.60	34.69	3800.1	4340.1	0.95	0.47	0.26
3900.1	4440.1	12.03	12.05	12.09	3900.1	4440.1	30.64	32.59	33.54	3900.1	4440.1	0.66	0.32	0.18

Frequency Mixer

LAVI-ED14082/3

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1630.1MHz (dB)
		@LO (dBm)
		+21
970.0	660.1	10.13
930.0	700.1	9.79
880.0	750.1	9.50
830.0	800.1	9.08
780.0	850.1	8.94
730.0	900.1	8.59
680.0	950.1	8.45
630.0	1000.1	8.27
590.0	1040.1	8.11
540.0	1090.1	8.01
490.0	1140.1	8.02
440.0	1190.1	7.98
390.0	1240.1	7.87
340.0	1290.1	8.11
290.0	1340.1	8.15
240.0	1390.1	7.94
200.0	1430.1	7.74
150.0	1480.1	7.72
100.0	1530.1	7.91
50.0	1580.1	8.90
25.0	1655.1	11.45
165.0	1795.1	7.42
305.0	1935.1	7.80
445.0	2075.1	7.36
585.0	2215.1	7.19
725.0	2355.1	7.09
865.0	2495.1	7.12
1005.0	2635.1	7.17
1145.0	2775.1	7.27
1285.0	2915.1	7.39
1425.0	3055.1	7.66
1565.0	3195.1	7.83
1705.0	3335.1	7.99
1845.0	3475.1	7.83
1985.0	3615.1	7.72
2125.0	3755.1	7.85
2265.0	3895.1	8.07
2410.0	4040.1	8.40
2550.0	4180.1	9.05
2690.0	4320.1	9.98

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=260.1MHz (dB)
		@LO (dBm)
		+21
520.0	780.1	9.81
570.0	830.1	9.46
620.0	880.1	9.04
680.0	940.1	8.77
730.0	990.1	8.59
790.0	1050.1	8.56
840.0	1100.1	8.43
900.0	1160.1	8.06
950.0	1210.1	7.95
1010.0	1270.1	7.88
1060.0	1320.1	7.75
1120.0	1380.1	7.69
1170.0	1430.1	7.58
1230.0	1490.1	7.59
1280.0	1540.1	7.46
1330.0	1590.1	7.41
1390.0	1650.1	7.22
1440.0	1700.1	7.08
1500.0	1760.1	7.01
1550.0	1810.1	6.92
1610.0	1870.1	6.95
1660.0	1920.1	6.94
1720.0	1980.1	6.93
1770.0	2030.1	6.87
1830.0	2090.1	6.88
1880.0	2140.1	6.90
1940.0	2200.1	7.04
1990.0	2250.1	7.24
2040.0	2300.1	7.33
2100.0	2360.1	7.42
2150.0	2410.1	7.37
2210.0	2470.1	7.44
2260.0	2520.1	7.57
2320.0	2580.1	7.73
2370.0	2630.1	7.76
2430.0	2690.1	7.78
2480.0	2740.1	7.79
2540.0	2800.1	8.04
2590.0	2850.1	8.60
2650.0	2910.1	9.63

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=3000.1MHz (dB)
		@LO (dBm)
		+21
2225.0	775.1	9.59
2175.0	825.1	9.33
2115.0	885.1	9.13
2065.0	935.1	9.05
2005.0	995.1	8.94
1945.0	1055.1	8.85
1895.0	1105.1	8.76
1835.0	1165.1	8.68
1775.0	1225.1	8.65
1725.0	1275.1	8.61
1665.0	1335.1	8.50
1605.0	1395.1	8.44
1555.0	1445.1	8.43
1495.0	1505.1	8.38
1445.0	1555.1	8.35
1385.0	1615.1	8.43
1325.0	1675.1	8.50
1275.0	1725.1	8.47
1215.0	1785.1	8.38
1155.0	1845.1	8.27
1105.0	1895.1	8.27
1045.0	1955.1	8.37
985.0	2015.1	8.29
935.0	2065.1	8.40
875.0	2125.1	8.29
815.0	2185.1	8.27
765.0	2235.1	8.26
705.0	2295.1	8.30
655.0	2345.1	8.34
595.0	2405.1	8.33
535.0	2465.1	8.32
485.0	2515.1	8.30
425.0	2575.1	8.39
365.0	2635.1	8.48
315.0	2685.1	8.57
255.0	2745.1	8.29
195.0	2805.1	8.00
145.0	2855.1	8.01
85.0	2915.1	8.43
25.0	2975.1	12.63

