

Frequency Mixer

SBL-11LH

Level 10 (LO Power +10 dBm)

Important Note

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

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CASE STYLE : A06

L SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	5		2000	MHz
	RF (fL to fU)	5		2000	MHz
	IF	10		600	MHz
Conversion Loss	mid band		7.0	8.5	dB
	Total Range			9.5	dB
LO-RF Isolation	Low Range	45	60		dB
	Mid Range	30	45		dB
	Upper Range	20	30		dB
LO-IF Isolation	Low Range	35	50		dB
	Mid Range	20	30		dB
	Upper Range	16	25		dB
1 dB Comp. Input Power			+5		dBm

Notes: Low Range = [fL to 10fL]
mid band = [2fL to fU/2]

Mid Range = [10fL to fU/2]

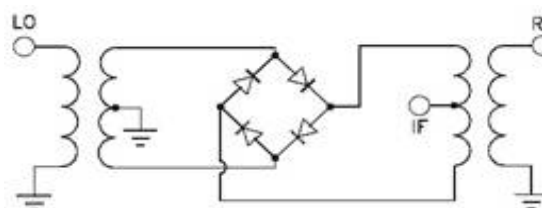
Upper Range = [fU/2 to fU]

Non-hermetic

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

Electrical Schematics



Frequency Mixer

SBL-11LH

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)			RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)			RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+5dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+7	+10	+13			+7	+10	+13			+7	+10	+13
5.0	35.0	6.93	6.55	6.32	10.1	40.1	18.04	18.97	18.81	10.1	40.1	1.22	0.91	0.72
10.0	40.0	6.62	6.31	6.09	90.4	120.4	12.72	11.34	11.04	90.4	120.4	1.10	0.79	0.62
90.4	120.4	6.73	6.50	6.30	170.7	200.7	8.82	9.26	11.12	170.7	200.7	1.04	0.81	0.67
170.7	200.7	7.03	6.75	6.48	251.0	281.0	7.75	9.59	12.26	251.0	281.0	1.13	0.94	0.86
251.0	281.0	7.38	6.95	6.57	331.3	361.3	7.71	10.25	13.64	331.3	361.3	1.24	1.14	1.03
331.3	361.3	7.76	7.13	6.64	411.5	441.5	8.94	12.00	15.40	411.5	441.5	1.36	1.27	1.14
411.5	441.5	7.87	7.15	6.66	491.8	521.8	9.92	13.96	16.58	491.8	521.8	1.47	1.48	1.29
491.8	521.8	8.07	7.21	6.70	552.0	582.0	9.87	13.74	17.12	552.0	582.0	1.36	1.50	1.40
552.0	582.0	8.29	7.31	6.72	632.3	662.3	10.72	13.50	15.73	632.3	662.3	1.32	1.39	1.33
632.3	662.3	8.45	7.52	6.97	692.5	722.5	10.56	13.06	15.01	692.5	722.5	1.15	1.20	1.15
692.5	722.5	8.69	7.82	7.30	772.8	802.8	10.64	12.69	14.54	772.8	802.8	1.04	0.96	0.90
772.8	802.8	8.78	8.09	7.60	833.0	863.0	10.99	12.34	13.90	833.0	863.0	1.07	0.91	0.79
833.0	863.0	8.49	7.97	7.55	913.3	943.3	11.39	12.14	12.97	913.3	943.3	1.03	0.81	0.69
913.3	943.3	8.20	7.75	7.46	973.6	1003.6	11.25	12.35	13.36	973.6	1003.6	0.94	0.77	0.61
