

Non-Catalog Model

Frequency Mixer

SAM-2

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)	1		1000	MHz
	RF (fL to fU)	1		1000	MHz
	IF	0		1000	MHz
Conversion Loss	mid band		5.7	7.5	dB
	Total Range			9.5	dB
LO-RF Isolation	Low Range	45	55		dB
	Mid Range	25	40		dB
	Upper Range	20	35		dB
LO-IF Isolation	Low Range	40	50		dB
	Mid Range	25	40		dB
	Upper Range	25	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]

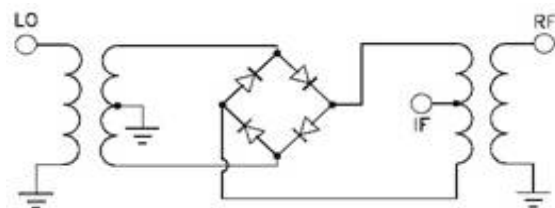
Upper Range = [fU/2 to fU]

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, 4 ^
GROUND	2, 5, 6, 7

^ - pins must be connected together externally

Electrical Schematics



Frequency Mixer

SAM-2

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
1.0	31.0	7.65	7.23	7.05	10.0	40.0	21.82	24.35	25.68	10.0	40.0	0.94	0.68	0.53
2.0	32.0	6.99	6.50	6.38	50.3	80.3	21.70	26.09	25.64	50.3	80.3	1.09	0.84	0.68
5.0	35.0	6.14	5.80	5.68	90.5	120.5	19.29	23.97	25.72	90.5	120.5	0.98	0.75	0.59
10.0	40.0	6.01	5.62	5.47	130.8	160.8	21.66	23.57	20.62	130.8	160.8	0.96	0.71	0.55
50.3	80.3	6.07	5.82	5.65	171.0	201.0	21.70	24.84	21.77	171.0	201.0	0.96	0.70	0.53
90.5	120.5	6.11	5.80	5.70	211.3	241.3	22.23	20.60	21.02	211.3	241.3	0.87	0.64	0.48
130.8	160.8	6.05	5.81	5.69	251.5	281.5	22.73	19.31	22.40	251.5	281.5	0.87	0.62	0.49
171.0	201.0	6.08	5.86	5.73	291.8	321.8	20.09	20.68	22.99	291.8	321.8	0.88	0.65	0.51
211.3	241.3	6.06	5.84	5.75	332.0	362.0	17.55	17.65	26.08	332.0	362.0	0.82	0.59	0.48
251.5	281.5	6.12	5.92	5.76	372.3	402.3	25.75	24.40	21.04	372.3	402.3	0.81	0.62	0.48
332.0	362.0	6.19	5.96	5.84	412.6	442.6	25.89	25.48	25.50	412.6	442.6	0.89	0.68	0.55
372.3	402.3	6.21	6.00	5.85	452.8	482.8	17.52	25.92	22.78	452.8	482.8	0.99	0.79	0.64
412.6	442.6	6.22	5.97	5.83	493.1	523.1	15.81	17.72	21.41	493.1	523.1	1.17	0.94	0.75
452.8	482.8	6.34	6.08	5.94	533.3	563.3	14.86	16.42	18.27	533.3	563.3	1.36	1.09	0.93
493.1	523.1	6.40	6.17	6.03	573.6	603.6	17.28	24.00	20.85	573.6	603.6	1.57	1.25	1.05
533.3	563.3	6.51	6.29	6.18	613.8	643.8	18.69	24.01	22.25	613.8	643.8	1.75	1.42	1.21
