

Non-Catalog Model

Frequency Mixer

Level 7 (LO Power +7 dBm)

ML-1+
ML-1



CASE STYLE: A01

Important Note

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

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

**+ RoHS compliant in accordance
with EU Directive (2002/95/EC)**

The +Suffix identifies RoHS Compliance. See our web site
for RoHS Compliance methodologies and qualifications.

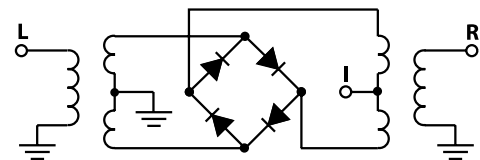
ELECTRICAL SPECIFICATIONS 50Ω @+25°C

Parameter		Min.	Typ.	Max.	Units
LO/RF Frequency		0.5		500	MHz
IF Frequency		DC		500	MHz
Conversion Loss			6.5	8.5	dB
L-R Isolation	low range	45	50		dB
	mid range	30	45		dB
	upper range	25	35		dB
L-I Isolation	low range	35	45		dB
	mid range	25	40		dB
	upper range	20	30		dB
1dB Comp. Input Power			+1		dBm

MAXIMUM RATINGS

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Electrical Schematic



PIN CONNECTIONS

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

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RF/IF MICROWAVE COMPONENTS

REV. OR
M114087
ML-1
071029

Frequency Mixer

ML-1+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)			RF (IN) (MHz)	LO (MHz)	IP-3 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
0.3	30.3	7.28	6.77	6.49	0.3	30.3	10.75	11.45	11.82	0.3	30.3	0.04	0.00	-0.02
0.5	30.5	6.85	6.37	6.11	0.5	30.5	15.12	16.44	17.20	0.5	30.5	0.09	0.02	0.00
0.7	30.7	6.73	6.25	6.00	0.7	30.7	15.55	18.61	19.87	0.7	30.7	0.07	0.00	-0.03
0.9	30.9	6.65	6.18	5.93	0.9	30.9	15.53	18.48	20.27	0.9	30.9	0.05	-0.02	-0.04
2.1	32.1	6.37	5.91	5.65	2.1	32.1	15.74	18.63	20.28	2.1	32.1	0.08	0.00	-0.02
10.1	40.1	5.90	5.47	5.24	10.1	40.1	16.30	19.75	21.16	10.1	40.1	0.17	0.05	0.01
28.1	58.1	5.92	5.49	5.27	28.1	58.1	17.21	19.97	25.23	28.1	58.1	0.19	0.08	0.03
40.1	70.1	5.92	5.49	5.27	40.1	70.1	17.28	23.21	18.89	40.1	70.1	0.22	0.09	0.04
52.1	82.1	6.00	5.54	5.30	52.1	82.1	18.05	22.20	15.93	52.1	82.1	0.21	0.08	0.03
64.1	94.1	6.12	5.59	5.32	64.1	94.1	19.56	19.61	14.62	64.1	94.1	0.16	0.06	0.03
76.1	106.1	5.95	5.47	5.25	76.1	106.1	22.09	15.98	14.21	76.1	106.1	0.23	0.10	0.04
88.1	118.1	5.91	5.47	5.30	88.1	118.1	20.45	14.53	14.25	88.1	118.1	0.26	0.13	0.05
120.1	150.1	5.92	5.51	5.30	120.1	150.1	15.46	12.60	15.48	120.1	150.1	0.27	0.11	0.04