973.6	1003.6	7.98	7.60	7.33	1053.8	1083.8	11.70	12.52	13.97	1053.8	1083.8	0.80	0.63	0.53
1053.8	1083.8	7.76	7.45	7.20	1114.1	1144.1	12.49	13.92	15.43	1114.1	1144.1	0.70	0.53	0.46
1114.1	1144.1	7.59	7.30	7.10	1194.3	1224.3	13.93	15.38	15.75	1194.3	1224.3	0.64	0.41	0.35
1194.3	1224.3	7.44	7.14	7.00	1254.6	1284.6	15.99	16.94	18.22	1254.6	1284.6	0.60	0.37	0.32
1254.6	1284.6	7.47	7.09	6.95	1334.8	1364.8	23.04	20.03	25.40	1334.8	1364.8	0.53	0.36	0.29
1334.8	1364.8	7.51	7.08	6.93	1395.1	1425.1	15.92	21.87	21.92	1395.1	1425.1	0.48	0.34	0.29
1395.1	1425.1	7.62	7.07	6.87	1475.4	1505.4	17.41	17.38	20.49	1475.4	1505.4	0.47	0.33	0.26
1475.4	1505.4	7.75	7.23	6.95	1535.6	1565.6	15.35	19.12	20.76	1535.6	1565.6	0.41	0.29	0.25
1535.6	1565.6	7.96	7.43	7.12	1615.9	1645.9	13.11	16.44	22.79	1615.9	1645.9	0.31	0.29	0.27
1615.9	1645.9	8.33	7.68	7.28	1676.1	1706.1	14.08	15.43	19.49	1676.1	1706.1	0.37	0.29	0.29
1676.1	1706.1	8.52	7.85	7.41	1756.4	1786.4	13.76	17.93	19.56	1756.4	1786.4	0.36	0.33	0.34
1756.4	1786.4	8.81	8.02	7.53	1816.6	1846.6	14.19	15.79	17.14	1816.6	1846.6	0.49	0.44	0.42
1816.6	1846.6	8.76	7.99	7.50	1896.9	1926.9	13.16	14.05	14.57	1896.9	1926.9	0.81	0.69	0.55
1896.9	1926.9	8.43	7.79	7.39	1957.1	1987.1	13.02	14.53	14.41	1957.1	1987.1	0.97	0.76	0.61
1957.1	1987.1	8.16	7.57	7.29	2037.4	2067.4	11.83	13.19	13.85	2037.4	2067.4	1.03	0.75	0.58
2037.4	2067.4	7.96	7.50	7.23	2097.6	2127.6	12.24	13.81	16.22	2097.6	2127.6	0.97	0.73	0.58
2097.6	2127.6	7.97	7.54	7.25	2177.9	2207.9	13.33	14.31	15.40	2177.9	2207.9	0.78	0.56	0.41
2238.1	2268.1	8.13	7.85	7.65	2238.1	2268.1	12.38	13.26	14.29	2238.1	2268.1	0.67	0.47	0.37
2318.4	2348.4	8.30	7.99	7.78	2318.4	2348.4	13.36	14.57	16.54	2318.4	2348.4	0.58	0.36	0.27
2378.6	2408.6	8.55	8.21	8.00	2378.6	2408.6	12.96	13.90	15.83	2378.6	2408.6	0.48	0.31	0.24
2458.9	2488.9	8.84	8.53	8.32	2458.9	2488.9	13.83	14.29	15.14	2458.9	2488.9	0.42	0.26	0.21
2519.1	2549.1	9.01	8.73	8.51	2519.1	2549.1	21.96	15.53	15.91	2519.1	2549.1	0.42	0.22	0.17
2599.4	2629.4	9.36	9.07	8.83	2599.4	2629.4	26.67	17.54	17.19	2599.4	2629.4	0.38	0.21	0.15
2659.6	2689.6	9.62	9.30	9.04	2659.6	2689.6	17.41	23.67	17.76	2659.6	2689.6	0.29	0.19	0.14
2739.9	2769.9	10.02	9.74	9.56	2739.9	2769.9	16.65	17.97	23.43	2739.9	2769.9	0.32	0.18	0.11
2800.1	2830.1	10.31	9.95	9.71	2800.1	2830.1	19.49	22.02	24.73	2800.1	2830.1	0.21	0.16	0.14

