

Non-Catalog Model

Frequency Mixer

SAM-5

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.

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CASE STYLE : A03

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	5		1500	MHz
	RF (fL to fU)	5		1500	MHz
	IF	0.5		1000	MHz
Conversion Loss	mid band		5.8	7.5	dB
	Total Range			8.5	dB
LO-RF Isolation	Low Range	40	55		dB
	Mid Range	25	35		dB
	Upper Range	20	30		dB
LO-IF Isolation	Low Range	40	50		dB
	Mid Range	25	35		dB
	Upper Range	20	30		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]

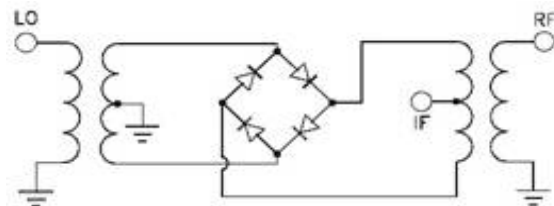
Conversion Loss Max. is 3dB higher for IF freq. range 0.5 to 5MHz

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	3, 4 ^
IF	1
GROUND	2, 5, 6, 7

^ - pins must be connected together externally

Electrical Schematics



Frequency Mixer

SAM-5

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=+1dBm (dB)		
		@LO (dBm)					@LO (dBm)					@LO (dBm)		
		+4	+7	+10			+4	+7	+10			+4	+7	+10
5.0	35.0	5.86	5.58	5.34	10.1	40.1	17.58	15.29	16.86	10.1	40.1	1.38	0.84	0.66
10.1	40.1	6.09	5.74	5.44	70.4	100.4	12.25	13.48	14.11	70.4	100.4	1.37	0.93	0.68
70.4	100.4	6.34	6.03	5.84	130.7	160.7	12.31	13.46	19.81	130.7	160.7	1.35	0.90	0.64
130.7	160.7	6.41	6.04	5.85	191.0	221.0	11.90	15.80	18.90	191.0	221.0	1.28	0.92	0.66
191.0	221.0	6.47	6.10	5.91	231.2	261.2	13.01	19.39	15.34	231.2	261.2	1.36	0.95	0.70
231.2	261.2	6.51	6.12	5.92	291.5	321.5	16.30	15.95	14.68	291.5	321.5	1.31	0.97	0.72
291.5	321.5	6.51	6.14	5.94	331.7	361.7	18.37	13.48	14.18	331.7	361.7	1.35	0.97	0.73
331.7	361.7	6.63	6.21	6.01	392.0	422.0	15.22	14.22	17.51	392.0	422.0	1.28	0.96	0.73
392.0	422.0	6.63	6.27	6.06	432.2	462.2	13.85	12.27	12.42	432.2	462.2	1.42	1.05	0.81
432.2	462.2	6.64	6.25	6.05	492.5	522.5	10.00	11.81	14.13	492.5	522.5	1.33	1.03	0.83
492.5	522.5	6.71	6.30	6.07	532.7	562.7	9.02	10.37	12.87	532.7	562.7	1.22	0.93	0.78
532.7	562.7	6.85	6.45	6.20	593.0	623.0	8.50	9.69	11.51	593.0	623.0	1.16	0.90	0.75
593.0	623.0	6.91	6.54	6.33	633.2	663.2	9.94	11.37	12.77	633.2	663.2	1.17	0.90	0.75
633.2	663.2	6.96	6.61	6.41	693.5	723.5	11.29	15.09	18.26	693.5	723.5	1.13	0.88	0.73
693.5	723.5	7.04	6.64	6.45	733.7	763.7	9.27	11.64	14.64	733.7	763.7	1.05	0.81	0.70
