

Frequency Mixer

SKY-ED6905/1

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 : BJ398

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (f _L to f _U)	2050		7650	MHz
	RF (f _L to f _U)	2050		7650	MHz
	IF	10		1985	MHz
Conversion Loss			6.4		dB
LO-RF Isolation			23		dB
LO-IF Isolation			18		dB

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

PIN CONNECTIONS	
LO	1
RF	5
IF	7
GROUND	2, 3, 4, 6, 8

Frequency Mixer

SKY-ED6905/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
1780.1	1810.1	15.12	10.27	8.34
1940.1	1970.1	12.47	8.54	7.29
2100.1	2130.1	8.94	7.07	6.52
2260.1	2290.1	7.51	6.32	5.94
2420.1	2450.1	6.28	5.54	5.30
2580.1	2610.1	5.80	5.31	5.08
2740.1	2770.1	5.54	5.15	4.95
2900.1	2930.1	5.25	4.95	4.80
3060.1	3090.1	5.27	5.03	4.91
3240.1	3270.1	5.56	5.33	5.22
3400.1	3430.1	5.65	5.45	5.37
3580.1	3610.1	5.81	5.55	5.43
3740.1	3770.1	6.27	5.93	5.73
3920.1	3950.1	6.42	6.10	5.86
4080.1	4110.1	6.33	6.05	5.84
4260.1	4290.1	6.29	6.05	5.86
4420.1	4450.1	6.38	6.15	6.01
4600.1	4630.1	6.41	6.15	5.99
4760.1	4790.1	6.32	6.10	6.00
4940.1	4970.1	7.11	6.72	6.52
5100.1	5130.1	7.56	7.14	6.87
5280.1	5310.1	7.47	7.22	7.05
5440.1	5470.1	7.24	7.01	6.94
5620.1	5650.1	7.50	7.13	6.94
5780.1	5810.1	7.98	7.51	7.18
5960.1	5990.1	7.70	7.28	7.03
6120.1	6150.1	7.40	7.02	6.85
6300.1	6330.1	7.17	6.74	6.63
6460.1	6490.1	7.12	6.52	6.41
6640.1	6670.1	7.17	6.38	6.29
6800.1	6830.1	7.48	6.32	6.22
6980.1	7010.1	7.93	6.21	6.03
7140.1	7170.1	7.40	6.12	5.92
7320.1	7350.1	7.38	5.98	5.77
7480.1	7510.1	7.62	6.09	5.93
7660.1	7690.1	7.81	6.38	6.23
7820.1	7850.1	7.97	6.91	6.81
8000.1	8030.1	8.72	7.84	7.75
8160.1	8190.1	9.63	8.89	8.70
8340.1	8370.1	10.53	9.87	9.70

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
1780.1	1810.1	-0.44	7.48	8.69
1940.1	1970.1	1.77	7.96	8.47
2100.1	2130.1	7.95	8.14	7.92
2260.1	2290.1	8.72	9.09	9.22
2420.1	2450.1	7.53	8.28	8.68
2580.1	2610.1	8.18	8.44	9.03
2740.1	2770.1	9.45	8.92	9.12
2900.1	2930.1	9.41	9.17	9.11
3060.1	3090.1	11.68	11.39	10.39
3240.1	3270.1	10.84	11.31	11.42
3400.1	3430.1	9.78	10.10	9.99
3580.1	3610.1	8.59	8.82	7.93
3740.1	3770.1	9.49	10.86	10.70
3920.1	3950.1	8.12	8.80	9.24
4080.1	4110.1	8.37	8.57	9.21
4260.1	4290.1	10.02	10.72	11.18
4420.1	4450.1	10.42	11.26	13.15
4600.1	4630.1	12.24	13.66	14.74
4760.1	4790.1	12.77	16.10	18.31
4940.1	4970.1	12.81	12.35	13.55
5100.1	5130.1	10.85	10.64	11.57
5280.1	5310.1	11.90	9.97	9.69
5440.1	5470.1	15.46	13.83	12.72
5620.1	5650.1	15.84	16.45	14.02
5780.1	5810.1	17.74	15.09	10.72
5960.1	5990.1	9.80	9.76	6.79
6120.1	6150.1	8.91	9.08	6.41
6300.1	6330.1	7.75	8.99	6.45
6460.1	6490.1	5.90	9.07	6.50
6640.1	6670.1	4.84	8.23	5.82
6800.1	6830.1	3.69	7.00	5.76
6980.1	7010.1	2.77	5.24	5.72
7140.1	7170.1	2.90	5.06	6.11
7320.1	7350.1	3.37	6.13	7.31
7480.1	7510.1	5.58	7.50	8.26
7660.1	7690.1	9.81	9.95	10.57
7820.1	7850.1	11.36	11.45	12.17
8000.1	8030.1	13.02	12.78	14.14
8160.1	8190.1	15.65	13.90	15.36
8340.1	8370.1	15.35	14.58	15.95