573.6	603.6	6.62	6.35	6.24	654.1	684.1	17.80	20.70	25.56	654.1	684.1	1.87	1.59	1.39
613.8	643.8	6.73	6.44	6.27	694.3	724.3	13.60	19.36	25.80	694.3	724.3	1.94	1.71	1.46
654.1	684.1	7.00	6.54	6.34	734.6	764.6	13.28	17.08	24.55	734.6	764.6	1.81	1.69	1.49
694.3	724.3	7.31	6.70	6.41	774.9	804.9	13.85	19.73	19.70	774.9	804.9	1.70	1.66	1.54
774.9	804.9	7.84	7.06	6.53	815.1	845.1	12.90	15.22	20.04	815.1	845.1	1.49	1.48	1.43
815.1	845.1	8.16	7.36	6.73	855.4	885.4	11.97	14.50	16.79	855.4	885.4	1.35	1.29	1.28
855.4	885.4	8.36	7.68	7.05	895.6	925.6	12.49	13.98	14.82	895.6	925.6	1.31	1.20	1.15
895.6	925.6	8.43	7.78	7.25	935.9	965.9	11.35	12.29	14.78	935.9	965.9	1.36	1.27	1.22
935.9	965.9	8.44	7.76	7.16	976.1	1006.1	12.25	15.61	16.19	976.1	1006.1	1.65	1.56	1.44
976.1	1006.1	8.01	7.19	6.66	1016.4	1046.4	14.75	16.70	18.17	1016.4	1046.4	1.83	1.66	1.48
1016.4	1046.4	7.71	7.04	6.66	1056.6	1086.6	16.58	17.78	20.96	1056.6	1086.6	1.86	1.67	1.49
1056.6	1086.6	7.54	7.04	6.75	1096.9	1126.9	19.18	18.80	18.41	1096.9	1126.9	1.62	1.45	1.32
1096.9	1126.9	7.77	7.37	7.11	1137.2	1167.2	18.12	18.22	19.52	1137.2	1167.2	1.26	1.09	1.02
1137.2	1167.2	8.03	7.75	7.50	1177.4	1207.4	16.57	19.54	19.67	1177.4	1207.4	1.06	0.87	0.76
1217.7	1247.7	8.44	8.18	8.08	1217.7	1247.7	19.26	19.36	22.71	1217.7	1247.7	0.96	0.75	0.65
1257.9	1287.9	8.53	8.32	8.21	1257.9	1287.9	18.61	23.18	24.90	1257.9	1287.9	0.91	0.69	0.55
1298.2	1328.2	8.73	8.47	8.36	1298.2	1328.2	19.85	23.56	20.81	1298.2	1328.2	0.81	0.59	0.44
1338.4	1368.4	8.94	8.68	8.57	1338.4	1368.4	21.77	23.94	20.84	1338.4	1368.4	0.72	0.48	0.39
1378.7	1408.7	9.25	9.00	8.85	1378.7	1408.7	19.78	24.50	24.10	1378.7	1408.7	0.68	0.44	0.34
1418.9	1448.9	9.48	9.23	9.08	1418.9	1448.9	24.26	23.91	18.14	1418.9	1448.9	0.59	0.40	0.29
1459.2	1489.2	9.66	9.38	9.24	1459.2	1489.2	20.24	20.04	21.68	1459.2	1489.2	0.58	0.39	0.29
1499.5	1529.5	9.91	9.55	9.46	1499.5	1529.5	18.06	18.82	22.42	1499.5	1529.5	0.57	0.38	0.30
1539.7	1569.7	10.15	9.78	9.69	1539.7	1569.7	19.99	24.11	23.86	1539.7	1569.7	0.61	0.42	0.35
1600.1	1630.1	10.60	10.23	10.08	1600.1	1630.1	17.98	21.49	20.30	1600.1	1630.1	0.70	0.55	0.51