Frequency Mixer

LAVI-ED14082/3

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+19	+21	+23	+19	+21	+23
590.1	55.17	55.02	54.90	51.79	51.58	51.37
680.1	53.56	53.42	53.30	51.35	51.04	50.75
780.1	52.53	52.40	52.22	51.17	50.79	50.35
890.1	52.45	52.43	52.37	51.18	50.84	50.44
980.1	51.40	51.30	51.14	50.70	50.40	50.08
1080.1	52.15	51.83	51.50	49.66	49.41	49.10
1180.1	56.79	56.05	55.10	47.79	47.58	47.26
1280.1	54.37	54.07	53.41	47.15	47.04	46.87
1370.1	48.14	47.93	47.50	45.57	45.46	45.28
1470.1	52.90	52.82	52.21	44.21	44.23	44.26
1570.1	59.52	59.67	60.53	43.14	43.21	43.32
1670.1	48.33	47.92	47.59	43.68	43.91	44.10
1770.1	43.57	43.30	43.20	44.06	44.63	45.11
1870.1	44.13	43.97	43.98	41.21	41.37	41.54
1970.1	48.57	48.33	48.24	40.66	40.60	40.55
2070.1	45.58	45.29	45.16	43.06	43.26	43.45
2160.1	43.01	42.82	42.76	46.65	47.28	47.98
2260.1	44.89	45.05	45.35	50.62	50.88	50.94
2360.1	48.99	48.82	48.92	52.43	50.44	48.47
2460.1	47.46	47.40	47.49	46.78	46.05	45.05
2560.1	50.30	50.41	50.62	46.10	45.26	44.10
2660.1	47.54	47.21	46.98	43.63	42.51	41.27
2760.1	45.69	45.36	45.19	38.25	37.54	36.70
2860.1	46.77	46.60	46.57	36.42	35.92	35.55
2950.1	50.18	49.49	48.85	35.88	35.58	35.37
3050.1	44.82	44.48	44.28	35.26	35.06	34.92
3150.1	46.26	46.06	45.79	34.94	34.82	34.75
3250.1	48.40	48.37	48.04	35.01	34.97	34.96
3350.1	47.29	47.45	47.44	35.32	35.37	35.41
3450.1	47.41	47.56	47.68	35.85	35.96	36.02
3550.1	46.75	46.61	46.43	36.12	36.26	36.36
3650.1	46.58	46.50	46.36	35.74	35.83	35.86
3740.1	40.47	40.42	40.36	34.75	34.78	34.81
3840.1	37.88	37.75	37.71	33.56	33.60	33.61
3940.1	35.67	35.57	35.54	32.86	32.91	32.94
4040.1	33.82	33.80	33.77	32.38	32.60	32.73
4140.1	31.91	31.89	31.84	32.32	32.60	32.87
4240.1	30.56	30.59	30.52	32.47	32.76	33.10
4340.1	29.34	29.31	29.24	33.33	33.74	34.08
4440.1	28.37	28.29	28.26	35.80	36.34	36.57

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+19	+21	+23
50.1	590.1	21.79	21.56	21.27
140.1	680.1	25.55	25.64	25.63
240.1	780.1	24.10	24.44	24.81
350.1	890.1	23.95	24.61	25.56
440.1	980.1	26.10	27.00	28.50
540.1	1080.1	27.50	28.39	30.11
640.1	1180.1	31.58	35.24	42.93
740.1	1280.1	37.68	38.50	30.54
830.1	1370.1	36.99	35.92	30.96
930.1	1470.1	36.51	35.35	32.27
1030.1	1570.1	38.16	37.94	35.95
1130.1	1670.1	39.59	40.92	40.03
1230.1	1770.1	48.02	48.08	41.88
1330.1	1870.1	39.77	41.27	43.79
1430.1	1970.1	35.52	35.94	36.45
1530.1	2070.1	36.68	36.73	36.56
1620.1	2160.1	42.74	42.83	42.96
1720.1	2260.1	46.01	45.57	44.46
1820.1	2360.1	43.11	42.68	41.82
1920.1	2460.1	40.29	39.78	39.15
2020.1	2560.1	39.78	39.02	38.31
2120.1	2660.1	40.52	39.99	39.13
2220.1	2760.1	39.51	39.46	37.85
2320.1	2860.1	36.58	36.62	35.54
2410.1	2950.1	35.33	35.40	34.82
2510.1	3050.1	34.37	34.41	34.41
2610.1	3150.1	34.42	34.48	34.92
2710.1	3250.1	33.37	33.57	34.09
2810.1	3350.1	33.02	33.29	33.62
2910.1	3450.1	33.66	33.98	34.29
3010.1	3550.1	34.61	34.97	35.20
3110.1	3650.1	35.62	35.96	36.04
3200.1	3740.1	37.01	37.16	37.14
3300.1	3840.1	39.78	39.82	39.61
3400.1	3940.1	42.30	41.37	41.01
3500.1	4040.1	43.57	42.32	41.63
3600.1	4140.1	44.55	42.02	39.71
3700.1	4240.1	44.17	42.43	40.27
3800.1	4340.1	44.85	44.29	42.28
3900.1	4440.1	39.89	40.57	40.62