REV. X2

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1000.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=2000.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+10			+10			+10
600.0	400.1	8.41	10.0	20.1	6.34	600.0	1400.1	8.47
584.9	415.2	8.43	25.1	35.2	6.29	584.9	1415.2	8.47
569.7	430.4	8.42	40.3	50.4	6.26	569.7	1430.4	8.50
554.6	445.5	8.44	55.4	65.5	6.18	554.6	1445.5	8.47
539.5	460.6	8.46	70.5	80.6	6.18	539.5	1460.6	8.48
524.4	475.7	8.42	85.6	95.7	6.12	524.4	1475.7	8.44
509.2	490.9	8.46	100.8	110.9	6.06	509.2	1490.9	8.44
494.1	506.0	8.30	115.9	126.0	6.04	494.1	1506.0	8.37
479.0	521.1	8.41	131.0	141.1	5.99	479.0	1521.1	8.38
463.8	536.3	8.44	146.2	156.3	6.04	463.8	1536.3	8.38
448.7	551.4	8.46	161.3	171.4	6.01	448.7	1551.4	8.35
433.6	566.5	8.42	176.4	186.5	6.02	433.6	1566.5	8.31
418.5	581.6	8.40	191.5	201.6	5.98	418.5	1581.6	8.24
403.3	596.8	8.42	206.7	216.8	5.99	403.3	1596.8	8.26
388.2	611.9	8.40	221.8	231.9	5.97	388.2	1611.9	8.23
373.1	627.0	8.38	236.9	247.0	5.96	373.1	1627.0	8.22
357.9	642.2	8.28	252.1	262.2	6.02	357.9	1642.2	8.12
342.8	657.3	8.29	267.2	277.3	5.98	342.8	1657.3	8.12
327.7	672.4	8.19	282.3	292.4	6.02	327.7	1672.4	8.02
312.6	687.5	8.16	297.4	307.5	5.96	312.6	1687.5	7.97
297.4	702.7	8.05	312.6	322.7	6.02	297.4	1702.7	7.90
282.3	717.8	8.03	327.7	337.8	5.98	282.3	1717.8	7.87
267.2	732.9	7.92	342.8	352.9	6.02	267.2	1732.9	7.82
252.1	748.0	7.84	357.9	368.0	6.02	252.1	1748.0	7.72
236.9	763.2	7.75	373.1	383.2	6.05	236.9	1763.2	7.65
221.8	778.3	7.66	388.2	398.3	6.06	221.8	1778.3	7.53
206.7	793.4	7.61	403.3	413.4	6.04	206.7	1793.4	7.51
191.5	808.6	7.54	418.5	428.6	6.12	191.5	1808.6	7.44
176.4	823.7	7.52	433.6	443.7	6.09	176.4	1823.7	7.45
161.3	838.8	7.46	448.7	458.8	6.17	161.3	1838.8	7.35
146.2	853.9	7.44	463.8	473.9	6.14	146.2	1853.9	7.32
131.0	869.1	7.40	479.0	489.1	6.21	131.0	1869.1	7.26
115.9	884.2	7.40	494.1	504.2	6.18	115.9	1884.2	7.27
100.8	899.3	7.44	509.2	519.3	6.26	100.8	1899.3	7.26
85.6	914.5	7.44	524.4	534.5	6.28	85.6	1914.5	7.25
70.5	929.6	7.52	539.5	549.6	6.32	70.5	1929.6	7.25
55.4	944.7	7.50	554.6	564.7	6.40	55.4	1944.7	7.28
40.3	959.8	7.62	569.7	579.8	6.41	40.3	1959.8	7.38
25.1	975.0	7.66	584.9	595.0	6.48	25.1	1975.0	7.48
10.0	990.1	7.70	600.0	610.1	6.47	10.0	1990.1	7.58

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+7	+10	+13	+7	+10	+13
5.0	66.46	71.57	74.37	62.26	64.17	65.17
10.0	66.09	68.83	71.33	66.49	67.23	67.03
90.4	56.18	56.94	57.02	53.35	52.93	51.81
170.7	53.90	54.31	54.53	49.06	47.84	46.88
251.0	51.91	52.19	52.35	45.76	44.40	43.31
331.3	50.45	50.75	50.59	42.59	41.44	40.34
411.5	49.24	49.27	49.10	39.84	39.01	38.03
491.8	49.21	48.91	48.57	38.13	37.16	36.20
552.0	48.33	48.14	47.76	36.68	36.19	35.31
632.3	47.05	46.45	46.00	34.79	34.53	33.96
692.5	46.09	45.58	45.07	33.51	33.01	32.51
772.8	45.47	45.08	45.17	31.95	31.56	30.91
833.0	45.10	44.69	44.21	30.89	30.77	30.19
913.3	44.88	43.43	43.19	29.63	29.28	29.08
973.6	44.14	42.86	41.94	28.66	28.25	27.97
1053.8	42.75	41.98	41.13	27.46	27.14	26.70
1114.1	41.80	40.71	40.79	26.45	26.18	25.91
1194.3	41.31	39.45	38.82	24.82	24.73	24.53
1254.6	41.27	38.91	37.61	23.66	23.63	23.46
1334.8	40.53	37.96	36.44	22.14	22.03	21.77
1395.1	40.05	37.46	35.92	21.25	20.95	20.55
1475.4	37.80	35.45	34.16	20.94	20.61	20.35
1535.6	36.94	34.79	33.52	22.35	21.98	21.84
1615.9	36.62	35.60	34.33	25.97	25.91	25.93
1676.1	36.79	36.21	35.11	29.51	29.67	29.78
1756.4	37.76	37.22	36.93	35.35	35.50	35.80
1816.6	38.12	37.58	36.99	40.14	39.84	39.65
1896.9	37.56	37.03	36.15	40.27	39.68	38.80
1957.1	37.06	36.47	35.73	37.08	36.93	36.54
2037.4	36.53	37.19	37.19	33.52	34.02	34.29
2097.6	35.54	35.78	36.05	31.85	32.43	32.83
2238.1	35.19	34.61	35.33	29.25	30.31	31.44
2318.4	35.30	34.23	34.42	28.35	29.84	31.31
2378.6	36.32	35.04	34.71	27.60	29.27	31.04
2458.9	37.05	36.64	36.47	27.01	28.51	30.51
2519.1	36.51	36.34	36.45	26.86	28.40	30.03
2599.4	36.70	36.04	35.93	26.57	28.59	30.72
2659.6	37.56	36.42	35.43	26.46	28.51	30.86
2739.9	37.91	37.76	37.31	26.85	28.71	30.98
2800.1	38.25	37.75	37.20	27.30	29.11	31.35