REV. X2

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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500.1MHz (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)=1000.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
490.0	10.1	6.25	10.0	20.1	5.48	990.0	10.1	7.72
477.7	22.4	6.21	30.0	40.1	5.46	970.0	30.1	7.77
465.4	34.7	6.15	50.0	60.1	5.52	950.0	50.1	7.76
453.1	47.0	6.15	70.0	80.1	5.54	930.0	70.1	7.85
440.8	59.3	6.14	90.0	100.1	5.57	910.0	90.1	7.89
428.5	71.6	6.11	110.0	120.1	5.56	890.0	110.1	7.88
416.2	83.9	6.08	130.0	140.1	5.55	870.0	130.1	7.87
403.8	96.3	6.05	150.0	160.1	5.56	850.0	150.1	7.93
391.5	108.6	6.00	170.0	180.1	5.60	830.0	170.1	8.01
379.2	120.9	6.03	190.0	200.1	5.65	810.0	190.1	7.93
366.9	133.2	6.03	210.0	220.1	5.60	790.0	210.1	7.94
354.6	145.5	6.00	230.0	240.1	5.62	770.0	230.1	7.90
342.3	157.8	6.02	250.0	260.1	5.65	750.0	250.1	7.87
330.0	170.1	6.05	270.0	280.1	5.66	730.0	270.1	7.94
317.7	182.4	6.03	290.0	300.1	5.69	710.0	290.1	7.91
305.4	194.7	6.07	310.0	320.1	5.68	690.0	310.1	7.89
293.1	207.0	6.04	330.0	340.1	5.74	670.0	330.1	7.76
280.8	219.3	6.04	350.0	360.1	5.73	650.0	350.1	7.78
268.5	231.6	6.06	370.0	380.1	5.79	630.0	370.1	7.84
256.2	243.9	6.05	390.0	400.1	5.77	610.0	390.1	7.82
243.8	256.3	6.09	430.0	440.1	5.78	570.0	430.1	7.54
231.5	268.6	6.11	450.0	460.1	5.80	550.0	450.1	7.56
219.2	280.9	6.05	490.0	500.1	5.96	510.0	490.1	7.64
206.9	293.2	6.12	510.0	520.1	6.02	490.0	510.1	7.71
194.6	305.5	6.12	550.0	560.1	6.11	450.0	550.1	7.81
182.3	317.8	6.09	570.0	580.1	6.15	430.0	570.1	7.70
170.0	330.1	6.12	610.0	620.1	5.98	390.0	610.1	7.18
157.7	342.4	6.12	630.0	640.1	5.99	370.0	630.1	7.09
145.4	354.7	6.11	670.0	680.1	5.94	330.0	670.1	7.02
133.1	367.0	6.16	690.0	700.1	5.87	310.0	690.1	7.03
120.8	379.3	6.14	730.0	740.1	5.93	270.0	730.1	7.07
108.5	391.6	6.12	750.0	760.1	5.91	250.0	750.1	7.07
96.2	403.9	6.12	790.0	800.1	5.92	210.0	790.1	7.18
83.8	416.3	6.09	810.0	820.1	5.96	190.0	810.1	7.24
71.5	428.6	6.07	850.0	860.1	6.06	150.0	850.1	7.52
59.2	440.9	6.09	870.0	880.1	6.02	130.0	870.1	7.71
46.9	453.2	6.07	910.0	920.1	5.98	90.0	910.1	7.88
34.6	465.5	6.11	930.0	940.1	5.88	70.0	930.1	7.92
22.3	477.8	6.17	970.0	980.1	5.69	30.0	970.1	7.83
10.0	490.1	6.19	990.0	1000.1	5.56	10.0	990.1	7.70

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
1.0	64.00	67.00	70.00	64.00	67.00	70.00
2.0	64.00	67.00	70.00	64.00	67.00	70.00
5.0	64.00	67.00	70.00	64.00	67.00	70.00
10.0	64.00	67.00	70.00	64.00	67.00	70.00
50.3	58.83	59.58	60.62	63.91	62.49	60.15
90.5	53.56	54.56	55.32	60.10	58.23	56.27
130.8	50.63	51.54	52.12	57.11	55.71	53.73
171.0	48.20	48.90	49.58	54.99	54.01	52.28
211.3	46.45	47.16	47.90	51.79	52.20	50.83
251.5	44.96	45.79	46.42	49.64	50.62	49.87
332.0	42.46	43.25	43.96	45.41	47.43	48.26
372.3	41.93	42.97	43.76	43.70	45.75	46.47
412.6	41.42	42.20	43.02	41.91	44.59	46.71
452.8	40.49	41.55	42.29	41.76	44.57	46.76
493.1	39.58	40.82	41.74	41.46	44.65	46.98
533.3	38.76	39.88	40.91	40.72	43.70	46.06
573.6	37.83	39.21	40.52	39.61	42.85	46.53
613.8	37.88	40.00	41.91	38.06	40.84	43.95
654.1	38.36	40.47	42.17	36.32	38.64	41.05
694.3	37.89	39.81	41.46	35.43	37.39	39.58
774.9	36.52	38.55	40.28	34.73	36.10	37.61
815.1	36.06	38.13	39.96	35.00	36.36	37.60
855.4	35.53	37.59	39.61	35.03	37.11	38.72
895.6	35.22	37.14	39.15	34.39	36.42	38.26
935.9	34.31	35.92	37.46	32.90	33.72	34.27
976.1	33.65	34.82	35.89	31.08	30.79	30.40
1016.4	32.69	33.59	34.57	29.26	28.34	28.11
1056.6	32.44	33.34	34.34	27.85	27.22	27.08
1096.9	32.84	33.65	34.42	27.19	26.58	26.19
1137.2	33.62	34.20	34.68	26.56	25.78	25.18
1217.7	36.23	35.92	35.42	25.43	24.32	23.55
1257.9	36.95	36.01	35.10	24.56	23.53	22.77
1298.2	37.41	35.80	34.56	24.09	23.01	22.21
1338.4	37.82	35.26	33.72	23.50	22.42	21.63
1378.7	38.45	35.01	33.16	22.98	21.99	21.21
1418.9	38.79	34.51	32.34	22.43	21.64	20.78
1459.2	38.12	33.65	31.55	22.03	21.28	20.50
1499.5	38.06	33.11	31.03	21.58	20.87	20.22
1539.7	36.63	32.54	30.42	21.33	20.77	20.03
1600.1	35.89	32.26	30.22	20.84	20.62	20.10