Frequency Mixer

LAVI-ED14082/3

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=3540.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+19	+21	+23		+19	+21	+23		+19	+21	+23
50.1	590.1	1.58	1.47	1.32	590.1	4.63	4.63	4.62	50.1	3.73	3.64	3.54
140.1	680.1	1.59	1.44	1.30	680.1	4.67	4.66	4.65	70.1	2.55	2.49	2.45
240.1	780.1	1.74	1.58	1.46	780.1	4.71	4.71	4.68	130.1	1.43	1.43	1.45
350.1	890.1	1.51	1.46	1.44	890.1	4.78	4.77	4.74	200.1	1.05	1.10	1.17
440.1	980.1	1.57	1.52	1.49	980.1	4.85	4.83	4.79	260.1	1.21	1.25	1.31
540.1	1080.1	1.67	1.61	1.57	1080.1	4.93	4.91	4.86	320.1	1.37	1.42	1.47
640.1	1180.1	1.79	1.72	1.66	1180.1	5.03	5.00	4.93	390.1	1.52	1.53	1.56
740.1	1280.1	1.89	1.82	1.76	1280.1	5.12	5.08	5.00	450.1	1.64	1.63	1.64
830.1	1370.1	1.96	1.88	1.81	1370.1	5.10	5.05	4.96	540.1	1.85	1.82	1.80
930.1	1470.1	2.01	1.94	1.88	1470.1	4.98	4.93	4.85	580.1	1.93	1.88	1.86
1030.1	1570.1	1.87	1.79	1.73	1570.1	4.59	4.54	4.47	640.1	2.06	2.00	1.96
1130.1	1670.1	1.96	1.88	1.81	1670.1	4.04	4.00	3.95	710.1	2.17	2.09	2.04
1230.1	1770.1	1.90	1.83	1.76	1770.1	3.47	3.44	3.41	770.1	2.20	2.11	2.04
1330.1	1870.1	1.89	1.81	1.74	1870.1	2.96	2.94	2.91	840.1	2.26	2.15	2.07
1430.1	1970.1	1.87	1.79	1.73	1970.1	2.53	2.51	2.50	900.1	2.27	2.15	2.06
1530.1	2070.1	1.89	1.83	1.77	2070.1	2.22	2.21	2.20	960.1	2.26	2.12	2.02
1620.1	2160.1	1.83	1.78	1.72	2160.1	2.03	2.03	2.02	1030.1	2.20	2.06	1.94
1720.1	2260.1	1.72	1.66	1.61	2260.1	1.94	1.95	1.95	1090.1	2.09	1.95	1.83
1820.1	2360.1	1.61	1.56	1.51	2360.1	1.99	2.00	2.01	1150.1	2.04	1.89	1.76
1920.1	2460.1	1.48	1.43	1.38	2460.1	2.11	2.12	2.14	1220.1	1.93	1.78	1.65
2020.1	2560.1	1.34	1.29	1.24	2560.1	2.27	2.29	2.31	1280.1	1.82	1.67	1.54
2120.1	2660.1	1.23	1.18	1.13	2660.1	2.48	2.50	2.52	1350.1	1.71	1.57	1.45
2220.1	2760.1	1.18	1.14	1.11	2760.1	2.70	2.72	2.74	1410.1	1.64	1.50	1.39
2320.1	2860.1	1.19	1.17	1.16	2860.1	2.94	2.96	2.97	1470.1	1.59	1.46	1.36
2410.1	2950.1	1.16	1.15	1.14	2950.1	3.20	3.21	3.22	1540.1	1.52	1.41	1.32
2510.1	3050.1	1.06	1.09	1.12	3050.1	3.44	3.44	3.42	1600.1	1.46	1.37	1.29
2610.1	3150.1	1.11	1.17	1.22	3150.1	3.62	3.61	3.56	1670.1	1.42	1.34	1.28
2710.1	3250.1	1.13	1.18	1.23	3250.1	3.75	3.72	3.63	1730.1	1.41	1.33	1.28
2810.1	3350.1	1.13	1.17	1.21	3350.1	3.77	3.73	3.63	1790.1	1.35	1.28	1.23
2910.1	3450.1	1.24	1.27	1.30	3450.1	3.71	3.66	3.57	1860.1	1.29	1.22	1.18
3010.1	3550.1	1.32	1.36	1.40	3550.1	3.54	3.48	3.39	1920.1	1.24	1.17	1.13
3110.1	3650.1	1.32	1.36	1.40	3650.1	3.28	3.22	3.15	1980.1	1.20	1.13	1.09
3200.1	3740.1	1.33	1.37	1.40	3740.1	3.02	2.97	2.92	2050.1	1.18	1.10	1.03
3300.1	3840.1	1.44	1.48	1.50	3840.1	2.72	2.67	2.65	2110.1	1.17	1.09	1.04
3400.1	3940.1	1.52	1.58	1.59	3940.1	2.42	2.38	2.37	2180.1	1.17	1.12	1.10
3500.1	4040.1	1.57	1.63	1.67	4040.1	2.13	2.13	2.13	2240.1	1.19	1.15	1.14
3600.1	4140.1	1.67	1.73	1.79	4140.1	1.89	1.88	1.89	2300.1	1.24	1.21	1.21
3700.1	4240.1	1.82	1.89	1.95	4240.1	1.68	1.67	1.67	2370.1	1.28	1.26	1.26
3800.1	4340.1	2.01	2.08	2.15	4340.1	1.52	1.52	1.52	2430.1	1.35	1.33	1.32
3900.1	4440.1	2.11	2.18	2.21	4440.1	1.42	1.42	1.42	2500.1	1.44	1.42	1.41