733.7	763.7	7.17	6.77	6.52	794.0	824.0	9.33	9.98	11.66	794.0	824.0	1.15	0.83	0.70
794.0	824.0	7.07	6.74	6.54	834.2	864.2	10.20	10.56	11.45	834.2	864.2	1.19	0.87	0.72
834.2	864.2	7.01	6.70	6.50	894.5	924.5	10.78	11.66	11.93	894.5	924.5	1.26	0.99	0.80
894.5	924.5	6.92	6.58	6.40	934.7	964.7	10.01	11.48	12.01	934.7	964.7	1.35	1.09	0.92
934.7	964.7	6.83	6.48	6.30	995.0	1025.0	9.78	12.83	13.79	995.0	1025.0	1.50	1.26	1.09
995.0	1025.0	6.65	6.28	6.12	1035.3	1065.3	11.44	14.88	15.37	1035.3	1065.3	1.48	1.34	1.20
1095.6	1125.6	6.82	6.29	6.03	1095.6	1125.6	11.47	13.84	14.60	1095.6	1125.6	1.28	1.17	1.08
1135.8	1165.8	6.88	6.38	6.09	1135.8	1165.8	7.34	9.27	10.09	1135.8	1165.8	1.13	0.99	0.92
1196.1	1226.1	6.75	6.33	6.08	1196.1	1226.1	5.69	7.05	8.15	1196.1	1226.1	1.17	0.93	0.80
1236.3	1266.3	6.73	6.31	6.06	1236.3	1266.3	5.56	6.64	8.01	1236.3	1266.3	1.16	0.86	0.73
1296.6	1326.6	6.68	6.28	6.05	1296.6	1326.6	5.03	6.18	7.57	1296.6	1326.6	1.25	0.88	0.70
1336.8	1366.8	6.59	6.23	6.03	1336.8	1366.8	4.83	6.00	7.68	1336.8	1366.8	1.34	0.93	0.73
1397.1	1427.1	6.64	6.30	6.10	1397.1	1427.1	4.49	5.82	7.67	1397.1	1427.1	1.35	0.95	0.71
1437.3	1467.3	6.77	6.42	6.20	1437.3	1467.3	4.48	5.84	7.79	1437.3	1467.3	1.23	0.85	0.65
1497.6	1527.6	7.01	6.67	6.44	1497.6	1527.6	3.90	5.53	7.49	1497.6	1527.6	1.18	0.82	0.58
1537.8	1567.8	7.09	6.79	6.59	1537.8	1567.8	4.07	5.90	7.73	1537.8	1567.8	1.18	0.80	0.56
1598.1	1628.1	7.42	7.12	6.92	1598.1	1628.1	4.49	6.50	8.75	1598.1	1628.1	1.15	0.74	0.51
1638.3	1668.3	7.64	7.33	7.11	1638.3	1668.3	5.45	8.16	10.25	1638.3	1668.3	1.03	0.67	0.45
1698.6	1728.6	8.04	7.70	7.50	1698.6	1728.6	7.77	11.04	13.16	1698.6	1728.6	1.00	0.61	0.40
1738.8	1768.8	8.26	7.95	7.81	1738.8	1768.8	10.23	13.11	15.07	1738.8	1768.8	0.93	0.56	0.34
1799.1	1829.1	8.67	8.42	8.33	1799.1	1829.1	11.25	14.56	18.00	1799.1	1829.1	0.87	0.46	0.29
1839.3	1869.3	8.97	8.75	8.70	1839.3	1869.3	11.58	16.23	18.30	1839.3	1869.3	0.74	0.40	0.24
1899.6	1929.6	9.51	9.37	9.37	1899.6	1929.6	11.72	15.90	22.14	1899.6	1929.6	0.63	0.33	0.23
1939.8	1969.8	9.89	9.81	9.85	1939.8	1969.8	13.42	15.08	17.26	1939.8	1969.8	0.54	0.31	0.22
2000.1	2030.1	10.47	10.41	10.47	2000.1	2030.1	13.95	14.28	14.31	2000.1	2030.1	0.54	0.32	0.27