140.1	170.1	5.91	5.52	5.36	140.1	170.1	13.04	12.70	16.68	140.1	170.1	0.30	0.12	0.04
160.1	190.1	5.98	5.54	5.36	160.1	190.1	12.12	13.08	17.34	160.1	190.1	0.26	0.11	0.05
180.1	210.1	5.85	5.49	5.33	180.1	210.1	11.30	14.50	24.49	180.1	210.1	0.29	0.09	0.03
200.1	230.1	5.90	5.62	5.47	200.1	230.1	11.04	14.09	20.87	200.1	230.1	0.31	0.09	0.03
230.1	260.1	5.84	5.50	5.34	230.1	260.1	11.22	15.05	21.49	230.1	260.1	0.30	0.11	0.06
250.1	280.1	5.90	5.57	5.43	250.1	280.1	12.82	16.10	22.52	250.1	280.1	0.28	0.14	0.09
270.1	300.1	5.90	5.58	5.41	270.1	300.1	15.43	15.92	14.28	270.1	300.1	0.26	0.12	0.09
290.1	320.1	5.96	5.65	5.49	290.1	320.1	17.19	12.91	10.33	290.1	320.1	0.25	0.09	0.06
310.1	340.1	6.13	5.80	5.63	310.1	340.1	15.14	14.32	11.58	310.1	340.1	0.20	0.07	0.03
330.1	360.1	6.06	5.68	5.50	330.1	360.1	12.38	18.53	14.81	330.1	360.1	0.20	0.09	0.05
360.1	390.1	6.11	5.72	5.52	360.1	390.1	13.38	15.78	21.77	360.1	390.1	0.22	0.15	0.09
380.1	410.1	6.15	5.83	5.63	380.1	410.1	15.60	14.33	21.19	380.1	410.1	0.17	0.07	0.02
400.1	430.1	6.11	5.87	5.72	400.1	430.1	15.53	11.19	11.06	400.1	430.1	0.38	0.15	0.12
420.1	450.1	6.16	5.92	5.80	420.1	450.1	17.27	11.33	9.75	420.1	450.1	0.40	0.16	0.14
440.1	470.1	6.12	5.88	5.78	440.1	470.1	20.50	12.00	10.40	440.1	470.1	0.45	0.22	0.17
470.1	500.1	6.41	6.15	6.05	470.1	500.1	15.80	14.24	12.15	470.1	500.1	0.52	0.21	0.10
500.1	530.1	6.54	6.15	5.95	500.1	530.1	16.32	12.51	11.77	500.1	530.1	0.62	0.29	0.10
510.1	540.1	6.66	6.20	5.96	510.1	540.1	16.33	11.95	12.44	510.1	540.1	0.55	0.26	0.08
530.1	560.1	6.79	6.22	5.97	530.1	560.1	13.11	11.69	13.52	530.1	560.1	0.52	0.28	0.07
550.1	580.1	6.94	6.25	5.96	550.1	580.1	8.21	11.33	13.53	550.1	580.1	0.54	0.38	0.12
570.1	600.1	7.21	6.49	6.08	570.1	600.1	4.25	9.56	13.07	570.1	600.1	0.50	0.42	0.20
600.1	630.1	7.66	7.10	6.49	600.1	630.1	1.39	3.64	9.57	600.1	630.1	0.55	0.41	0.33
620.1	650.1	8.10	7.56	6.86	620.1	650.1	0.88	1.57	6.68	620.1	650.1	0.33	0.19	0.20
640.1	670.1	8.58	8.02	7.29	640.1	670.1	0.76	0.61	4.53	640.1	670.1	0.04	-0.09	-0.02
660.1	690.1	9.21	8.57	7.78	660.1	690.1	0.96	0.35	2.87	660.1	690.1	-0.48	-0.53	-0.38
680.1	710.1	9.80	9.16	8.42	680.1	710.1	1.30	0.51	1.59	680.1	710.1	-1.05	-1.06	-0.90
700.1	730.1	10.11	9.49	8.88	700.1	730.1	1.78	1.02	1.17	700.1	730.1	-1.35	-1.36	-1.26