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	12.50	2.32	20.72	15.05	40.92	60.61	27.23	48.64	45.31	51.26
1	---	34.54	---	40.43	19.08	51.35	35.94	50.38	46.39	58.15	66.96	72.66
2	102.60	65.62	68.84	68.10	77.22	73.54	80.87	78.20	89.59	84.54	83.02	103.99
3	125.28	94.52	83.83	89.34	87.92	96.42	109.50	106.76	112.05	109.32	106.71	108.18
4	128.39	111.30	111.59	103.17	106.38	102.65	109.08	112.27	111.74	111.85	109.58	108.96
5	128.10	112.07	112.68	111.80	108.72	109.23	106.29	109.31	113.34	112.95	110.50	110.39
6	127.48	112.64	111.41	109.53	111.08	111.94	109.91	111.70	110.38	109.47	113.16	110.61
7	127.20	110.01	110.06	113.42	110.10	108.32	109.85	109.89	109.42	110.77	111.90	111.37
8	127.09	111.41	111.12	111.75	112.71	111.06	103.84	112.62	102.03	112.08	112.33	111.19
9	123.08	107.74	110.27	111.59	112.46	111.18	110.94	107.12	112.58	108.42	111.96	110.31
10	125.76	107.49	107.04	111.67	111.67	112.70	111.34	112.52	111.75	110.95	111.42	111.10
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1630 MHz; -5.00 dBm.
LO IN: 2170 MHz; +21.00 dBm
IF OUT: 540 MHz; -12.7 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	21.47	12.73	33.63	25.24	48.16	74.43	37.74	58.96	56.33	62.02
1	---	34.36	---	39.67	19.24	51.55	36.22	50.37	46.48	58.29	67.26	73.89
2	88.60	56.84	58.91	57.90	69.67	63.79	71.18	69.22	79.01	76.04	74.30	95.41
3	122.07	78.06	63.52	73.09	64.97	77.49	86.48	85.65	101.82	97.80	91.29	103.77
4	122.69	93.02	88.23	83.16	87.26	86.43	84.25	100.86	87.77	99.00	96.20	110.74
5	120.41	112.96	101.37	95.52	90.79	93.94	91.63	104.61	112.69	119.75	110.04	114.68
6	120.45	115.75	120.82	109.37	96.04	101.61	97.30	103.58	112.27	116.22	110.85	117.37
7	119.57	121.38	119.93	119.64	114.92	117.48	107.05	112.49	111.16	119.80	119.90	119.59
8	121.34	119.49	120.13	120.96	122.27	118.00	114.90	122.21	114.96	122.39	119.10	121.55
9	117.93	116.70	120.85	121.41	120.52	121.56	120.13	114.02	118.37	116.73	119.29	120.08
10	118.82	118.33	119.60	121.28	120.80	121.09	120.30	117.69	120.40	118.61	119.85	122.15
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1630 MHz; 5.00 dBm.
LO IN: 2170 MHz; +21.00 dBm
IF OUT: 540 MHz; -2.74 dBm

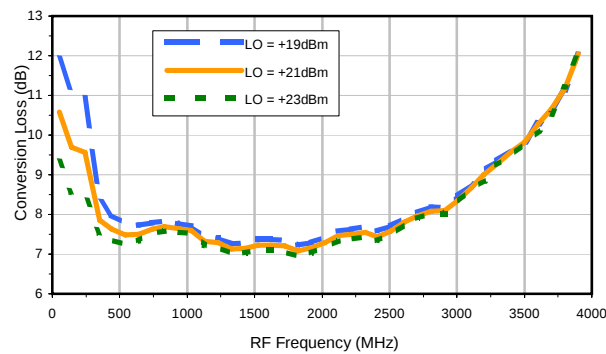
- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT
2. + entry denotes harmonics are in (dBc) above IF OUTPUT
3. RF Cal represents the Harmonics level of the RF Input Signal to the mixer