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=750.1MHz (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)=1500.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
740.0	10.1	6.90	10.0	20.1	5.80	1000.0	500.1	6.63
721.3	28.8	6.84	30.2	40.3	5.77	979.8	520.3	6.56
702.6	47.5	6.88	50.4	60.5	5.88	959.6	540.5	6.56
683.8	66.3	6.93	70.6	80.7	5.83	939.4	560.7	6.59
665.1	85.0	6.97	90.8	100.9	5.84	919.2	580.9	6.60
646.4	103.7	7.00	111.0	121.1	5.80	899.0	601.1	6.62
627.7	122.4	7.02	131.2	141.3	5.69	878.8	621.3	6.58
609.0	141.1	7.00	151.4	161.5	5.72	858.6	641.5	6.51
590.3	159.8	6.99	171.6	181.7	5.70	838.4	661.7	6.50
571.5	178.6	7.06	191.8	201.9	5.71	818.2	681.9	6.47
552.8	197.3	7.02	212.0	222.1	5.65	798.0	702.1	6.49
534.1	216.0	7.00	232.2	242.3	5.65	777.8	722.3	6.46
515.4	234.7	6.91	252.4	262.5	5.64	757.6	742.5	6.48
496.7	253.4	6.95	272.7	282.8	5.60	737.3	762.8	6.50
477.9	272.2	6.90	292.9	303.0	5.64	717.1	783.0	6.49
459.2	290.9	6.95	313.1	323.2	5.59	696.9	803.2	6.48
440.5	309.6	6.94	333.3	343.4	5.61	676.7	823.4	6.45
421.8	328.3	6.91	353.5	363.6	5.60	656.5	843.6	6.50
403.1	347.0	6.85	373.7	383.8	5.58	636.3	863.8	6.50
384.4	365.7	6.88	393.9	404.0	5.61	616.1	884.0	6.55
365.6	384.5	6.91	434.3	444.4	5.64	575.7	924.4	6.59
346.9	403.2	6.85	454.5	464.6	5.59	555.5	944.6	6.69
328.2	421.9	6.86	494.9	505.0	5.66	515.1	985.0	6.75
309.5	440.6	6.84	515.1	525.2	5.63	494.9	1005.2	6.76
290.8	459.3	6.88	555.5	565.6	5.66	454.5	1045.6	6.72
272.1	478.0	6.84	575.7	585.8	5.73	434.3	1065.8	6.66
253.3	496.8	6.88	616.1	626.2	5.72	393.9	1106.2	6.60
234.6	515.5	6.80	636.3	646.4	5.78	373.7	1126.4	6.55
215.9	534.2	6.86	676.7	686.8	5.88	333.3	1166.8	6.42
197.2	552.9	6.81	696.9	707.0	5.91	313.1	1187.0	6.34
178.5	571.6	6.81	737.3	747.4	6.04	272.7	1227.4	6.22
159.7	590.4	6.76	757.6	767.7	6.06	252.4	1247.7	6.20
141.0	609.1	6.80	798.0	808.1	6.17	212.0	1288.1	6.26
122.3	627.8	6.81	818.2	828.3	6.21	191.8	1308.3	6.26
103.6	646.5	6.80	858.6	868.7	6.31	151.4	1348.7	6.28
84.9	665.2	6.80	878.8	888.9	6.41	131.2	1368.9	6.31
66.2	683.9	6.78	919.2	929.3	6.50	90.8	1409.3	6.36
47.4	702.7	6.80	939.4	949.5	6.54	70.6	1429.5	6.42
28.7	721.4	6.73	979.8	989.9	6.49	30.2	1469.9	6.46
10.0	740.1	6.96	1000.0	1010.1	6.44	10.0	1490.1	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
5.0	64.0	61.5	60.5	64.0	67.0	70.0
10.1	68.27	69.56	70.49	73.33	76.86	70.13
70.4	58.27	56.50	53.92	62.03	62.82	64.41
130.7	52.38	50.47	48.80	56.00	57.36	58.66
191.0	49.69	47.68	46.32	52.22	53.51	55.07
231.2	48.30	46.16	44.75	50.52	51.91	53.05
291.5	46.47	44.39	43.01	48.47	49.67	50.74
331.7	44.78	43.01	41.47	47.57	48.69	49.79
392.0	42.91	41.36	40.17	45.77	46.82	47.72
432.2	41.59	40.42	39.37	44.75	45.71	46.65
492.5	39.47	38.52	37.59	43.85	44.74	45.49
532.7	38.07	37.44	36.84	43.79	44.84	45.67
593.0	36.63	36.01	35.38	43.40	44.16	44.67
633.2	35.69	35.33	34.76	42.87	43.31	43.40
693.5	34.66	34.66	34.26	41.67	42.67	43.11
733.7	33.94	34.24	34.20	40.55	41.58	42.35
794.0	32.61	32.54	32.43	39.23	40.22	41.18
834.2	31.67	31.55	31.36	38.42	39.59	40.73
894.5	30.61	30.60	30.32	37.86	39.48	41.13
934.7	29.95	30.11	29.91	37.90	39.96	41.95
995.0	28.92	29.38	29.33	37.37	39.60	41.70
1095.6	27.35	28.14	28.76	36.70	38.83	40.84
1135.8	26.40	27.28	28.14	36.69	38.69	40.62
1196.1	25.44	26.05	26.86	36.54	38.30	39.86
1236.3	25.10	25.73	26.42	36.37	37.97	39.34
1296.6	24.80	25.57	26.36	36.30	37.75	39.03
1336.8	24.34	25.30	26.30	35.97	37.38	38.78
1397.1	24.21	25.32	26.46	35.25	36.62	38.01
1437.3	24.40	25.68	26.86	34.50	35.73	37.21
1497.6	24.71	26.35	27.75	33.14	33.94	35.15
1537.8	24.65	26.71	28.33	32.53	33.16	34.00
1598.1	25.14	27.48	29.33	33.01	33.46	33.97
1638.3	25.68	28.22	30.16	33.54	34.01	34.46
1698.6	26.35	29.03	31.09	33.81	34.49	35.04
1738.8	26.59	29.35	31.49	33.47	34.40	35.09
1799.1	27.20	29.84	31.99	33.28	34.31	35.10
1839.3	27.81	30.42	32.56	33.45	34.43	35.12
1899.6	28.57	31.08	33.20	33.48	34.50	35.26
1939.8	29.10	31.59	33.66	33.39	34.48	35.36
2000.1	29.82	32.15	34.10	33.71	34.68	35.51