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+7	+10	+13
10.1	40.1	15.12	15.55	15.75
90.4	120.4	19.53	19.81	19.94
170.7	200.7	20.37	20.54	20.73
251.0	281.0	20.92	21.23	21.48
331.3	361.3	21.50	21.88	22.18
411.5	441.5	22.23	22.64	22.85
491.8	521.8	23.35	23.70	23.82
552.0	582.0	24.44	24.59	24.62
632.3	662.3	25.40	25.42	25.44
692.5	722.5	26.15	25.93	25.95
772.8	802.8	28.27	27.75	27.40
833.0	863.0	30.02	29.94	29.66
913.3	943.3	33.16	33.37	33.65
973.6	1003.6	35.92	35.91	36.11
1053.8	1083.8	37.31	37.80	38.11
1114.1	1144.1	34.60	34.26	34.37
1194.3	1224.3	30.97	29.85	29.39
1254.6	1284.6	29.09	27.88	27.26
1334.8	1364.8	27.41	26.30	25.61
1395.1	1425.1	25.95	25.06	24.46
1475.4	1505.4	24.53	23.98	23.47
1535.6	1565.6	24.09	23.90	23.68
1615.9	1645.9	23.93	23.96	24.03
1676.1	1706.1	23.90	24.02	24.24
1756.4	1786.4	23.78	24.17	24.40
1816.6	1846.6	24.06	24.62	24.97
1896.9	1926.9	25.06	25.61	26.01
1957.1	1987.1	25.77	26.26	26.42
2037.4	2067.4	26.14	26.11	25.90
2097.6	2127.6	25.55	25.16	24.67
2177.9	2207.9	24.34	23.56	22.85
2238.1	2268.1	23.48	22.79	22.17
2318.4	2348.4	21.82	21.04	20.50
2378.6	2408.6	20.93	20.06	19.52
2458.9	2488.9	19.80	19.13	18.64
2519.1	2549.1	19.16	18.53	18.13
2599.4	2629.4	18.51	17.90	17.58
2659.6	2689.6	18.02	17.56	17.17
2739.9	2769.9	17.70	17.33	17.12
2800.1	2830.1	17.47	17.11	16.99