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=0dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
1780.1	1810.1	-2.31	0.37	0.81
1940.1	1970.1	-1.12	0.98	1.00
2100.1	2130.1	0.83	1.27	1.10
2260.1	2290.1	1.34	1.41	1.30
2420.1	2450.1	1.57	1.52	1.47
2580.1	2610.1	1.27	1.19	1.24
2740.1	2770.1	1.29	1.16	1.14
2900.1	2930.1	1.38	1.17	1.12
3060.1	3090.1	1.15	0.97	0.93
3240.1	3270.1	0.95	0.79	0.74
3400.1	3430.1	0.94	0.82	0.82
3580.1	3610.1	0.79	0.75	0.82
3740.1	3770.1	0.51	0.50	0.60
3920.1	3950.1	0.54	0.45	0.47
4080.1	4110.1	0.59	0.44	0.43
4260.1	4290.1	0.52	0.40	0.40
4420.1	4450.1	0.47	0.33	0.32
4600.1	4630.1	0.51	0.31	0.25
4760.1	4790.1	0.61	0.33	0.24
4940.1	4970.1	0.57	0.43	0.38
5100.1	5130.1	0.32	0.31	0.34
5280.1	5310.1	0.26	0.15	0.21
5440.1	5470.1	0.44	0.29	0.26
5620.1	5650.1	0.54	0.47	0.51
5780.1	5810.1	0.49	0.56	0.76
5960.1	5990.1	0.54	0.59	0.81
6120.1	6150.1	0.63	0.62	0.78
6300.1	6330.1	0.84	0.73	0.81
6460.1	6490.1	0.99	0.83	0.86
6640.1	6670.1	1.05	0.89	0.84
6800.1	6830.1	1.02	0.95	0.81
6980.1	7010.1	0.89	0.98	0.77
7140.1	7170.1	0.99	0.84	0.70
7320.1	7350.1	0.98	0.89	0.78
7480.1	7510.1	1.06	1.02	0.82
7660.1	7690.1	1.01	0.98	0.85
7820.1	7850.1	0.93	0.78	0.67
8000.1	8030.1	0.60	0.46	0.41
8160.1	8190.1	0.32	0.25	0.26
8340.1	8370.1	0.22	0.17	0.18

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=4850MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2039.9MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=7660.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
2750.0	2100.0	10.20	10.1	2050.0	7.83	2910.1	4750.0	10.65
2609.0	2241.0	9.22	90.1	2130.0	7.25	2830.1	4830.0	10.24
2467.9	2382.1	8.16	170.1	2210.0	7.02	2750.1	4910.0	9.57
2326.9	2523.1	7.67	250.1	2290.0	6.92	2670.1	4990.0	8.87
2185.9	2664.1	6.98	330.1	2370.0	6.80	2590.1	5070.0	8.37
2044.9	2805.1	6.66	410.1	2450.0	6.71	2510.1	5150.0	7.94
1903.8	2946.2	6.46	490.1	2530.0	6.74	2430.1	5230.0	7.83
1762.8	3087.2	6.58	570.1	2610.0	6.75	2350.1	5310.0	8.04
1621.8	3228.2	6.70	650.1	2690.0	6.71	2270.1	5390.0	8.17
1480.7	3369.3	6.91	730.1	2770.0	6.85	2190.1	5470.0	8.20
1339.7	3510.3	6.91	810.1	2850.0	6.93	2110.1	5550.0	8.22
1198.7	3651.3	6.70	890.1	2930.0	6.98	2030.1	5630.0	8.26
1057.6	3792.4	6.39	970.1	3010.0	7.04	1950.1	5710.0	8.22
916.6	3933.4	6.28	1050.1	3090.0	7.09	1870.1	5790.0	8.05
775.6	4074.4	6.06	1130.1	3170.0	7.33	1790.1	5870.0	7.82
634.6	4215.4	6.08	1210.1	3250.0	7.56	1710.1	5950.0	7.71
493.5	4356.5	6.09	1290.1	3330.0	7.55	1630.1	6030.0	7.75
352.5	4497.5	6.17	1370.1	3410.0	7.56	1550.1	6110.0	7.71
211.5	4638.5	6.23	1450.1	3490.0	7.56	1470.1	6190.0	7.43
70.4	4779.6	6.32	1530.1	3570.0	7.60	1410.1	6250.0	7.24
69.6	4919.6	6.39	1610.1	3650.0	7.61	1330.1	6330.0	6.96
208.5	5058.5	6.94	1670.1	3710.0	7.56	1270.1	6390.0	6.79
347.5	5197.5	7.28	1750.1	3790.0	7.44	1190.1	6470.0	6.74
486.5	5336.5	6.86	1810.1	3850.0	7.36	1130.1	6530.0	6.67
625.5	5475.5	6.53	1890.1	3930.0	7.28	1050.1	6610.0	6.77
764.5	5614.5	6.74	1950.1	3990.0	7.32	990.1	6670.0	6.82
903.4	5753.4	6.92	2030.1	4070.0	7.61	910.1	6750.0	6.80
1042.4	5892.4	7.21	2090.1	4130.0	7.79	850.1	6810.0	6.90
1181.4	6031.4	7.47	2170.1	4210.0	7.94	770.1	6890.0	6.94
1320.4	6170.4	7.97	2230.1	4270.0	8.07	710.1	6950.0	6.91
1459.3	6309.3	7.91	2310.1	4350.0	8.16	630.1	7030.0	6.97
1598.3	6448.3	7.94	2370.1	4410.0	8.20	570.1	7090.0	7.03
1737.3	6587.3	8.14	2450.1	4490.0	8.24	490.1	7170.0	7.03
1876.3	6726.3	8.40	2510.1	4550.0	8.56	430.1	7230.0	7.02
2015.3	6865.3	8.63	2590.1	4630.0	9.12	350.1	7310.0	7.07
2154.2	7004.2	9.05	2650.1	4690.0	9.51	290.1	7370.0	6.92
2293.2	7143.2	9.13	2730.1	4770.0	9.66	210.1	7450.0	6.85
2432.2	7282.2	9.41	2790.1	4830.0	9.69	150.1	7510.0	6.80
2591.0	7441.0	9.72	2870.1	4910.0	10.08	70.1	7590.0	6.61
2730.0	7580.0	10.15	2930.1	4970.0	10.58	10.1	7650.0	6.67