Frequency Mixer

ML-1+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=250.25MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=0.5MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=500MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
240.2	10.1	5.78	9.6	10.1	6.25	489.9	10.1	6.75
228.2	22.1	5.75	29.6	30.1	6.31	482.9	17.1	6.68
216.2	34.1	5.76	49.6	50.1	6.37	468.9	31.1	6.54
204.2	46.1	5.73	69.6	70.1	6.45	454.9	45.1	6.40
192.2	58.1	5.82	89.6	90.1	6.34	440.9	59.1	6.37
180.2	70.1	5.74	109.6	110.1	6.40	433.9	66.1	6.30
168.2	82.1	5.67	129.6	130.1	6.51	419.9	80.1	6.12
156.2	94.1	5.55	149.6	150.1	6.50	405.9	94.1	6.17
144.2	106.1	5.48	169.6	170.1	6.54	391.9	108.1	6.04
132.2	118.1	5.48	189.6	190.1	6.52	384.9	115.1	6.04
120.2	130.1	5.48	209.6	210.1	6.52	370.9	129.1	5.99
108.2	142.1	5.51	229.6	230.1	6.60	356.9	143.1	5.92
96.2	154.1	5.45	249.6	250.1	6.64	342.9	157.1	5.87
84.2	166.1	5.50	269.6	270.1	6.67	328.9	171.1	5.83
72.2	178.1	5.48	289.6	290.1	6.73	321.9	178.1	5.88
60.2	190.1	5.37	309.6	310.1	6.71	307.9	192.1	5.83
48.2	202.1	5.44	329.6	330.1	6.72	293.9	206.1	5.99
36.2	214.1	5.46	349.6	350.1	6.75	279.9	220.1	5.89
24.2	226.1	5.50	369.6	370.1	6.86	272.9	227.1	5.94
12.2	238.1	5.48	389.6	390.1	7.22	258.9	241.1	5.99
1.9	252.1	5.32	409.6	410.1	7.50	244.9	255.1	5.97
26.9	277.1	5.55	429.6	430.1	7.59	230.9	269.1	5.96
51.9	302.1	5.55	449.6	450.1	7.55	223.9	276.1	5.96
76.9	327.1	5.68	469.6	470.1	7.51	209.9	290.1	6.06
101.9	352.1	5.81	489.6	490.1	7.42	195.9	304.1	6.09
126.9	377.1	5.76	509.6	510.1	7.20	181.9	318.1	6.07
151.9	402.1	5.85	529.6	530.1	6.98	167.9	332.1	5.93
176.9	427.1	6.00	549.6	550.1	6.78	160.9	339.1	5.89
206.9	457.1	6.00	569.6	570.1	6.72	146.9	353.1	5.87
231.9	482.1	5.96	589.6	590.1	6.78	132.9	367.1	5.99
256.9	507.1	6.17	609.6	610.1	6.83	118.9	381.1	6.02
281.9	532.1	6.22	629.6	630.1	6.86	111.9	388.1	6.03
306.9	557.1	6.25	649.6	650.1	6.85	97.9	402.1	6.12
331.9	582.1	6.24	669.6	670.1	6.83	83.9	416.1	6.04
356.9	607.1	6.54	689.6	690.1	6.78	69.9	430.1	6.14
381.9	632.1	6.58	709.6	710.1	6.80	62.9	437.1	6.12
411.9	662.1	6.45	729.6	730.1	6.91	48.9	451.1	6.10
436.9	687.1	6.38	749.6	750.1	7.03	34.9	465.1	6.14
461.9	712.1	6.55	769.6	770.1	7.26	20.9	479.1	6.14
486.9	737.1	6.66	799.6	800.1	7.79	6.9	493.1	5.96

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
30.3	65.99	67.23	68.12	63.13	60.99	59.31
30.5	65.73	67.25	68.43	62.48	60.68	59.13
30.7	65.34	66.98	68.44	62.49	60.82	59.12
30.9	65.36	66.65	68.06	63.21	60.98	59.22
32.1	64.96	66.46	67.83	62.71	60.54	58.87
40.1	63.36	64.62	65.81	61.90	59.29	57.64
58.1	59.93	61.23	62.45	59.57	56.63	54.74
70.1	58.27	59.38	60.69	58.88	55.65	53.60
82.1	56.62	57.78	59.20	57.64	53.77	51.79
94.1	55.39	56.45	57.83	57.24	53.07	50.99
106.1	54.13	55.42	56.95	56.18	52.18	50.08
118.1	53.06	54.63	56.02	55.39	51.87	49.64
150.1	50.78	52.60	54.03	53.91	51.03	48.93
170.1	49.71	51.28	52.56	52.74	49.09	47.10
190.1	48.38	49.81	50.84	51.44	48.57	46.09
210.1	47.95	49.34	50.35	49.23	47.84	46.89
230.1	47.03	48.56	49.56	49.74	46.87	44.60
260.1	45.94	47.29	48.21	46.74	46.29	45.15
280.1	44.99	46.11	46.68	44.12	44.21	43.77
300.1	43.72	44.82	45.57	41.03	41.74	42.30
320.1	43.23	44.16	45.11	42.13	40.99	40.46
340.1	43.26	43.99	44.77	43.08	42.16	41.86
360.1	43.06	43.43	43.85	42.13	41.34	41.14
390.1	42.50	43.17	43.19	40.56	40.24	39.73
410.1	41.81	42.83	43.15	39.72	40.41	40.13
430.1	41.21	42.27	42.76	39.10	40.38	40.91
450.1	40.52	41.41	41.81	38.20	39.87	40.84
470.1	39.54	40.38	40.72	37.38	39.48	41.05
500.1	37.35	38.50	39.19	35.63	38.45	41.51
530.1	35.66	36.68	37.70	31.62	34.20	36.85
540.1	35.73	36.46	37.38	31.98	33.08	35.04
560.1	35.62	35.90	36.66	34.36	33.02	34.21
580.1	35.42	35.54	36.14	36.80	33.45	34.19
600.1	35.58	35.79	36.31	38.76	34.47	34.59
630.1	35.36	36.07	36.50	38.79	37.78	36.07
650.1	34.77	35.64	36.15	38.78	39.66	37.87
670.1	34.22	35.04	35.64	38.92	40.57	39.97
690.1	33.44	34.13	34.64	39.20	41.28	42.65
710.1	33.12	33.84	34.48	40.09	42.31	44.62
730.1	33.13	33.79	34.47	40.73	42.47	44.03