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.0	40.0	49.67	42.04	60.70
50.3	80.3	36.14	35.89	36.11
90.5	120.5	31.49	31.88	31.98
130.8	160.8	29.11	29.37	29.58
171.0	201.0	27.56	27.86	28.01
211.3	241.3	26.57	26.86	27.08
251.5	281.5	26.14	26.48	26.74
291.8	321.8	25.92	26.48	26.91
332.0	362.0	26.06	26.61	27.03
372.3	402.3	25.89	26.24	26.54
412.6	442.6	25.46	26.08	26.51
452.8	482.8	24.95	25.87	26.73
493.1	523.1	24.51	25.36	26.22
533.3	563.3	23.71	24.24	24.60
573.6	603.6	22.35	22.47	22.49
613.8	643.8	20.59	20.34	20.15
654.1	684.1	19.27	18.96	18.76
694.3	724.3	18.64	18.28	18.09
734.6	764.6	18.36	18.14	17.94
774.9	804.9	18.31	18.11	17.94
815.1	845.1	18.52	18.27	18.00
855.4	885.4	18.75	18.46	18.10
895.6	925.6	19.05	18.75	18.43
935.9	965.9	19.20	18.90	18.51
976.1	1006.1	18.86	18.30	17.75
1016.4	1046.4	18.14	17.66	17.27
1056.6	1086.6	17.39	17.00	16.55
1096.9	1126.9	16.45	16.06	15.77
1137.2	1167.2	15.44	15.01	14.70
1177.4	1207.4	14.33	13.89	13.59
1217.7	1247.7	13.40	12.85	12.53
1257.9	1287.9	12.54	11.99	11.67
1298.2	1328.2	11.71	11.16	10.83
1338.4	1368.4	10.82	10.30	10.01
1378.7	1408.7	10.18	9.67	9.39
1418.9	1448.9	9.56	9.13	8.87
1459.2	1489.2	9.05	8.67	8.48
1499.5	1529.5	8.66	8.30	8.05
1539.7	1569.7	8.23	7.95	7.79
1600.1	1630.1	7.80	7.60	7.48