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
1810.1	25.98	25.53	24.33	11.63	12.78	14.87
1970.1	25.74	25.72	24.54	11.20	13.11	15.85
2130.1	26.54	26.10	25.58	12.16	15.43	19.01
2290.1	27.24	27.21	26.83	13.56	17.73	21.82
2450.1	27.39	26.89	26.69	15.33	19.29	21.56
2610.1	27.43	27.10	26.62	17.46	19.31	19.13
2770.1	26.63	26.69	26.79	16.38	16.81	16.57
2930.1	25.08	25.24	25.65	15.38	15.16	14.85
3090.1	23.97	24.41	24.70	14.31	14.10	13.65
3270.1	22.85	23.28	23.73	14.21	13.54	13.06
3430.1	22.11	22.36	22.73	14.08	13.24	12.73
3610.1	22.99	23.13	23.50	14.32	13.41	12.79
3770.1	23.51	23.64	23.83	14.43	13.36	12.77
3950.1	24.31	24.57	24.46	14.31	13.63	12.80
4110.1	25.72	25.97	25.66	14.62	13.84	13.02
4290.1	27.74	27.68	27.25	15.16	14.33	13.63
4450.1	29.61	29.17	28.24	15.91	15.08	14.20
4630.1	28.14	27.33	26.95	17.09	16.00	15.33
4790.1	28.80	27.01	25.88	18.04	16.77	16.08
4970.1	27.48	25.60	24.52	19.29	17.76	16.99
5130.1	26.90	25.24	24.20	20.78	19.03	18.12
5310.1	26.51	24.51	23.03	22.27	20.48	19.13
5470.1	25.94	24.40	23.37	23.33	21.56	20.47
5650.1	25.55	24.55	23.42	24.61	22.88	21.59
5810.1	26.61	26.38	25.61	25.54	24.20	23.14
5990.1	27.19	27.57	26.98	26.21	25.12	23.95
6150.1	26.28	27.00	26.50	26.38	25.37	24.21
6330.1	24.82	25.17	24.97	27.28	25.38	24.35
6490.1	23.07	23.28	23.05	28.22	25.53	24.21
6670.1	21.10	21.16	20.60	29.00	25.57	23.52
6830.1	19.66	19.55	19.31	30.07	25.38	23.29
7010.1	17.58	17.77	17.50	28.98	25.07	22.33
7170.1	15.65	16.17	15.95	26.24	23.41	21.12
7350.1	13.58	14.37	14.68	23.96	21.68	20.12
7510.1	12.21	13.19	13.72	22.24	20.45	19.04
7690.1	11.16	12.32	12.89	20.68	19.47	18.11
7850.1	11.04	11.94	12.41	20.45	18.81	17.49
8030.1	10.99	11.79	12.32	19.70	18.17	16.98
8190.1	10.88	11.76	12.13	18.73	17.66	16.29
8370.1	10.99	11.69	12.26	18.31	17.21	16.36

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
1780.1	1810.1	11.19	11.03	10.45
1940.1	1970.1	11.61	11.95	11.47
2100.1	2130.1	13.37	13.58	12.84
2260.1	2290.1	15.20	15.57	14.85
2420.1	2450.1	15.60	15.65	15.26
2580.1	2610.1	15.44	14.95	14.37
2740.1	2770.1	15.03	14.64	14.16
2900.1	2930.1	14.42	14.31	14.07
3060.1	3090.1	13.87	13.63	13.38
3240.1	3270.1	13.18	13.10	12.99
3400.1	3430.1	12.79	12.78	12.66
3580.1	3610.1	12.93	12.94	12.93
3740.1	3770.1	12.92	13.12	13.23
3920.1	3950.1	12.92	13.00	13.05
4080.1	4110.1	13.27	13.32	13.36
4260.1	4290.1	13.70	13.80	13.77
4420.1	4450.1	14.18	14.17	14.10
4600.1	4630.1	14.63	14.61	14.61
4760.1	4790.1	15.19	15.15	15.14
4940.1	4970.1	15.27	15.37	15.43
5100.1	5130.1	15.03	15.08	15.12
5280.1	5310.1	14.84	14.93	15.00
5440.1	5470.1	14.96	15.11	15.21
5620.1	5650.1	15.26	15.29	15.38
5780.1	5810.1	15.45	15.41	15.33
5960.1	5990.1	16.50	16.26	16.17
6120.1	6150.1	17.76	17.40	17.25
6300.1	6330.1	19.40	18.91	18.63
6460.1	6490.1	21.05	20.40	20.05
6640.1	6670.1	23.09	22.32	21.63
6800.1	6830.1	24.91	24.19	23.22
6980.1	7010.1	25.36	24.70	23.55
7140.1	7170.1	23.42	23.01	21.94
7320.1	7350.1	20.39	20.64	19.99
7480.1	7510.1	17.75	18.55	18.39
7660.1	7690.1	15.71	16.67	16.77
7820.1	7850.1	14.93	15.69	15.95
8000.1	8030.1	14.49	15.14	15.43
8160.1	8190.1	14.61	15.18	15.42
8340.1	8370.1	15.02	15.49	15.77