Frequency Mixer

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=2000.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+7	+10	+13		+7	+10	+13		+7	+10	+13
5.0	35.0	2.26	2.22	2.14	5.0	2.07	2.66	3.61	10.0	1.82	1.81	1.84
10.0	40.0	1.86	1.78	1.69	10.0	1.63	2.35	3.36	25.1	1.33	1.44	1.54
90.4	120.4	1.13	1.04	1.05	90.4	1.56	2.29	3.24	40.3	1.34	1.46	1.54
170.7	200.7	1.23	1.15	1.11	170.7	1.60	2.32	3.26	55.4	1.33	1.45	1.53
251.0	281.0	1.41	1.33	1.28	251.0	1.66	2.38	3.31	70.5	1.31	1.42	1.51
331.3	361.3	1.69	1.59	1.52	331.3	1.70	2.41	3.34	85.6	1.27	1.40	1.48
411.5	441.5	2.02	1.89	1.81	411.5	1.72	2.38	3.28	100.8	1.25	1.37	1.45
491.8	521.8	2.41	2.22	2.10	491.8	1.75	2.36	3.21	115.9	1.27	1.39	1.47
552.0	582.0	2.77	2.50	2.34	552.0	1.75	2.30	3.10	131.0	1.31	1.42	1.52
632.3	662.3	3.23	2.93	2.73	632.3	1.71	2.23	3.00	146.2	1.33	1.44	1.53
692.5	722.5	3.64	3.33	3.14	692.5	1.72	2.21	2.97	161.3	1.31	1.43	1.51
772.8	802.8	3.86	3.63	3.47	772.8	1.78	2.17	2.86	176.4	1.29	1.43	1.50
833.0	863.0	3.87	3.70	3.56	833.0	1.84	2.15	2.78	191.5	1.31	1.45	1.53
913.3	943.3	3.76	3.62	3.51	913.3	1.92	2.13	2.69	206.7	1.35	1.48	1.55
973.6	1003.6	3.60	3.49	3.41	973.6	1.96	2.09	2.60	221.8	1.38	1.49	1.57
1053.8	1083.8	3.31	3.22	3.15	1053.8	2.03	2.01	2.44	236.9	1.38	1.50	1.58
1114.1	1144.1	3.10	2.99	2.90	1114.1	2.10	1.97	2.33	252.1	1.38	1.51	1.60
1194.3	1224.3	2.84	2.66	2.57	1194.3	2.16	1.91	2.20	267.2	1.38	1.52	1.61
1254.6	1284.6	2.70	2.45	2.33	1254.6	2.18	1.87	2.10	282.3	1.38	1.52	1.60
1334.8	1364.8	2.51	2.22	2.07	1334.8	2.18	1.80	1.97	297.4	1.39	1.53	1.60
1395.1	1425.1	2.42	2.09	1.92	1395.1	2.16	1.74	1.86	312.6	1.42	1.56	1.63
1475.4	1505.4	2.35	2.04	1.85	1475.4	2.08	1.62	1.71	327.7	1.46	1.61	1.69
1535.6	1565.6	2.33	2.04	1.87	1535.6	1.99	1.51	1.57	342.8	1.47	1.62	1.71
1615.9	1645.9	2.35	2.09	1.90	1615.9	1.92	1.37	1.42	357.9	1.45	1.59	1.68
1676.1	1706.1	2.36	2.14	1.98	1676.1	1.89	1.26	1.34	373.1	1.41	1.56	1.66
1756.4	1786.4	2.39	2.17	2.03	1756.4	1.81	1.15	1.28	388.2	1.42	1.57	1.68
1816.6	1846.6	2.31	2.11	1.97	1816.6	1.73	1.11	1.28	403.3	1.45	1.61	1.70
1896.9	1926.9	2.03	1.85	1.72	1896.9	1.67	1.13	1.35	418.5	1.46	1.61	1.71
1957.1	1987.1	1.77	1.64	1.53	1957.1	1.65	1.16	1.43	433.6	1.46	1.62	1.73
2037.4	2067.4	1.44	1.34	1.27	2037.4	1.58	1.22	1.55	448.7	1.46	1.63	1.75
2097.6	2127.6	1.25	1.14	1.08	2097.6	1.48	1.26	1.62	463.8	1.46	1.64	1.76
2238.1	2268.1	1.06	1.14	1.21	2238.1	1.33	1.38	1.84	479.0	1.45	1.62	1.73
2318.4	2348.4	1.21	1.33	1.41	2318.4	1.26	1.48	1.99	494.1	1.43	1.60	1.70
2378.6	2408.6	1.31	1.45	1.54	2378.6	1.22	1.54	2.05	509.2	1.44	1.61	1.72
2458.9	2488.9	1.47	1.62	1.74	2458.9	1.24	1.64	2.17	524.4	1.47	1.65	1.77
2519.1	2549.1	1.56	1.73	1.87	2519.1	1.28	1.73	2.30	539.5	1.49	1.67	1.79
2599.4	2629.4	1.70	1.85	1.99	2599.4	1.37	1.87	2.46	554.6	1.48	1.65	1.78
2659.6	2689.6	1.82	1.98	2.12	2659.6	1.42	1.93	2.51	569.7	1.46	1.64	1.77
2739.9	2769.9	1.98	2.14	2.27	2739.9	1.52	2.05	2.66	584.9	1.48	1.66	1.79
2800.1	2830.1	2.15	2.30	2.43	2800.1	1.61	2.17	2.80	600.0	1.50	1.68	1.80

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	9	30	34	44	26	50	51	52	62	51
1	-	28	+0	33	24	33	32	40	57	45	61	58
2	85	68	50	54	42	64	47	61	44	69	61	77
3	>100	54	53	50	37	50	47	65	49	56	65	57
4	>100	80	64	74	64	87	58	75	61	70	57	75
5	>100	76	69	72	74	63	51	61	60	62	60	68
6	>100	88	88	92	71	89	74	78	69	89	70	82
7	>100	81	85	>92	76	73	82	71	61	71	68	72
8	>100	>92	91	>92	90	>92	81	>92	77	86	76	>92
9	>100	89	>92	91	>92	>92	87	87	>92	80	73	81
10	>100	>92	>92	>92	>92	>92	>92	>92	86	>92	83	>92
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1000.1 MHz; 0.00 dBm.
LO IN: 1030.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -7.52 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+1	20	26	32	14	40	35	42	48	40
1	-	29	+0	34	25	33	30	37	48	37	46	42
2	100	67	56	66	51	70	59	65	49	67	64	72
3	>100	70	68	66	52	66	61	71	61	71	79	66
4	>100	>82	73	>82	71	>82	72	>82	75	>82	75	>82
5	>100	>82	>82	>82	>82	>82	80	>82	>82	>82	>82	>82
6	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
7	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
8	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
9	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
10	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