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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=1000.5MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
5.0	35.0	1.26	1.30	1.34	5.0	1.77	2.70	4.33	5.0	1.43	1.24	1.09
10.0	40.0	1.12	1.15	1.20	10.0	1.71	2.63	3.91	10.0	1.44	1.25	1.10
50.3	80.3	1.03	1.09	1.14	50.3	1.97	2.86	4.02	30.2	1.91	1.60	1.40
90.5	120.5	1.06	1.13	1.18	90.5	1.83	2.66	3.70	50.4	1.88	1.57	1.35
130.8	160.8	1.10	1.17	1.22	130.8	1.90	2.75	3.81	70.6	1.96	1.63	1.41
171.0	201.0	1.12	1.19	1.24	171.0	1.84	2.60	3.56	90.8	1.96	1.65	1.44
211.3	241.3	1.15	1.21	1.27	211.3	1.86	2.63	3.58	111.0	2.00	1.67	1.46
251.5	281.5	1.16	1.22	1.28	251.5	1.89	2.65	3.60	131.2	2.06	1.72	1.50
291.8	321.8	1.16	1.23	1.28	291.8	1.86	2.56	3.45	151.4	2.03	1.70	1.49
332.0	362.0	1.15	1.21	1.26	332.0	1.93	2.65	3.54	171.6	2.00	1.68	1.46
372.3	402.3	1.15	1.20	1.24	372.3	1.93	2.68	3.54	191.8	2.09	1.75	1.53
412.6	442.6	1.17	1.24	1.29	412.6	1.94	2.61	3.43	212.0	2.16	1.82	1.59
452.8	482.8	1.17	1.24	1.30	452.8	1.96	2.61	3.38	232.2	2.13	1.79	1.56
493.1	523.1	1.17	1.22	1.28	493.1	1.98	2.62	3.38	252.4	2.14	1.79	1.56
533.3	563.3	1.14	1.19	1.23	533.3	2.02	2.66	3.41	272.7	2.21	1.86	1.63
573.6	603.6	1.10	1.15	1.18	573.6	1.99	2.57	3.27	292.9	2.22	1.88	1.66
613.8	643.8	1.04	1.07	1.10	613.8	2.02	2.58	3.28	313.1	2.22	1.88	1.65
654.1	684.1	1.11	1.08	1.07	654.1	2.09	2.67	3.31	333.3	2.29	1.94	1.69
694.3	724.3	1.24	1.20	1.17	694.3	2.14	2.67	3.31	353.5	2.34	1.99	1.74
734.6	764.6	1.38	1.33	1.29	734.6	2.20	2.72	3.33	373.7	2.31	1.96	1.72
774.9	804.9	1.53	1.46	1.42	774.9	2.21	2.72	3.31	393.9	2.32	1.97	1.73
815.1	845.1	1.70	1.63	1.57	815.1	2.25	2.77	3.35	434.3	2.42	2.07	1.82
855.4	885.4	1.89	1.81	1.74	855.4	2.25	2.75	3.34	454.5	2.42	2.07	1.81
895.6	925.6	2.02	1.95	1.88	895.6	2.23	2.73	3.30	494.9	2.48	2.13	1.88
935.9	965.9	2.14	2.06	1.98	935.9	2.23	2.72	3.27	515.1	2.44	2.10	1.85
976.1	1006.1	2.20	2.10	2.03	976.1	2.14	2.60	3.13	555.5	2.59	2.24	1.97
1016.4	1046.4	2.22	2.15	2.09	1016.4	2.07	2.53	3.09	575.7	2.54	2.21	1.95
1056.6	1086.6	2.26	2.20	2.14	1056.6	2.06	2.51	3.07	616.1	2.48	2.16	1.92
1096.9	1126.9	2.32	2.25	2.20	1096.9	2.11	2.55	3.08	636.3	2.53	2.21	1.96
1137.2	1167.2	2.39	2.34	2.30	1137.2	2.20	2.61	3.13	676.7	2.55	2.23	1.98
1177.4	1207.4	2.44	2.41	2.38	1177.4	2.29	2.66	3.14	696.9	2.49	2.18	1.94
1217.7	1247.7	2.48	2.46	2.43	1217.7	2.38	2.71	3.17	737.3	2.33	2.04	1.83
1257.9	1287.9	2.49	2.47	2.45	1257.9	2.48	2.82	3.25	757.6	2.41	2.12	1.90
1298.2	1328.2	2.50	2.47	2.46	1298.2	2.53	2.84	3.25	798.0	2.27	1.98	1.77
1338.4	1368.4	2.53	2.51	2.49	1338.4	2.60	2.87	3.26	818.2	2.16	1.89	1.69
1378.7	1408.7	2.56	2.53	2.50	1378.7	2.67	2.90	3.27	858.6	2.13	1.86	1.67
1418.9	1448.9	2.56	2.53	2.51	1418.9	2.73	2.93	3.29	878.8	2.14	1.87	1.68
1459.2	1489.2	2.54	2.51	2.50	1459.2	2.81	3.00	3.35	919.2	1.96	1.70	1.51
1499.5	1529.5	2.54	2.52	2.50	1499.5	2.86	3.02	3.35	939.4	1.85	1.60	1.43
1539.7	1569.7	2.58	2.57	2.55	1539.7	2.94	3.11	3.42	979.8	1.91	1.66	1.49
1600.1	1630.1	2.67	2.65	2.65	1600.1	3.00	3.14	3.42	1000.0	1.69	1.44	1.27

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	17	23	18	30	18	42	39	55	59	65
1	-	19	+0	31	11	30	33	45	40	39	61	56
2	>100	68	69	63	72	65	70	71	60	71	71	>80
3	>100	60	56	62	58	66	56	66	>80	>80	71	77
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: 500.1 MHz; -14.00 dBm.