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=7650MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
1780.1	1810.1	7.41	4.80	3.81	1810.1	25.19	18.70	12.89	10.0	2.27	1.65	1.35
1940.1	1970.1	5.52	3.74	3.09	1970.1	20.45	13.49	10.07	90.0	2.16	1.59	1.36
2100.1	2130.1	3.56	2.78	2.50	2130.1	12.61	8.77	8.39	170.0	2.09	1.58	1.38
2260.1	2290.1	2.77	2.26	2.05	2290.1	8.47	6.83	7.22	250.0	2.07	1.62	1.48
2420.1	2450.1	2.32	1.93	1.74	2450.1	5.95	5.54	6.35	330.0	2.10	1.74	1.64
2580.1	2610.1	2.02	1.74	1.56	2610.1	4.59	4.98	5.97	410.0	2.18	1.85	1.77
2740.1	2770.1	1.84	1.64	1.51	2770.1	3.84	4.36	5.31	490.0	2.20	1.90	1.83
2900.1	2930.1	1.58	1.44	1.36	2930.1	3.26	3.93	4.91	570.0	2.19	1.90	1.85
3060.1	3090.1	1.49	1.39	1.33	3090.1	2.79	3.54	4.55	650.0	2.16	1.90	1.87
3240.1	3270.1	1.51	1.44	1.41	3270.1	2.40	3.18	4.12	730.0	2.17	1.90	1.89
3400.1	3430.1	1.57	1.50	1.49	3430.1	2.25	3.01	3.90	810.0	2.17	1.89	1.88
3580.1	3610.1	1.67	1.54	1.48	3610.1	2.22	3.00	3.86	890.0	2.16	1.84	1.83
3740.1	3770.1	1.90	1.72	1.61	3770.1	2.15	2.87	3.69	970.0	2.15	1.79	1.79
3920.1	3950.1	2.26	2.04	1.87	3950.1	2.14	2.82	3.58	1050.0	2.14	1.77	1.75
4080.1	4110.1	2.43	2.20	2.02	4110.1	2.22	2.89	3.66	1130.0	2.11	1.71	1.68
4260.1	4290.1	2.55	2.35	2.18	4290.1	2.30	2.98	3.76	1210.0	2.05	1.63	1.58
4420.1	4450.1	2.42	2.24	2.10	4450.1	2.32	2.96	3.72	1290.0	2.02	1.56	1.51
4600.1	4630.1	2.46	2.24	2.07	4630.1	2.30	2.87	3.56	1370.0	2.00	1.50	1.45
4760.1	4790.1	2.18	1.96	1.83	4790.1	2.30	2.80	3.45	1450.0	1.96	1.44	1.38
4940.1	4970.1	2.58	2.31	2.14	4970.1	2.45	2.86	3.44	1530.0	1.93	1.38	1.31
5100.1	5130.1	2.84	2.51	2.30	5130.1	2.52	2.85	3.36	1610.0	1.89	1.32	1.24
5280.1	5310.1	2.91	2.52	2.23	5310.1	2.60	2.90	3.37	1690.0	1.84	1.25	1.15
5440.1	5470.1	2.97	2.64	2.37	5470.1	2.60	2.90	3.38	1770.0	1.76	1.16	1.07
5620.1	5650.1	3.32	3.01	2.72	5650.1	2.73	3.02	3.50	1850.0	1.65	1.09	1.10
5780.1	5810.1	3.67	3.46	3.20	5810.1	2.88	3.14	3.62	1930.0	1.56	1.06	1.18
5960.1	5990.1	3.70	3.49	3.23	5990.1	3.12	3.35	3.86	2010.0	1.47	1.11	1.27
6120.1	6150.1	3.48	3.27	3.01	6150.1	3.46	3.64	4.17	2090.0	1.40	1.21	1.39
6300.1	6330.1	3.22	2.93	2.71	6330.1	4.01	4.01	4.51	2170.0	1.33	1.32	1.53
6460.1	6490.1	3.05	2.63	2.39	6490.1	4.75	4.39	4.79	2250.0	1.27	1.47	1.71
6640.1	6670.1	2.79	2.25	1.99	6670.1	5.79	4.98	5.19	2310.0	1.21	1.58	1.86
6800.1	6830.1	2.59	1.91	1.64	6830.1	7.14	5.61	5.54	2390.0	1.21	1.71	2.03
6980.1	7010.1	2.47	1.71	1.44	7010.1	8.47	6.32	5.75	2450.0	1.27	1.86	2.21
7140.1	7170.1	1.78	1.34	1.12	7170.1	8.31	6.32	5.81	2530.0	1.36	2.06	2.45
7320.1	7350.1	1.38	1.08	1.21	7350.1	8.05	6.13	5.47	2590.0	1.41	2.14	2.56
7480.1	7510.1	1.30	1.35	1.56	7510.1	7.87	5.97	5.04	2670.0	1.53	2.32	2.76
7660.1	7690.1	1.71	1.80	1.96	7690.1	7.22	5.46	4.47	2730.0	1.66	2.48	2.95
7820.1	7850.1	2.35	2.37	2.47	7850.1	6.39	4.77	3.87	2810.0	1.77	2.58	3.04
8000.1	8030.1	3.10	3.02	3.06	8030.1	5.44	3.94	3.14	2870.0	1.84	2.61	3.06
8160.1	8190.1	3.72	3.58	3.56	8190.1	4.63	3.25	2.51	2950.0	1.99	2.70	3.14
8340.1	8370.1	4.08	3.96	3.90	8370.1	3.52	2.45	1.85	3010.0	2.12	2.71	3.10

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+11	30	3	41	---	---	---	---	---	---
1	-	9	+0	37	34	27	48	---	---	---	---	---
2	>90	>69	58	49	59	>69	53	>69	---	---	---	---
3	>90	>69	>69	>69	>69	>69	>69	68	67	---	---	---
4	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	---	---
5	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69	---
6	---	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69
7	---	---	---	---	>69	>69	>69	>69	>69	>69	>69	>69
8	---	---	---	---	---	>69	>69	>69	>69	>69	>69	>69
9	---	---	---	---	---	---	>69	>69	>69	>69	>69	>69
10	---	---	---	---	---	---	---	>69	>69	>69	>69	>69
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

Test conditions:

RF IN: 4850 MHz; -15.00 dBm.