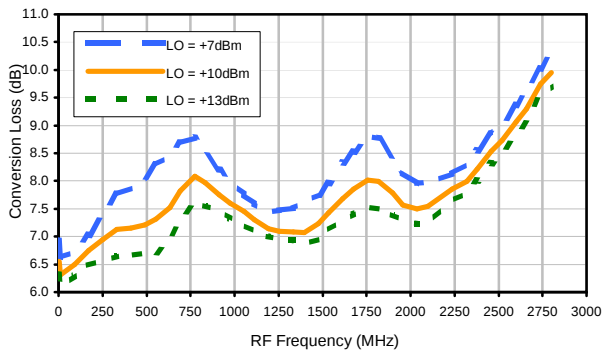
Test conditions: RF IN: 1000.1 MHz; -10.00 dBm.
LO IN: 1030.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -17.54 dBm

- 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.

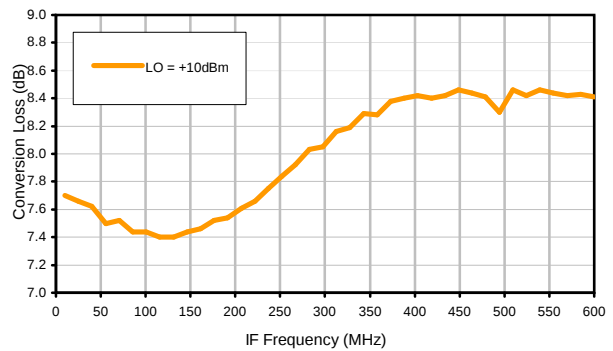
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Typical Performance Curves