LO IN: 530.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -20.26 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	27	34	29	41	30	55	54	67	68	76
1	-	20	+0	28	12	32	34	50	45	45	63	63
2	98	56	56	56	56	57	56	60	52	67	64	75
3	>100	42	38	50	41	59	40	52	63	61	53	58
4	>100	83	78	79	72	72	70	71	74	84	72	81
5	>100	76	88	65	55	61	53	61	53	63	75	80
6	>100	88	>90	>90	85	>90	88	89	83	>90	>90	>90
7	>100	87	87	>90	88	85	75	82	71	79	69	76
8	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
9	>100	>90	>90	>90	>90	>90	>90	>90	89	>90	88	>90
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: 500.1 MHz; -4.00 dBm.

LO IN: 530.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -10.25 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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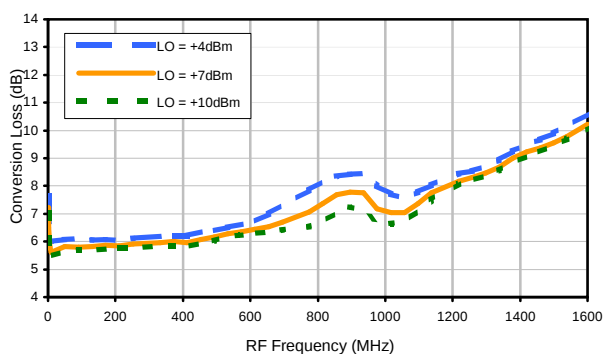


Frequency Mixer

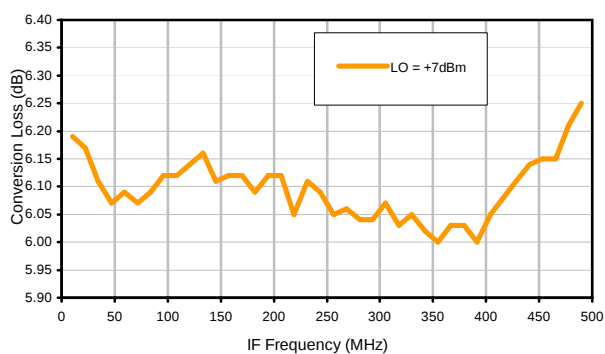
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Typical Performance Curves