LO IN: 4880 MHz; +7.00 dBm

IF OUT: 30 MHz; -21.35 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+1	39	14	53	---	---	---	---	---	---
1	-	9	+0	38	34	29	49	---	---	---	---	---
2	73	63	48	39	50	62	45	72	---	---	---	---
3	>90	51	>79	57	59	56	63	49	71	---	---	---
4	>90	>79	65	>79	70	63	64	>79	65	>79	---	---
5	---	---	>79	>79	>79	>79	68	>79	>79	72	>79	---
6	---	---	---	>79	>79	>79	>79	>79	>79	>79	>79	>79
7	---	---	---	---	>79	>79	>79	>79	>79	>79	>79	>79
8	---	---	---	---	---	>79	>79	>79	>79	>79	>79	>79
9	---	---	---	---	---	---	>79	>79	>79	>79	>79	>79
10	---	---	---	---	---	---	---	>79	>79	>79	>79	>79
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 4850 MHz; -5.00 dBm.

LO IN: 4880 MHz; +7.00 dBm

IF OUT: 30 MHz; -11.42 dBm

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

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

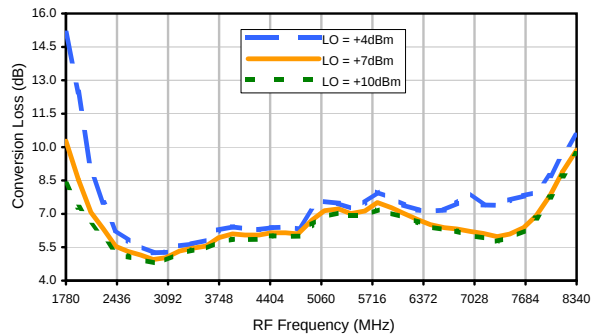
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Frequency Mixer