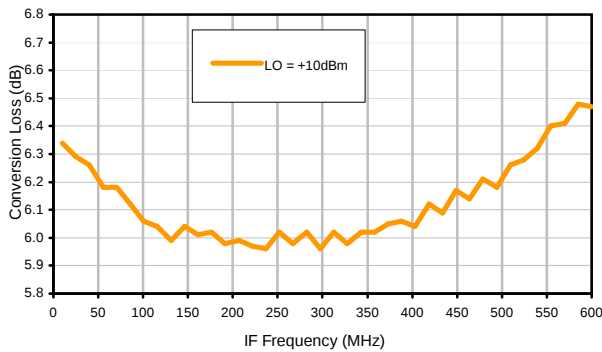
Conversion Loss @ IF=30MHz



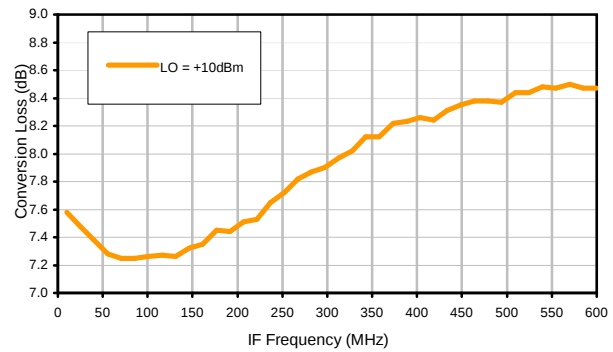
Conversion Loss vs. IF @ RF=1000.1MHz



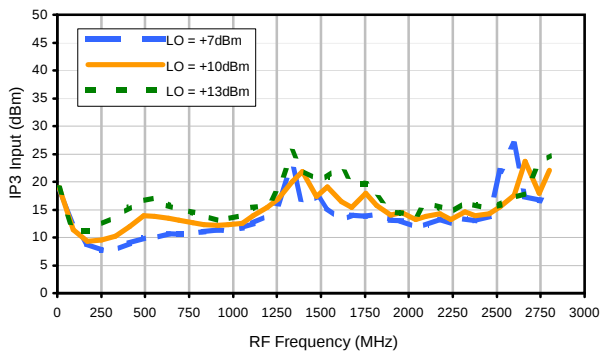
Conversion Loss vs. IF @ RF=10.1MHz



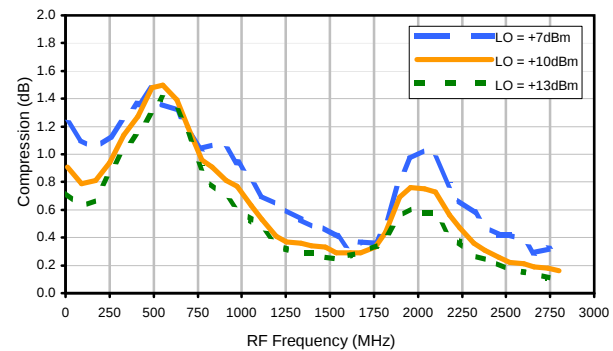
Conversion Loss vs. IF @ RF=2000.1MHz



IP3 Input

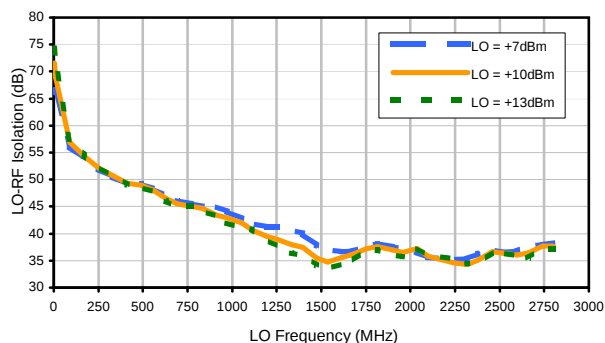


Compression @ RF IN=+5dBm

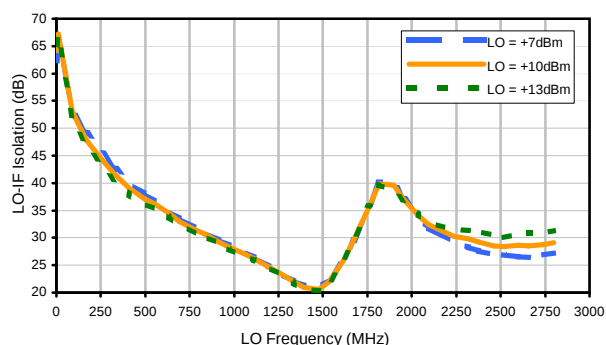


Typical Performance Curves

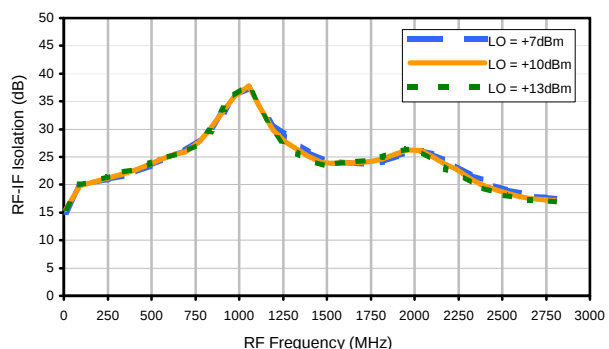
LO-RF Isolation



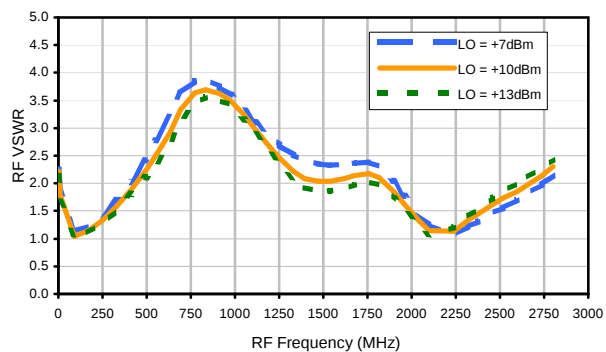
LO-IF Isolation



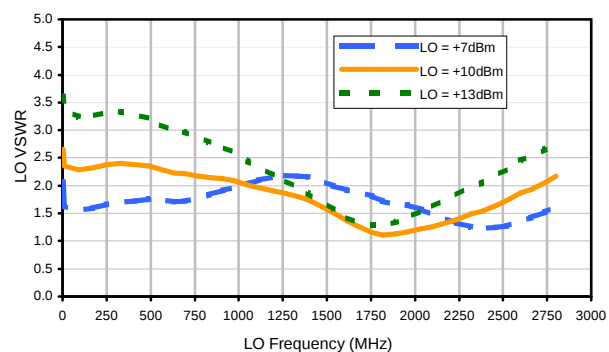
RF-IF Isolation



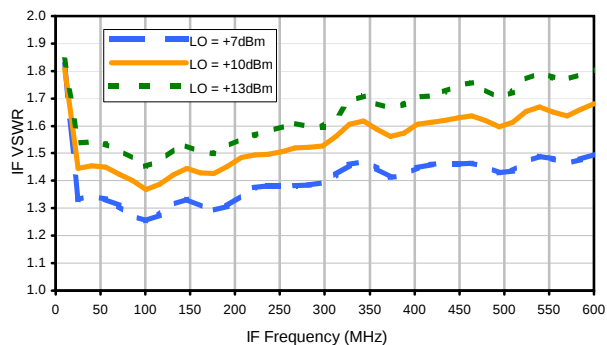
RF VSWR



LO VSWR



IF VSWR



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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	9	30	34	44	26	50	51	52	62	51
1	-	28	+0	33	24	33	32	40	57	45	61	58
2	85	68	50	54	42	64	47	61	44	69	61	77
3	>100	54	53	50	37	50	47	65	49	56	65	57
4	>100	80	64	74	64	87	58	75	61	70	57	75
5	>100	76	69	72	74	63	51	61	60	62	60	68
6	>100	88	88	92	71	89	74	78	69	89	70	82
7	>100	81	85	>92	76	73	82	71	61	71	68	72
8	>100	>92	91	>92	90	>92	81	>92	77	86	76	>92
9	>100	89	>92	91	>92	>92	87	87	>92	80	73	81
10	>100	>92	>92	>92	>92	>92	>92	>92	86	>92	83	>92
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1000.1 MHz; 0.00 dBm.
LO IN: 1030.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -7.52 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+1	20	26	32	14	40	35	42	48	40