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
0.3	30.3	74.56	62.82	59.10
0.5	30.5	77.46	63.85	59.10
0.7	30.7	67.50	63.37	58.77
0.9	30.9	71.96	62.81	58.71
2.1	32.1	64.70	65.17	55.67
10.1	40.1	53.28	52.90	51.56
28.1	58.1	42.60	43.36	44.63
40.1	70.1	40.22	41.17	41.74
52.1	82.1	38.04	38.87	39.63
64.1	94.1	36.27	37.24	37.96
76.1	106.1	35.47	36.51	37.14
88.1	118.1	34.02	35.04	35.72
120.1	150.1	32.16	33.10	33.70
140.1	170.1	30.96	31.82	32.43
160.1	190.1	30.46	31.39	32.05
180.1	210.1	30.43	31.52	32.19
200.1	230.1	29.33	30.38	31.22
230.1	260.1	28.90	29.99	30.87
250.1	280.1	28.31	29.54	30.62
270.1	300.1	28.28	29.30	30.32
290.1	320.1	28.22	29.18	30.07
310.1	340.1	27.37	28.52	29.18
330.1	360.1	27.54	29.12	30.29
360.1	390.1	26.80	28.36	29.47
380.1	410.1	26.95	28.10	29.18
400.1	430.1	25.72	26.49	27.24
420.1	450.1	24.82	25.52	26.04
440.1	470.1	24.12	24.68	25.07
470.1	500.1	23.59	24.11	24.48
500.1	530.1	23.18	23.79	24.35
510.1	540.1	22.92	23.77	24.46
530.1	560.1	22.58	23.64	24.47
550.1	580.1	22.66	23.74	24.61
570.1	600.1	23.08	24.11	25.14
600.1	630.1	23.00	23.83	25.02
620.1	650.1	22.60	23.40	24.83
640.1	670.1	22.34	23.14	24.57
660.1	690.1	22.61	23.43	24.83
680.1	710.1	23.46	24.11	25.17
700.1	730.1	24.49	25.16	26.03