Frequency Mixer

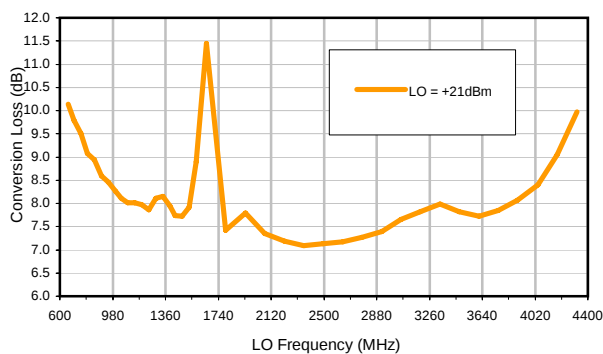
LAVI-ED14082/3

Typical Performance Curves

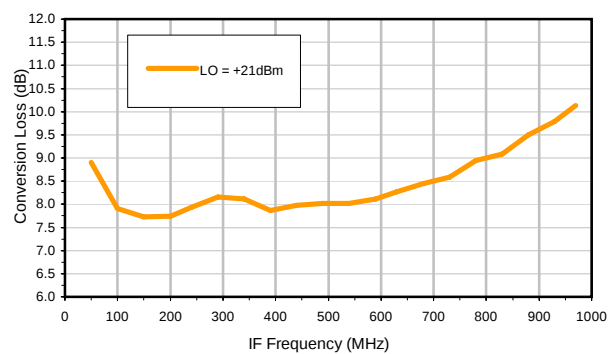
Conversion Loss @IF=540 MHz



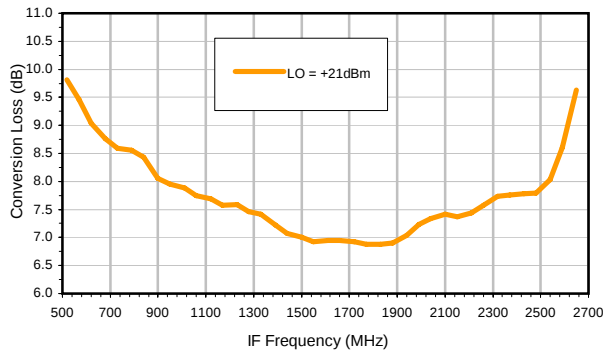
Conversion Loss vs. LO @ RF=1630.1 MHz



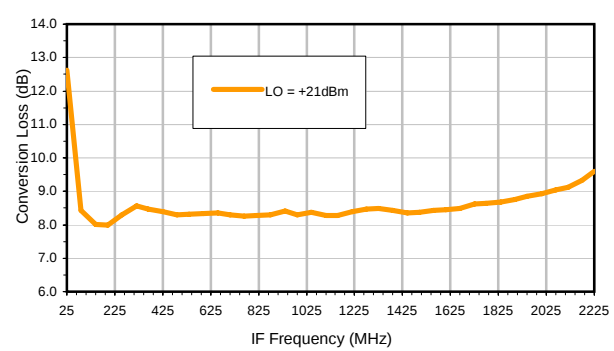
Conversion Loss vs. IF @ RF=1630.1 MHz



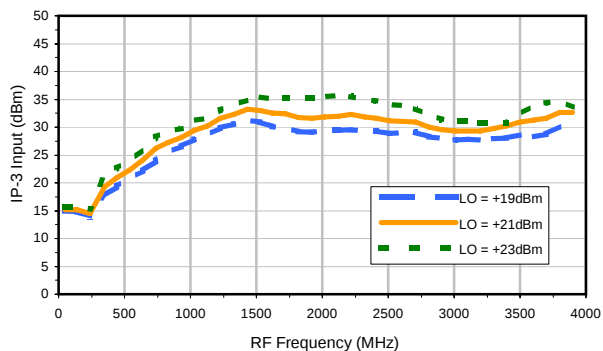
Conversion Loss vs. IF @ RF=260.1 MHz



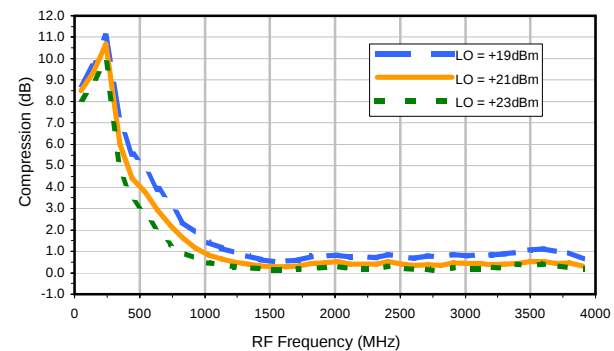
Conversion Loss vs. IF @ RF=3000.1 MHz



IP-3 Input



Compression @ RF IN=+20 dBm



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IF/RF MICROWAVE COMPONENTS

REV. X1

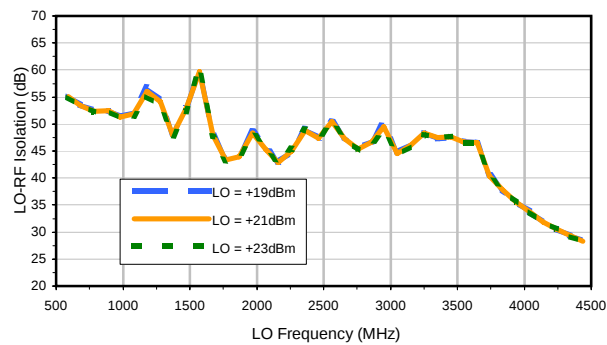
LAV-ED14082/3

4/19/2012

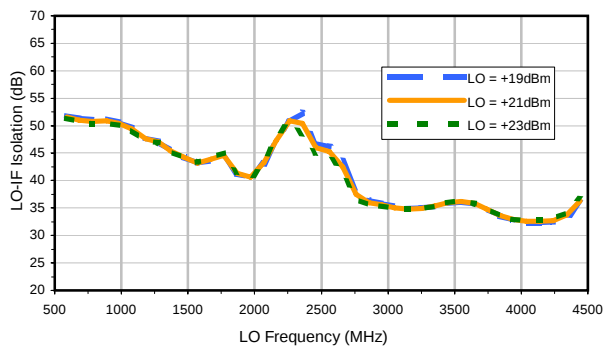
Page 1 of 3

Typical Performance Curves

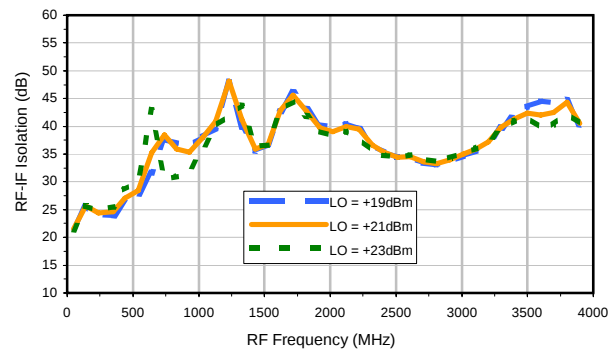
LO-RF Isolation



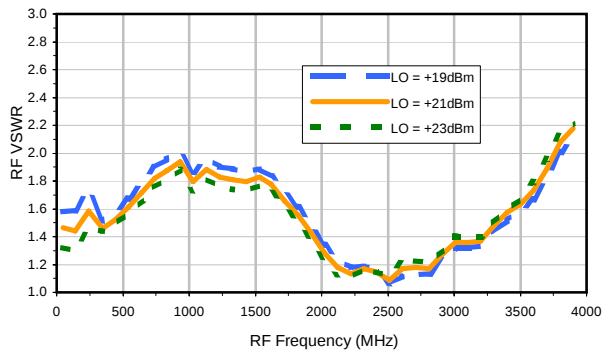
LO-IF Isolation



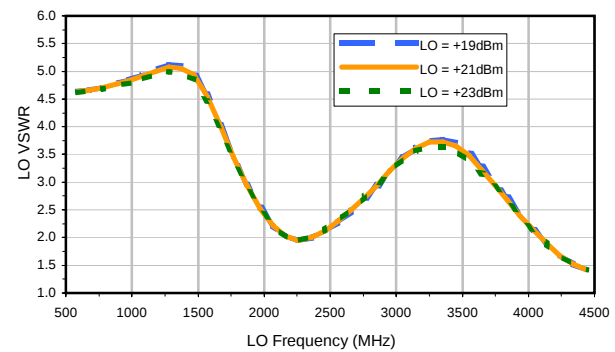
RF-IF Isolation



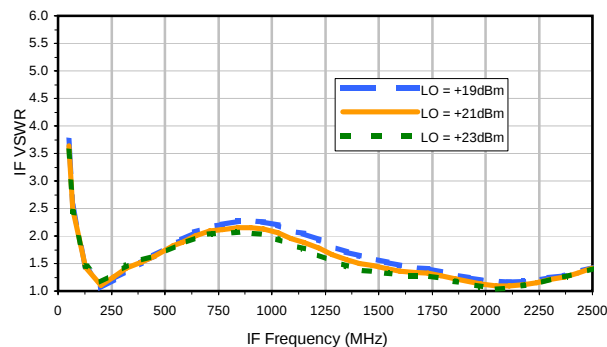
RF VSWR



LO VSWR



IF VSWR



Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	12.50	2.32	20.72	15.05	40.92	60.61	27.23	48.64	45.31	51.26
1	---	34.54	---	40.43	19.08	51.35	35.94	50.38	46.39	58.15	66.96	72.66