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	43.29	44.19	38.59
70.4	100.4	36.09	36.04	36.27
130.7	160.7	31.23	31.58	32.09
191.0	221.0	28.87	29.14	29.37
231.2	261.2	27.97	28.43	28.67
291.5	321.5	27.25	27.76	28.07
331.7	361.7	27.22	27.83	28.27
392.0	422.0	27.18	28.16	28.82
432.2	462.2	27.59	28.56	29.43
492.5	522.5	27.94	28.47	28.97
532.7	562.7	28.19	29.05	29.79
593.0	623.0	27.56	28.78	30.13
633.2	663.2	26.86	28.13	29.51
693.5	723.5	24.99	25.43	25.65
733.7	763.7	23.97	23.92	23.65
794.0	824.0	21.92	21.56	21.10
834.2	864.2	21.10	20.69	20.32
894.5	924.5	20.20	19.86	19.63
934.7	964.7	20.11	19.69	19.46
995.0	1025.0	20.11	19.67	19.41
1035.3	1065.3	20.41	19.88	19.65
1095.6	1125.6	20.85	20.21	19.95
1135.8	1165.8	21.26	20.61	20.28
1196.1	1226.1	21.63	20.79	20.33
1236.3	1266.3	21.55	20.79	20.04
1296.6	1326.6	20.92	20.26	19.57
1336.8	1366.8	20.25	19.61	19.05
1397.1	1427.1	18.77	18.24	17.71
1437.3	1467.3	17.77	17.16	16.62
1497.6	1527.6	16.10	15.40	14.90
1537.8	1567.8	15.31	14.46	13.90
1598.1	1628.1	14.03	13.21	12.63
1638.3	1668.3	13.14	12.38	11.91
1698.6	1728.6	12.09	11.42	11.02
1738.8	1768.8	11.43	10.85	10.46
1799.1	1829.1	10.75	10.22	9.89
1839.3	1869.3	10.31	9.83	9.63
1899.6	1929.6	9.85	9.47	9.30
1939.8	1969.8	9.61	9.19	9.13
2000.1	2030.1	9.37	8.96	8.82