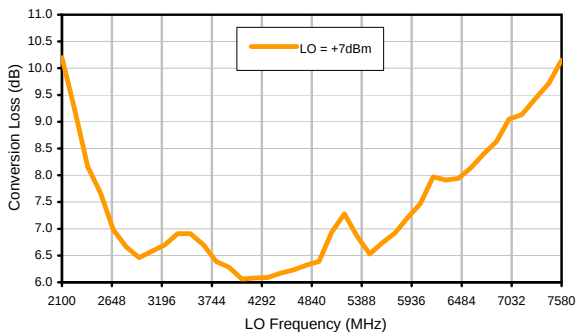
SKY-ED6905/1

Typical Performance Curves

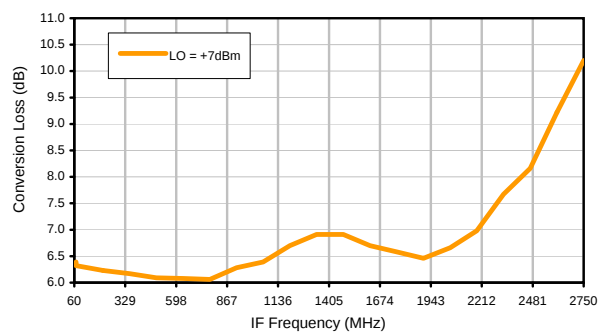
Conversion Loss @ IF=30MHz



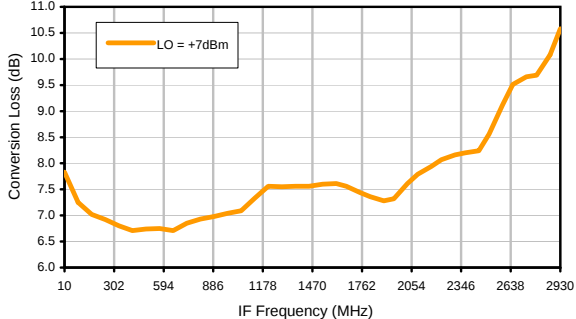
Conversion Loss vs. LO @ RF=4850MHz



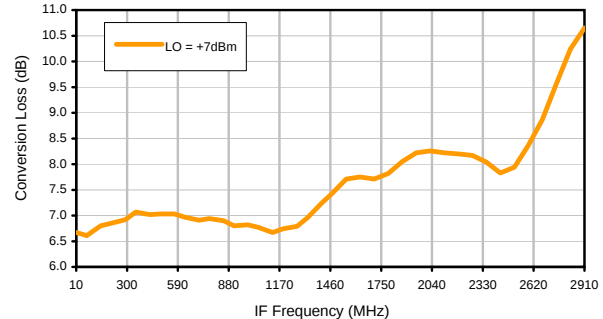
Conversion Loss vs. IF @ RF=4850MHz



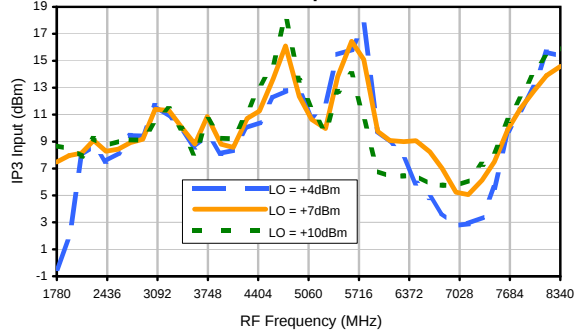
Conversion Loss vs. IF @ RF=2039.9MHz



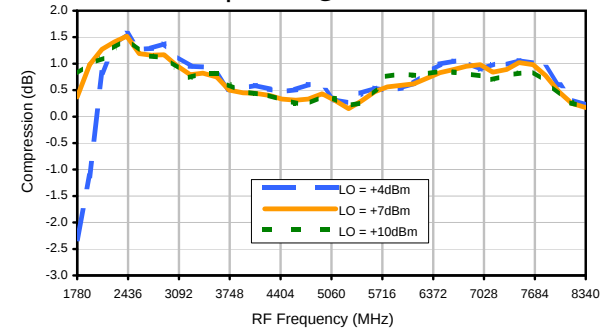
Conversion Loss vs. IF @ RF=7660.1MHz



IP3 Input



Compression @ RF IN=0dBm

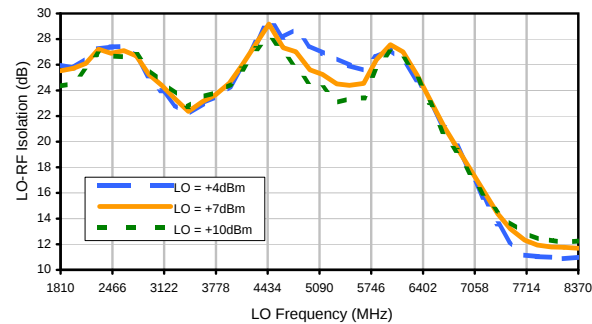


Frequency Mixer

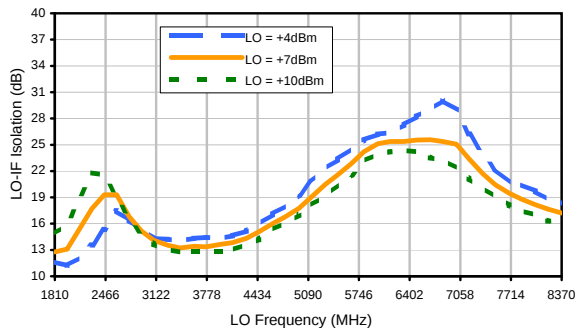
SKY-ED6905/1

Typical Performance Curves

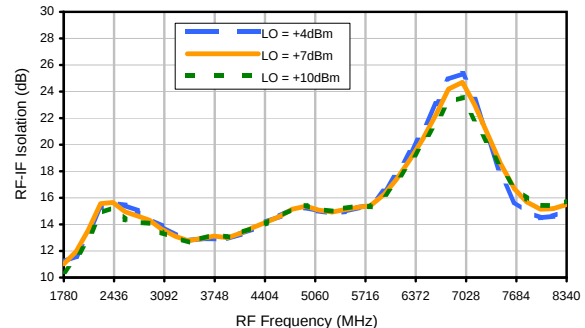
LO-RF Isolation



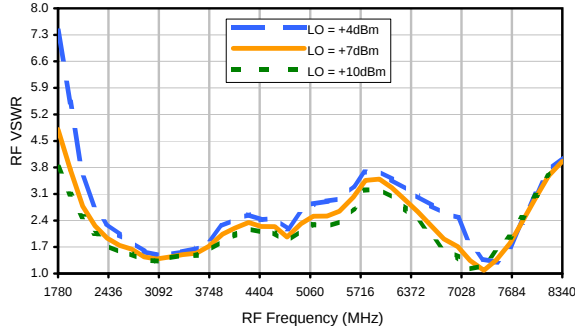
LO-IF Isolation



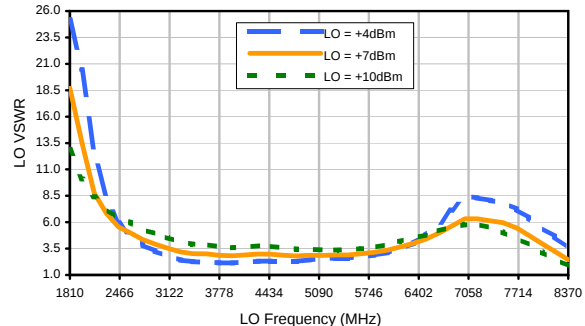
RF-IF Isolation



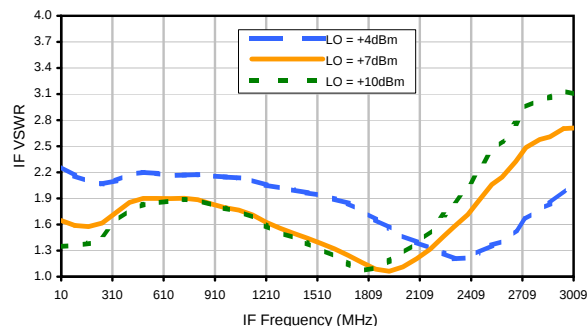
RF VSWR



LO VSWR



IF VSWR



Frequency Mixer

SKY-ED6905/1

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+11	30	3	41	---	---	---	---	---	---
1	-	9	+0	37	34	27	48	---	---	---	---	---
2	>90	>69	58	49	59	>69	53	>69	---	---	---	---
3	>90	>69	>69	>69	>69	>69	>69	68	67	---	---	---
4	>90	>69	>69	>69	>69	>69	>69	>69	>69	>69	---	---
5	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69	---
6	---	---	---	>69	>69	>69	>69	>69	>69	>69	>69	>69
7	---	---	---	---	>69	>69	>69	>69	>69	>69	>69	>69
8	---	---	---	---	---	>69	>69	>69	>69	>69	>69	>69
9	---	---	---	---	---	---	>69	>69	>69	>69	>69	>69
10	---	---	---	---	---	---	---	>69	>69	>69	>69	>69
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