1	-	29	+0	34	25	33	30	37	48	37	46	42
2	100	67	56	66	51	70	59	65	49	67	64	72
3	>100	70	68	66	52	66	61	71	61	71	79	66
4	>100	>82	73	>82	71	>82	72	>82	75	>82	75	>82
5	>100	>82	>82	>82	>82	>82	80	>82	>82	>82	>82	>82
6	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
7	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
8	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
9	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
10	>100	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82	>82
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1000.1 MHz; -10.00 dBm.
LO IN: 1030.01 MHz; +10.00 dBm
IF OUT: 29.91 MHz; -17.54 dBm

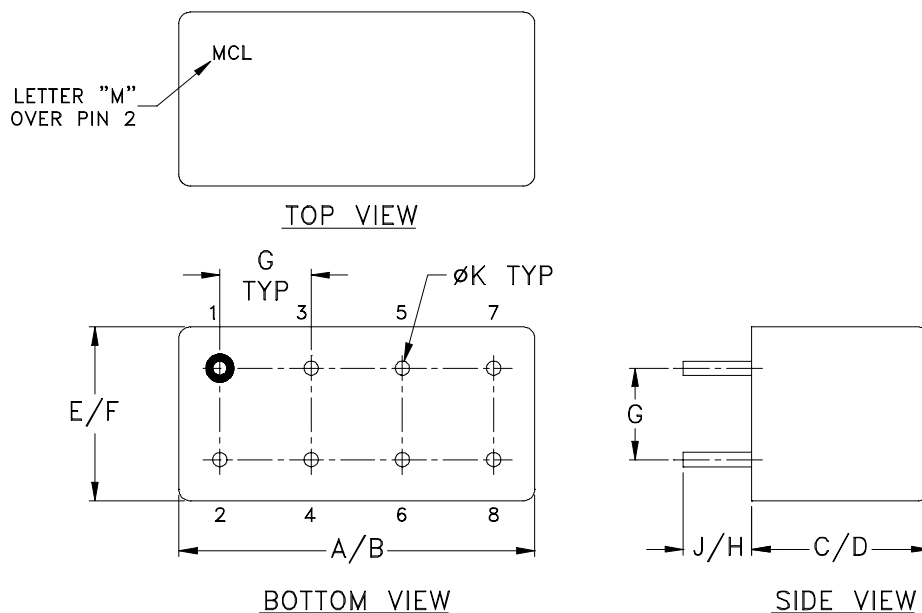
- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

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A01
A04
A05
A06

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	WT, GRAM
A01	.770 (19.56)	.800 (20.32)	.385 (9.78)	.400 (10.16)	.370 (9.40)	.400 (10.16)	.200 (5.08)	.20 (5.08)	.14 (3.56)	.031 (.79)	5.2
A04			.200 (5.08)	.210 (5.33)							3.7
A05			.240 (6.10)	.250 (6.35)							3.7
A06			.285 (7.24)	.310 (7.87)							5.2

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Header material: C.R.S.
Pin material: #52 alloy.
Cover material: Cupro-Nickel.
- Pin finish: Electro Tin-Silver.
- Insulated spacer available. Request P/N B14-045-01.
- Tolerance on pin diameter $\pm .005$ inch.
- Glass meniscus 0.015 inch max.
- Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.



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