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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=1500.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
5.0	35.0	1.86	1.61	1.48	5.0	1.98	2.93	4.03	5.0	1.37	1.45	1.55
10.1	40.1	1.24	1.08	1.01	10.1	1.90	2.52	3.54	10.0	1.12	1.23	1.30
70.4	100.4	1.30	1.15	1.06	70.4	1.89	2.64	3.65	30.2	1.28	1.30	1.33
130.7	160.7	1.32	1.18	1.12	130.7	1.93	2.76	3.83	50.4	1.25	1.27	1.31
191.0	221.0	1.40	1.26	1.22	191.0	1.84	2.56	3.52	70.6	1.22	1.25	1.29
231.2	261.2	1.46	1.34	1.28	231.2	1.91	2.71	3.73	90.8	1.21	1.25	1.27
291.5	321.5	1.56	1.45	1.38	291.5	1.85	2.57	3.50	111.0	1.21	1.25	1.27
331.7	361.7	1.65	1.53	1.46	331.7	1.90	2.67	3.65	131.2	1.21	1.24	1.26
392.0	422.0	1.80	1.66	1.57	392.0	1.87	2.57	3.50	151.4	1.22	1.24	1.27
432.2	462.2	1.93	1.78	1.68	432.2	1.92	2.66	3.60	171.6	1.23	1.26	1.29
492.5	522.5	2.08	1.91	1.79	492.5	1.91	2.60	3.50	191.8	1.19	1.23	1.25
532.7	562.7	2.20	2.01	1.89	532.7	1.96	2.67	3.58	212.0	1.16	1.20	1.21
593.0	623.0	2.36	2.13	1.98	593.0	1.96	2.63	3.50	232.2	1.18	1.21	1.22
633.2	663.2	2.47	2.23	2.07	633.2	2.00	2.68	3.56	252.4	1.20	1.20	1.22
693.5	723.5	2.58	2.33	2.16	693.5	2.00	2.65	3.48	272.7	1.16	1.16	1.18
733.7	763.7	2.69	2.43	2.27	733.7	2.05	2.69	3.52	292.9	1.14	1.16	1.16
794.0	824.0	2.73	2.48	2.32	794.0	2.06	2.69	3.48	313.1	1.17	1.18	1.17
834.2	864.2	2.71	2.47	2.31	834.2	2.10	2.72	3.50	333.3	1.19	1.17	1.16
894.5	924.5	2.68	2.43	2.25	894.5	2.11	2.71	3.47	353.5	1.16	1.14	1.14
934.7	964.7	2.65	2.36	2.17	934.7	2.14	2.72	3.46	373.7	1.14	1.13	1.15
995.0	1025.0	2.55	2.20	1.98	995.0	2.15	2.71	3.42	393.9	1.15	1.12	1.12
1035.3	1065.3	2.53	2.13	1.89	1035.3	2.19	2.72	3.42	434.3	1.13	1.08	1.07
1095.6	1125.6	2.65	2.28	2.03	1095.6	2.24	2.75	3.42	454.5	1.14	1.07	1.08
1135.8	1165.8	2.65	2.35	2.13	1135.8	2.27	2.77	3.42	494.9	1.13	1.05	1.05
1196.1	1226.1	2.44	2.17	1.98	1196.1	2.31	2.81	3.44	515.1	1.14	1.05	1.06
1236.3	1266.3	2.32	2.04	1.84	1236.3	2.33	2.82	3.43	555.5	1.19	1.10	1.08
1296.6	1326.6	2.20	1.91	1.70	1296.6	2.35	2.83	3.42	575.7	1.20	1.12	1.11
1336.8	1366.8	2.11	1.82	1.62	1336.8	2.35	2.81	3.40	616.1	1.26	1.17	1.14
1397.1	1427.1	2.04	1.77	1.58	1397.1	2.36	2.81	3.38	636.3	1.29	1.20	1.18
1437.3	1467.3	1.99	1.73	1.58	1437.3	2.35	2.77	3.33	676.7	1.35	1.26	1.22
1497.6	1527.6	1.97	1.79	1.69	1497.6	2.34	2.75	3.28	696.9	1.40	1.32	1.28
1537.8	1567.8	1.96	1.83	1.80	1537.8	2.32	2.71	3.23	737.3	1.46	1.37	1.32
1598.1	1628.1	2.03	2.00	2.03	1598.1	2.31	2.67	3.17	757.6	1.51	1.41	1.35
1638.3	1668.3	2.12	2.17	2.27	1638.3	2.29	2.63	3.12	798.0	1.58	1.50	1.44
1698.6	1728.6	2.35	2.49	2.67	1698.6	2.27	2.59	3.06	818.2	1.63	1.54	1.47
1738.8	1768.8	2.56	2.77	3.01	1738.8	2.26	2.57	3.05	858.6	1.74	1.64	1.56
1799.1	1829.1	2.92	3.22	3.50	1799.1	2.30	2.59	3.04	878.8	1.78	1.67	1.58
1839.3	1869.3	3.20	3.56	3.81	1839.3	2.35	2.63	3.06	919.2	1.90	1.81	1.71
1899.6	1929.6	3.60	4.01	4.31	1899.6	2.43	2.68	3.08	939.4	1.95	1.85	1.74
1939.8	1969.8	3.91	4.34	4.64	1939.8	2.50	2.73	3.13	979.8	2.07	1.96	1.84
2000.1	2030.1	4.27	4.73	5.02	2000.1	2.57	2.77	3.13	1000.0	2.10	2.01	1.88