2	102.60	65.62	68.84	68.10	77.22	73.54	80.87	78.20	89.59	84.54	83.02	103.99
3	125.28	94.52	83.83	89.34	87.92	96.42	109.50	106.76	112.05	109.32	106.71	108.18
4	128.39	111.30	111.59	103.17	106.38	102.65	109.08	112.27	111.74	111.85	109.58	108.96
5	128.10	112.07	112.68	111.80	108.72	109.23	106.29	109.31	113.34	112.95	110.50	110.39
6	127.48	112.64	111.41	109.53	111.08	111.94	109.91	111.70	110.38	109.47	113.16	110.61
7	127.20	110.01	110.06	113.42	110.10	108.32	109.85	109.89	109.42	110.77	111.90	111.37
8	127.09	111.41	111.12	111.75	112.71	111.06	103.84	112.62	102.03	112.08	112.33	111.19
9	123.08	107.74	110.27	111.59	112.46	111.18	110.94	107.12	112.58	108.42	111.96	110.31
10	125.76	107.49	107.04	111.67	111.67	112.70	111.34	112.52	111.75	110.95	111.42	111.10
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1630 MHz; -5.00 dBm.
LO IN: 2170 MHz; +21.00 dBm
IF OUT: 540 MHz; -12.7 dBm

RF HARMONICS ORDER

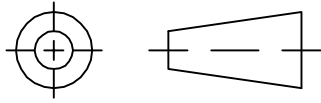
	(-dBm)	(-dBc)										
0	---	---	21.47	12.73	33.63	25.24	48.16	74.43	37.74	58.96	56.33	62.02
1	---	34.36	---	39.67	19.24	51.55	36.22	50.37	46.48	58.29	67.26	73.89
2	88.60	56.84	58.91	57.90	69.67	63.79	71.18	69.22	79.01	76.04	74.30	95.41