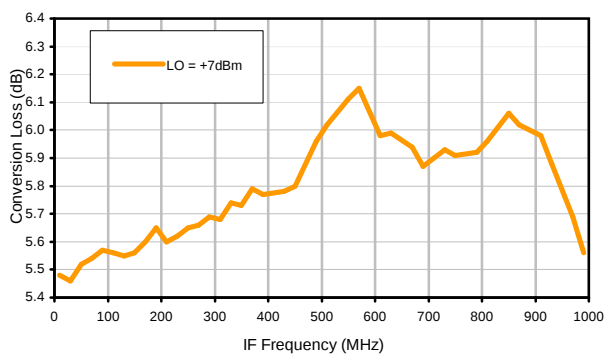
Conversion Loss @ IF=30MHz



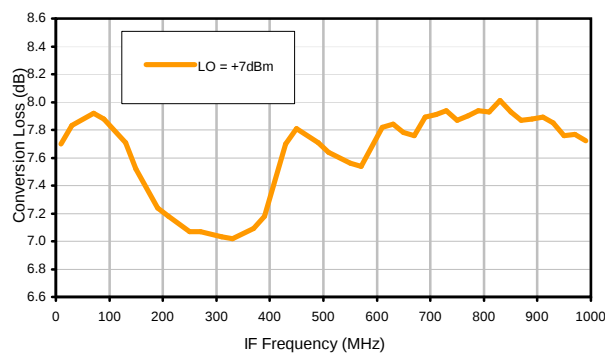
Conversion Loss vs. IF @ RF=500.1MHz



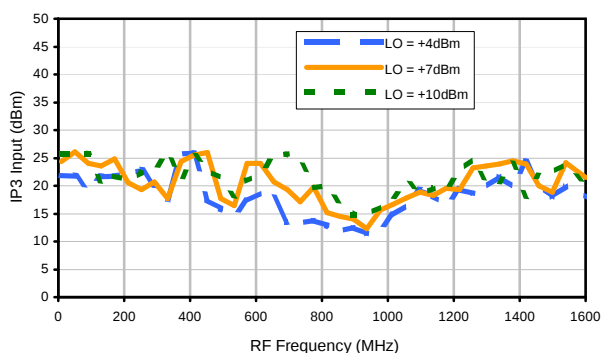
Conversion Loss vs. IF @ RF=10.1MHz



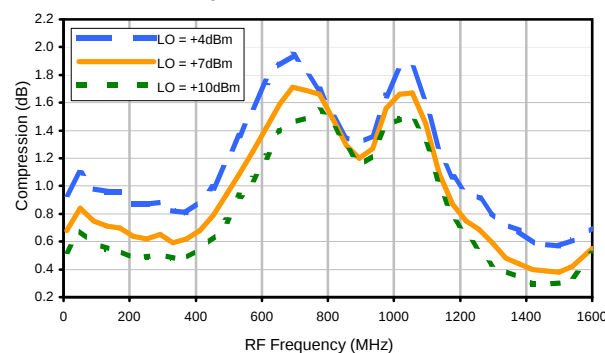
Conversion Loss vs. IF @ RF=1000.1MHz



IP3 Input



Compression @ RF IN=+1dBm



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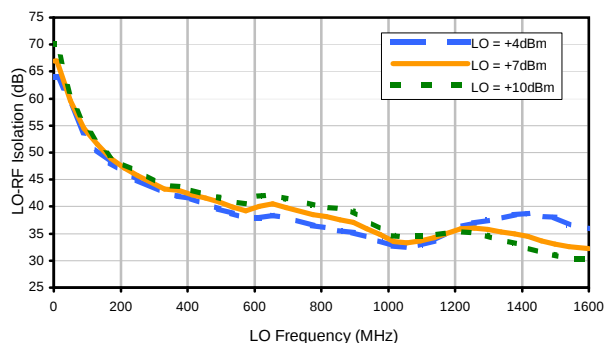


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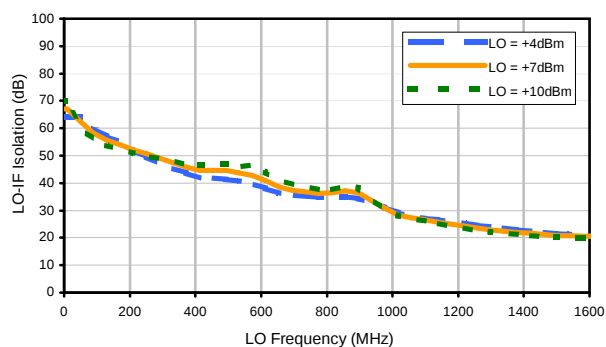