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	12	43	28	34	18	37	40	63	63	55
1	-	16	+0	31	11	40	47	33	40	54	54	66
2	>100	72	54	70	52	62	65	75	56	68	71	>80
3	>100	66	55	63	54	61	53	73	77	66	67	>80
4	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
5	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
6	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
7	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
8	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
9	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
10	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 750.1 MHz; -14.00 dBm.
LO IN: 780.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -20.49 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	21	55	37	45	29	54	49	72	68	66
1	-	16	+0	32	12	39	44	38	49	57	63	67
2	93	74	52	57	47	56	65	67	49	60	75	85
3	>100	50	40	50	38	49	39	72	63	51	54	79
4	>100	>90	69	72	62	76	61	71	75	82	66	83
5	>100	76	74	72	57	61	54	59	54	72	83	67
6	>100	>90	>90	>90	84	82	77	78	74	77	85	>90
7	>100	89	>90	>90	>90	89	75	78	72	72	71	87
8	>100	>90	>90	>90	>90	>90	>90	>90	87	87	86	88
9	>100	>90	>90	>90	>90	>90	>90	>90	86	>90	84	85
10	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 750.1 MHz; -4.00 dBm.
LO IN: 780.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -10.48 dBm

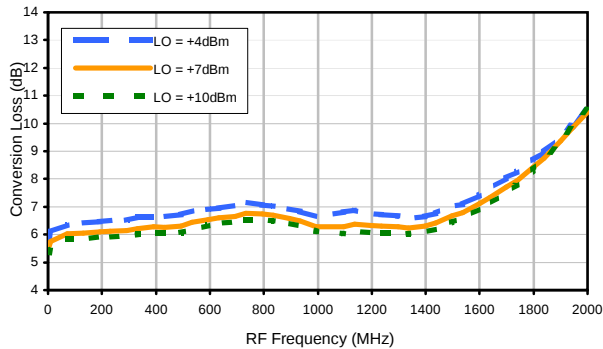
- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

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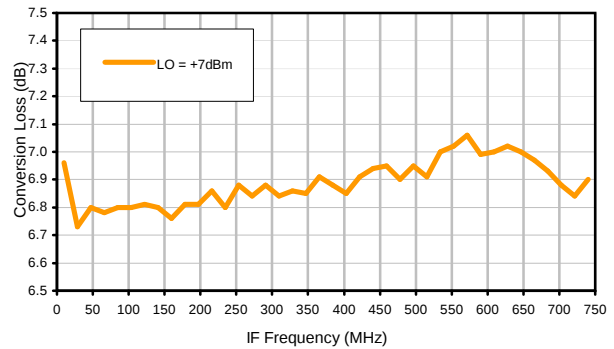