3	122.07	78.06	63.52	73.09	64.97	77.49	86.48	85.65	101.82	97.80	91.29	103.77
4	122.69	93.02	88.23	83.16	87.26	86.43	84.25	100.86	87.77	99.00	96.20	110.74
5	120.41	112.96	101.37	95.52	90.79	93.94	91.63	104.61	112.69	119.75	110.04	114.68
6	120.45	115.75	120.82	109.37	96.04	101.61	97.30	103.58	112.27	116.22	110.85	117.37
7	119.57	121.38	119.93	119.64	114.92	117.48	107.05	112.49	111.16	119.80	119.90	119.59
8	121.34	119.49	120.13	120.96	122.27	118.00	114.90	122.21	114.96	122.39	119.10	121.55
9	117.93	116.70	120.85	121.41	120.52	121.56	120.13	114.02	118.37	116.73	119.29	120.08
10	118.82	118.33	119.60	121.28	120.80	121.09	120.30	117.69	120.40	118.61	119.85	122.15
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1630 MHz; 5.00 dBm.
LO IN: 2170 MHz; +21.00 dBm
IF OUT: 540 MHz; -2.74 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 represents the Harmonics level of the RF Input Signal to the mixer

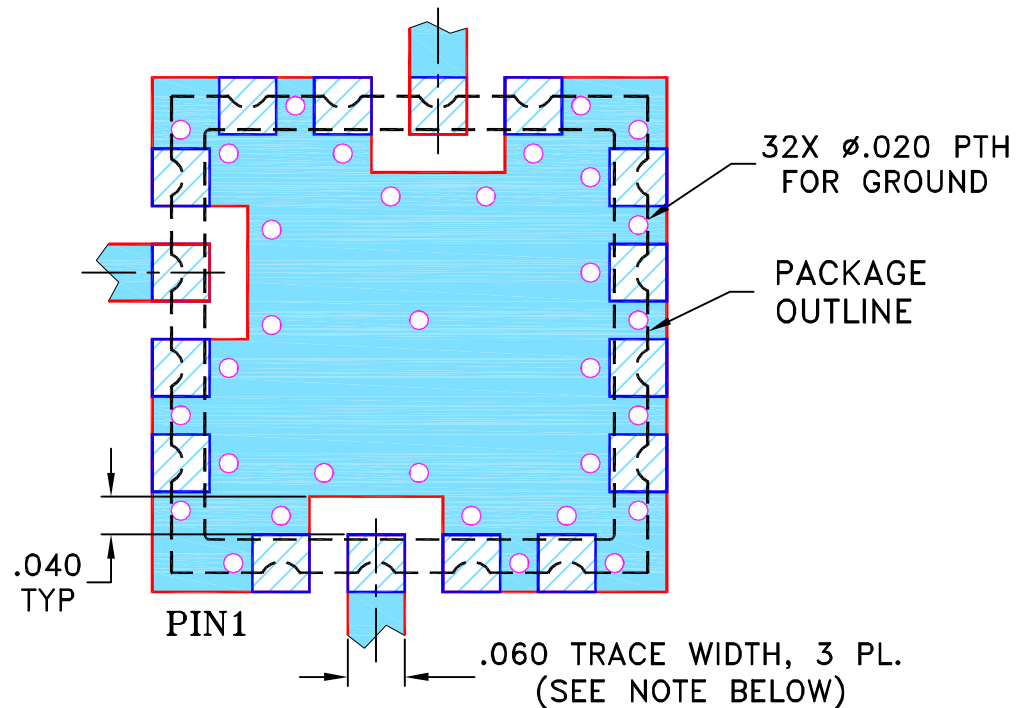
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
E	M105563	ADDED "rl" PIN CONNECTION	06/02/06	MMG	DJ
F	M105640	CORRECTED NOTE 2	06/08/06	MMG	MM
G	M124395	ADDED "RAMP"	09/09	EM	HH
G	R77589	ADDED "RAMP"	09/09	EM	HH