Typical Performance Curves

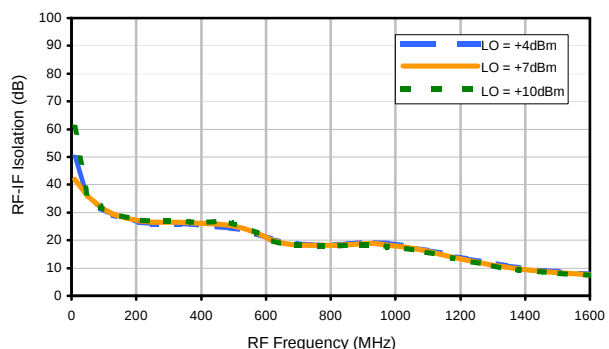
LO-RF Isolation



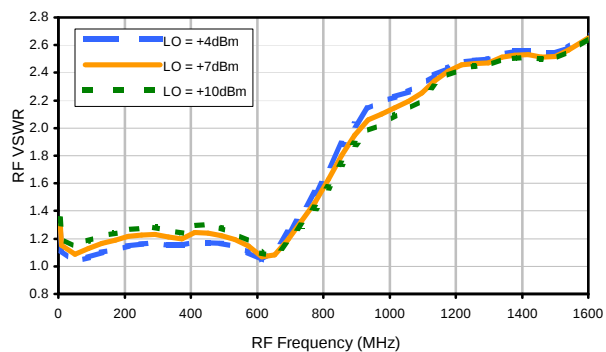
LO-IF Isolation



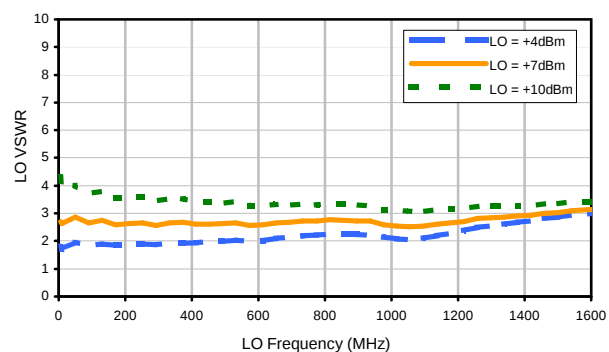
RF-IF Isolation



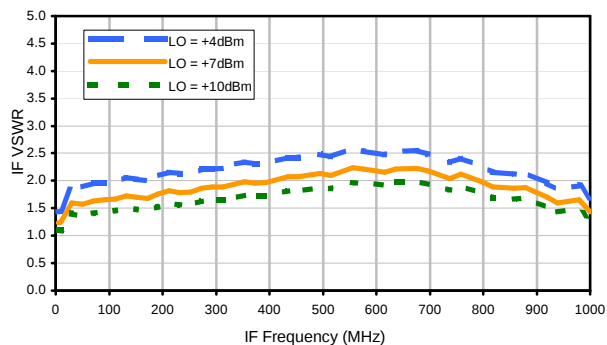
RF VSWR



LO VSWR



IF VSWR



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3	>100	60	56	62	58	66	56	66	>80	>80	71	77
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: 500.1 MHz; -14.00 dBm.
LO IN: 530.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -20.26 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	27	34	29	41	30	55	54	67	68	76
1	-	20	+0	28	12	32	34	50	45	45	63	63
2	98	56	56	56	56	57	56	60	52	67	64	75
3	>100	42	38	50	41	59	40	52	63	61	53	58
4	>100	83	78	79	72	72	70	71	74	84	72	81
5	>100	76	88	65	55	61	53	61	53	63	75	80
6	>100	88	>90	>90	85	>90	88	89	83	>90	>90	>90
7	>100	87	87	>90	88	85	75	82	71	79	69	76
8	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
9	>100	>90	>90	>90	>90	>90	>90	>90	89	>90	88	>90
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: 500.1 MHz; -4.00 dBm.
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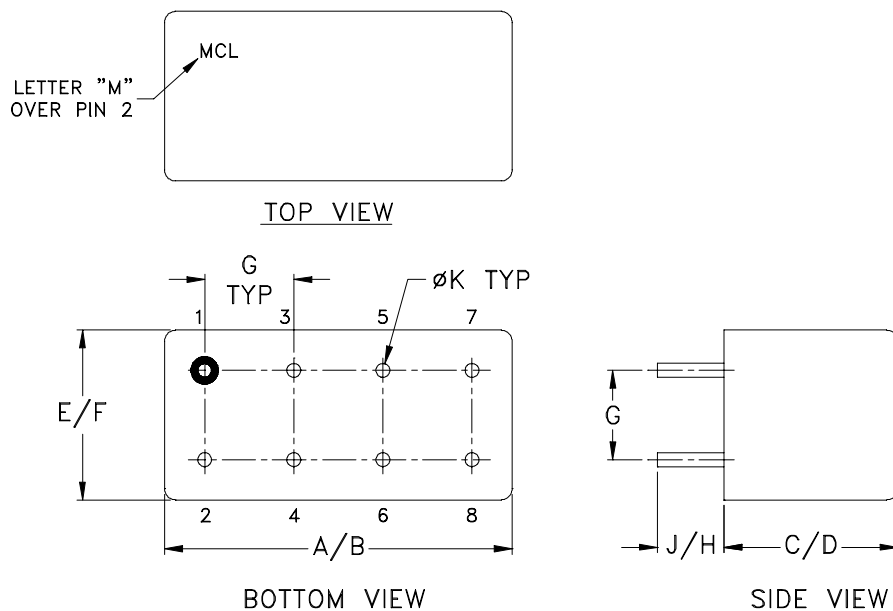
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A03

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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