Typical Performance Curves

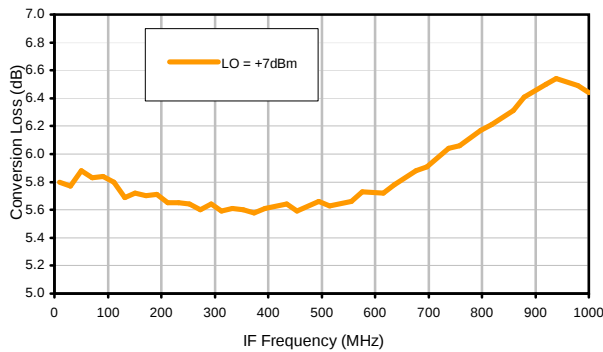
Conversion Loss @ IF=30MHz



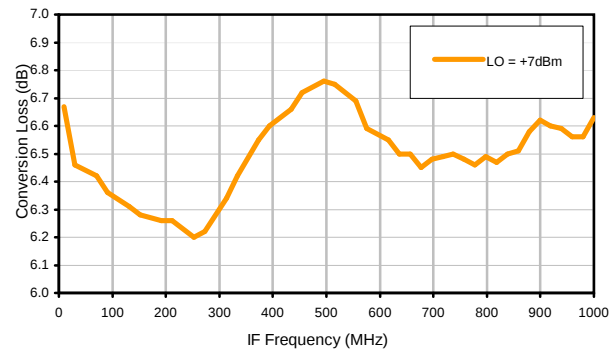
Conversion Loss vs. IF @ RF=750.1MHz



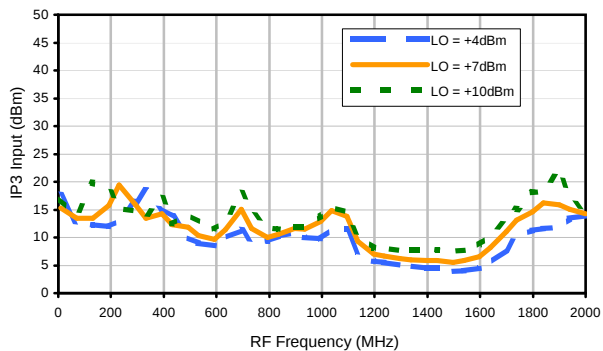
Conversion Loss vs. IF @ RF=10.1MHz



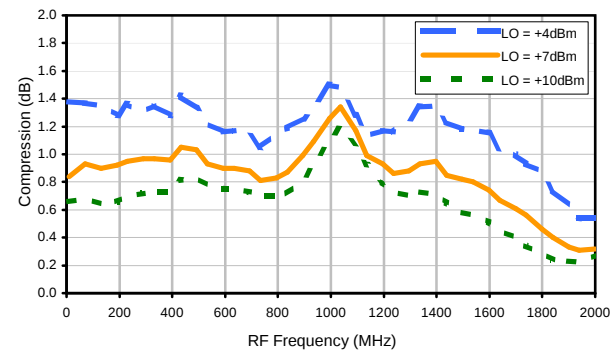
Conversion Loss vs. IF @ RF=1500.1MHz



IP3 Input

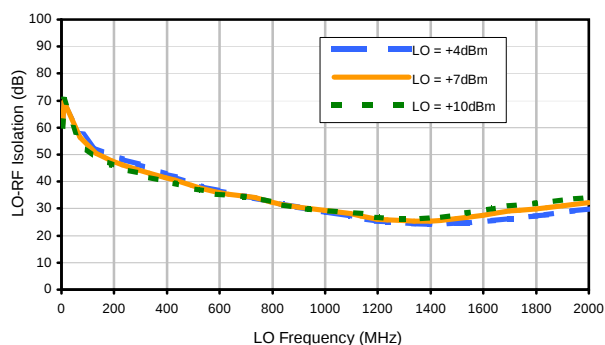


Compression @ RF IN=+1dBm

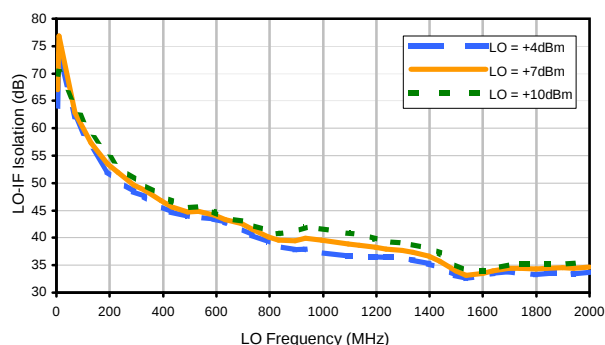


Typical Performance Curves

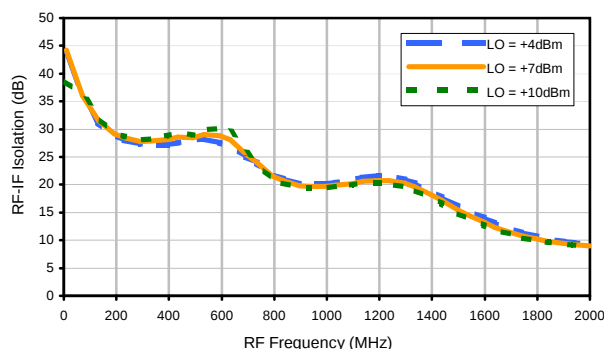
LO-RF Isolation



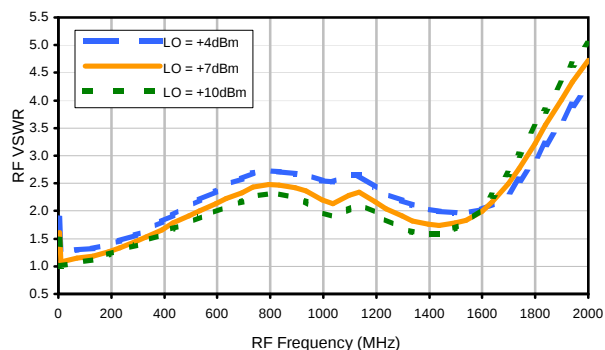
LO-IF Isolation



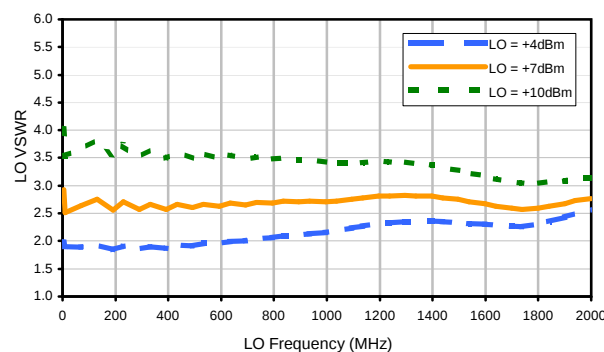
RF-IF Isolation



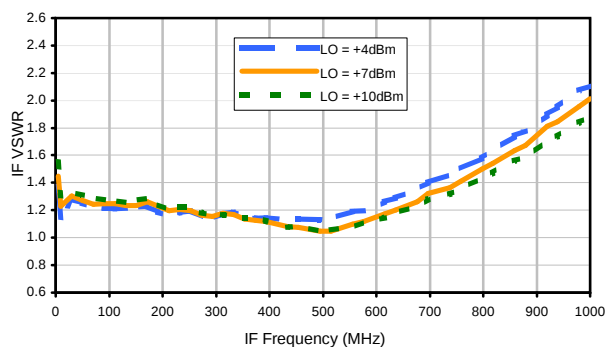
RF VSWR



LO VSWR



IF VSWR



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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	12	43	28	34	18	37	40	63	63	55
1	-	16	+0	31	11	40	47	33	40	54	54	66
2	>100	72	54	70	52	62	65	75	56	68	71	>80
3	>100	66	55	63	54	61	53	73	77	66	67	>80
4	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
5	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
6	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
7	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
8	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
9	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