Test conditions: RF IN: 4850 MHz; -15.00 dBm.
LO IN: 4880 MHz; +7.00 dBm
IF OUT: 30 MHz; -21.35 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+1	39	14	53	---	---	---	---	---	---
1	-	9	+0	38	34	29	49	---	---	---	---	---
2	73	63	48	39	50	62	45	72	---	---	---	---
3	>90	51	>79	57	59	56	63	49	71	---	---	---
4	>90	>79	65	>79	70	63	64	>79	65	>79	---	---
5	---	---	>79	>79	>79	>79	68	>79	>79	72	>79	---
6	---	---	---	>79	>79	>79	>79	>79	>79	>79	>79	>79
7	---	---	---	---	>79	>79	>79	>79	>79	>79	>79	>79
8	---	---	---	---	---	>79	>79	>79	>79	>79	>79	>79
9	---	---	---	---	---	---	>79	>79	>79	>79	>79	>79
10	---	---	---	---	---	---	---	>79	>79	>79	>79	>79
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 4850 MHz; -5.00 dBm.
LO IN: 4880 MHz; +7.00 dBm
IF OUT: 30 MHz; -11.42 dBm

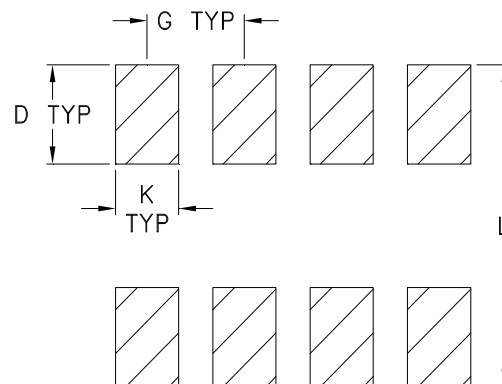
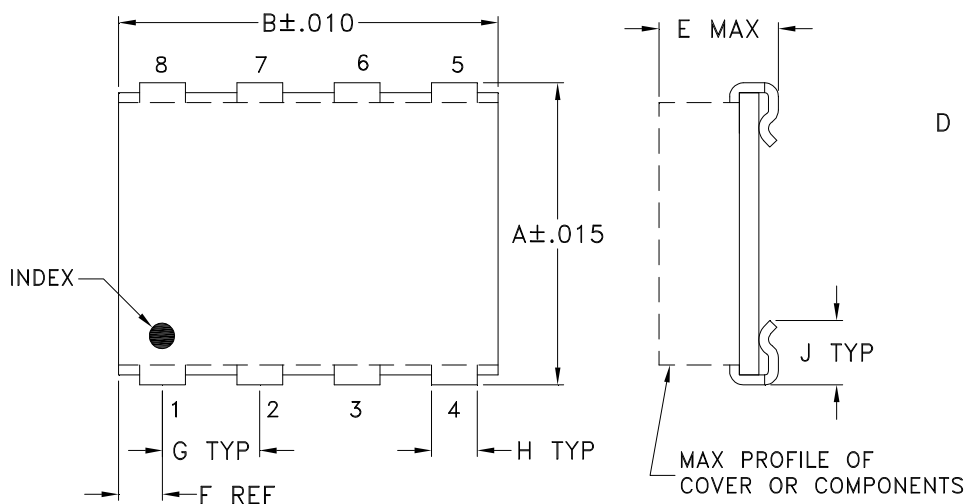
- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

Outline Dimensions

BJ293

BJ398

PCB Land Pattern



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

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT. GRAMS
BJ293	.395 (10.03)	.500 (12.70)	-- --	.100 (2.54)	.230 (5.84)	.100 (2.54)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.425 (10.80)	.80
BJ398	.305 (7.75)	.390 (9.91)	-- --	.100 (2.54)	.105 (2.67)	.045 (1.14)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.325 (8.26)	.20

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

Notes:

- Case material: Plastic.
- Base material: Printed wiring laminate.
- 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.



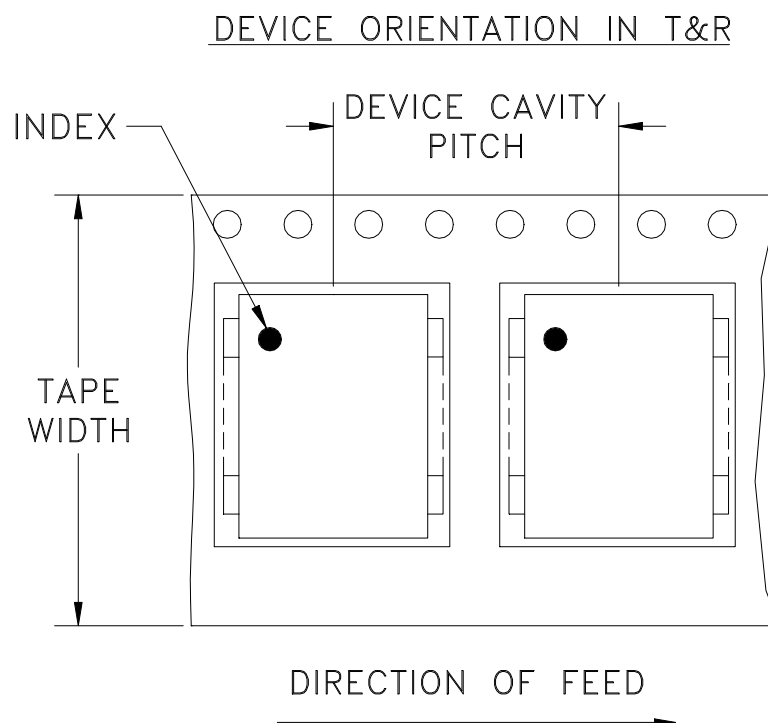
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Tape & Reel Packaging TR-F29