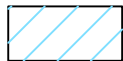
SUGGESTED MOUNTING CONFIGURATION FOR
CK605 CASE STYLE, "kg/rl/16AM01" PIN CONNECTION

NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" $\pm$.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE BOTTOM 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

AV

08/07/00

CHECKED

SK

08/08/00

APPROVED

DB

08/08/00

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



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PL,kg/rl/16AM01,CK605,ROS/LAVI/RAMP

SIZE
A

CODE IDENT
15542

DRAWING NO:
98-PL-012

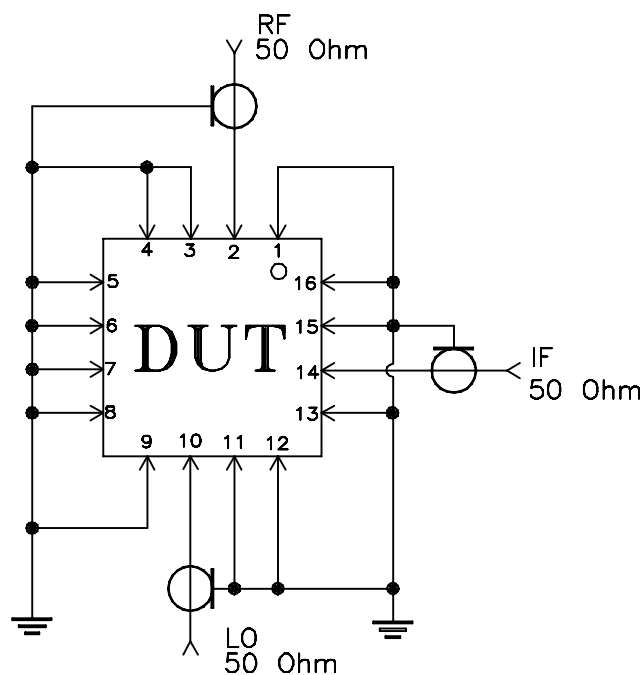
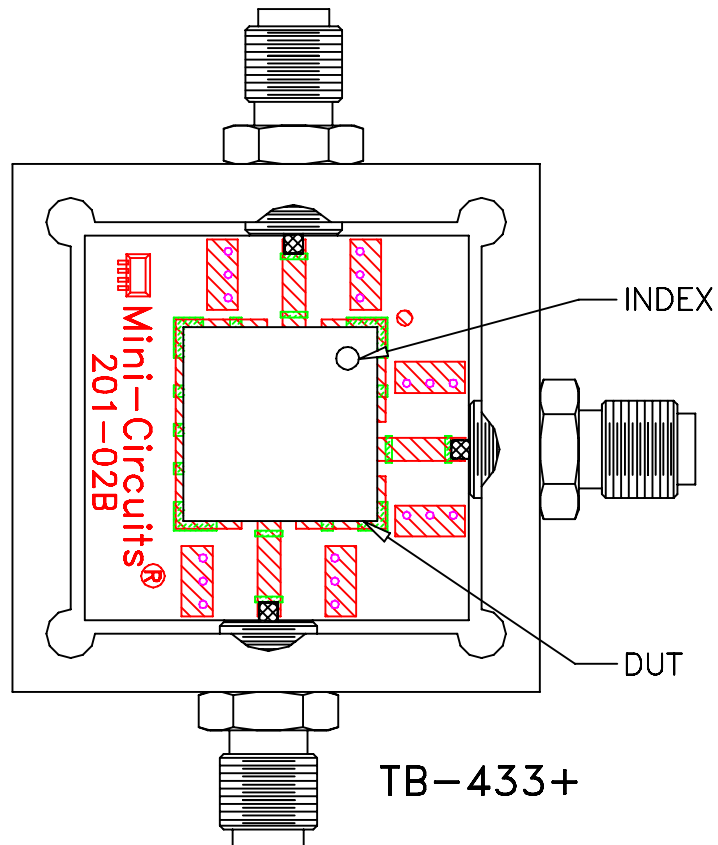
REV:
G

FILE: 98PL012

SCALE: 5:1

SHEET: 1 OF 1

Evaluation Board and Circuit



Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.028 inch.

Schematic Diagram

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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	-45° 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 Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 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