10	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 750.1 MHz; -14.00 dBm.
LO IN: 780.01 MHz; +7.00 dBm
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RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	21	55	37	45	29	54	49	72	68	66
1	-	16	+0	32	12	39	44	38	49	57	63	67
2	93	74	52	57	47	56	65	67	49	60	75	85
3	>100	50	40	50	38	49	39	72	63	51	54	79
4	>100	>90	69	72	62	76	61	71	75	82	66	83
5	>100	76	74	72	57	61	54	59	54	72	83	67
6	>100	>90	>90	>90	84	82	77	78	74	77	85	>90
7	>100	89	>90	>90	>90	89	75	78	72	72	71	87
8	>100	>90	>90	>90	>90	>90	>90	>90	87	87	86	88
9	>100	>90	>90	>90	>90	>90	>90	>90	86	>90	84	85
10	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 750.1 MHz; -4.00 dBm.
LO IN: 780.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -10.48 dBm

- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
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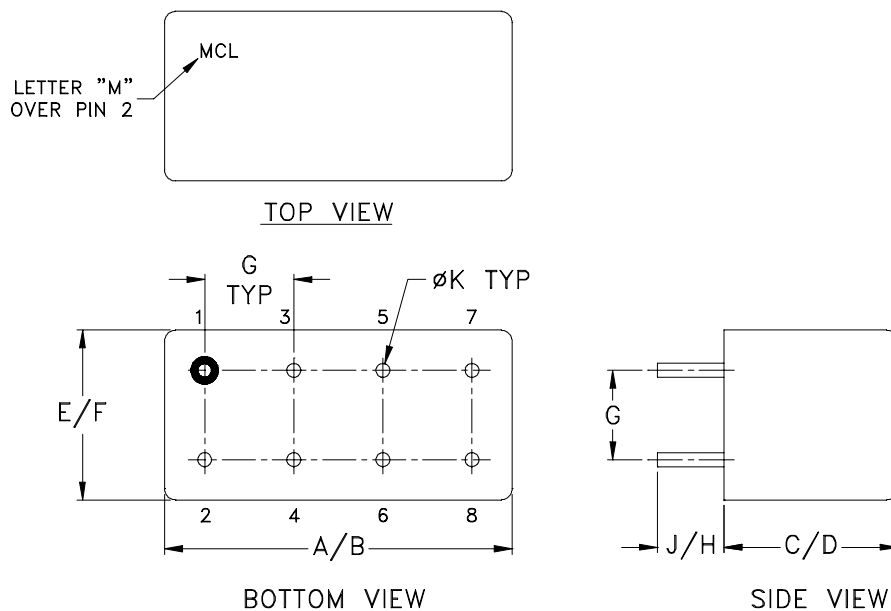
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A03

A11

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	WT, GRAM
A03	.480 (12.19)	.500 (12.70)	.390 (9.91)	.405 (10.29)	.210 (5.33)	.230 (5.84)	.100 (2.54)	.20 (5.08)	.14 (3.56)	.020 (.51)	2.3
A11			.240 (6.10)	.255 (6.48)							1.9

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 B14-047-01.
- 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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