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
24	12	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.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



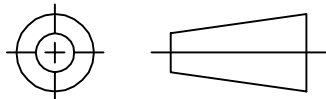
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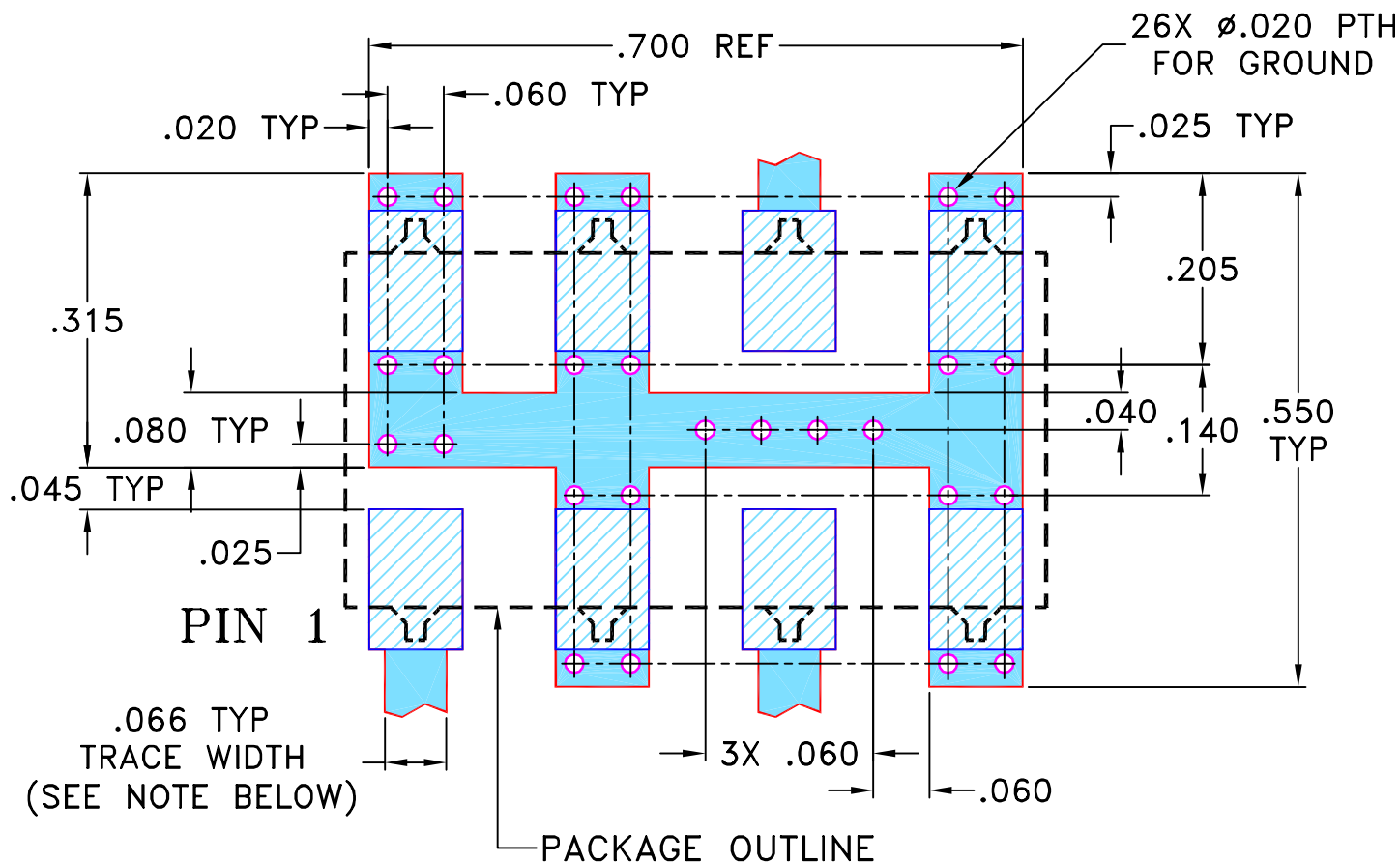
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/05/02	MMG	DJ
A	M102713	UPDATED NOTES, ADDED "...WITH SMOBC"	01/16/06	GT	IL

SUGGESTED MOUNTING CONFIGURATION
FOR YY101/161 CASE STYLE, "aq/az" 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

07/18/02

TOLERANCES ON:

CHECKED

HY

08/01/02

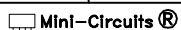
2 PL DECIMALS ±
3 PL DECIMALS ± .005

APPROVED

DJ

08/05/02

ANGLES ±
FRACTIONS ±



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



Mini-Circuits®

13 Neptune Avenue
Brooklyn NY 11235

PL, aq/az YY101/161 SCP/SCPJ TB-50

SIZE
A

CODE IDENT
15542

DRAWING NO:
98-PL-060

REV:
A

FILE: 98PL060

SCALE: 5:1

SHEET: 1 OF 1



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