Frequency Mixer

ML-1+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=500MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
0.3	30.3	2.36	2.23	2.16	30.3	1.02	1.55	2.32	0.3	2.14	1.87	1.65
0.5	30.5	1.74	1.66	1.62	30.5	1.02	1.55	2.32	0.4	2.13	1.86	1.64
0.7	30.7	1.55	1.47	1.44	30.7	1.02	1.55	2.32	0.6	2.13	1.86	1.64
0.9	30.9	1.47	1.39	1.36	30.9	1.02	1.55	2.32	0.7	2.13	1.86	1.64
2.1	32.1	1.41	1.28	1.22	32.1	1.02	1.55	2.31	0.9	2.13	1.86	1.64
10.1	40.1	1.40	1.24	1.14	40.1	1.01	1.52	2.23	2.1	2.15	1.87	1.66
28.1	58.1	1.38	1.22	1.12	58.1	1.03	1.49	2.15	5.1	2.13	1.86	1.64
40.1	70.1	1.34	1.19	1.10	70.1	1.01	1.50	2.17	16.1	2.17	1.89	1.67
52.1	82.1	1.33	1.19	1.09	82.1	1.01	1.52	2.22	28.1	2.22	1.94	1.71
64.1	94.1	1.37	1.21	1.11	94.1	1.02	1.55	2.28	34.1	2.22	1.94	1.71
76.1	106.1	1.31	1.16	1.09	106.1	1.01	1.59	2.36	46.1	2.19	1.91	1.69
88.1	118.1	1.29	1.14	1.07	118.1	1.01	1.54	2.25	58.1	2.16	1.89	1.67
120.1	150.1	1.28	1.15	1.10	150.1	1.01	1.47	2.08	64.1	2.17	1.90	1.68
140.1	170.1	1.26	1.11	1.08	170.1	1.04	1.53	2.19	76.1	2.24	1.96	1.74
160.1	190.1	1.26	1.11	1.07	190.1	1.03	1.62	2.37	82.1	2.26	1.99	1.76
180.1	210.1	1.20	1.09	1.09	210.1	1.05	1.63	2.36	94.1	2.26	1.99	1.77
200.1	230.1	1.18	1.08	1.10	230.1	1.05	1.54	2.19	119.1	2.22	1.96	1.75
230.1	260.1	1.11	1.06	1.15	260.1	1.07	1.61	2.29	129.1	2.30	2.03	1.81
250.1	280.1	1.11	1.06	1.17	280.1	1.10	1.70	2.43	149.1	2.37	2.10	1.88
270.1	300.1	1.11	1.02	1.11	300.1	1.14	1.74	2.49	169.1	2.30	2.04	1.84
290.1	320.1	1.07	1.03	1.10	320.1	1.16	1.72	2.42	179.1	2.36	2.10	1.90
310.1	340.1	1.05	1.07	1.14	340.1	1.18	1.71	2.39	199.1	2.48	2.22	2.01
330.1	360.1	1.07	1.16	1.25	360.1	1.22	1.78	2.49	219.1	2.45	2.20	2.00
360.1	390.1	1.07	1.18	1.31	390.1	1.31	1.97	2.76	229.1	2.46	2.20	2.00
380.1	410.1	1.08	1.20	1.33	410.1	1.33	1.95	2.70	249.1	2.59	2.32	2.10
400.1	430.1	1.09	1.22	1.32	430.1	1.35	1.92	2.61	269.1	2.60	2.35	2.14
420.1	450.1	1.10	1.23	1.33	450.1	1.36	1.94	2.65	279.1	2.58	2.33	2.13
440.1	470.1	1.15	1.29	1.37	470.1	1.43	2.07	2.85	299.1	2.72	2.45	2.23
470.1	500.1	1.16	1.30	1.37	500.1	1.55	2.17	2.93	309.1	2.77	2.51	2.29
500.1	530.1	1.14	1.25	1.30	530.1	1.57	2.11	2.79	329.1	2.71	2.45	2.25
510.1	540.1	1.12	1.24	1.29	540.1	1.60	2.15	2.86	349.1	2.79	2.51	2.29
530.1	560.1	1.08	1.21	1.26	560.1	1.69	2.27	3.00	359.1	2.95	2.66	2.43
550.1	580.1	1.06	1.17	1.22	580.1	1.80	2.43	3.19	379.1	2.95	2.67	2.45
570.1	600.1	1.09	1.11	1.16	600.1	1.87	2.54	3.30	399.1	2.93	2.64	2.41
600.1	630.1	1.19	1.12	1.10	630.1	1.90	2.55	3.28	409.1	3.06	2.75	2.50
620.1	650.1	1.25	1.17	1.10	650.1	1.92	2.57	3.34	429.1	3.09	2.79	2.55
640.1	670.1	1.34	1.26	1.18	670.1	2.03	2.75	3.59	449.1	3.02	2.70	2.47
660.1	690.1	1.48	1.40	1.31	690.1	2.16	2.90	3.78	459.1	3.10	2.75	2.51
680.1	710.1	1.62	1.54	1.46	710.1	2.19	2.88	3.72	479.1	3.28	2.95	2.70
700.1	730.1	1.80	1.72	1.65	730.1	2.21	2.86	3.66	499.1	3.21	2.91	2.69

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	18.81	32.34	26.35	30.12	22.62	40.04	31.88	44.59	30.83	40.40
1	---	23.87	---	34.92	13.44	41.10	21.11	38.78	37.76	56.66	32.24	50.52
2	117.74	73.58	71.51	71.05	64.23	72.40	61.35	73.89	55.75	72.42	79.12	74.10
3	120.40	69.28	61.84	71.51	68.25	87.51	58.56	72.01	56.33	82.59	63.84	89.10
4	121.36	92.61	84.91	88.86	86.36	87.66	81.00	89.86	82.05	95.23	83.81	91.85
5	121.83	97.49	90.72	93.03	86.09	95.43	80.48	96.69	81.44	95.86	80.02	97.94
6	119.80	97.24	98.67	97.35	98.41	95.75	95.34	94.26	95.15	97.08	96.78	100.48
7	120.94	97.79	96.77	97.80	97.58	97.31	94.12	96.75	92.42	96.71	98.09	98.16
8	120.36	98.75	97.47	98.36	98.63	97.61	98.42	93.95	96.70	91.25	96.60	97.09
9	118.45	96.24	99.00	98.10	100.06	98.84	96.64	95.56	90.60	95.42	91.56	98.14
10	117.97	96.08	99.08	97.56	98.81	97.44	98.16	96.19	96.90	91.76	95.64	93.69
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 250.25 MHz; -15.00 dBm.
LO IN: 280.25 MHz; +7.00 dBm
IF OUT: 30.00 MHz; -20.47 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	27.07	42.47	36.01	40.84	35.22	52.34	42.60	57.32	42.40	53.81
1	---	24.23	---	34.59	13.16	43.17	20.13	38.92	38.23	57.08	38.10	53.60
2	107.75	77.21	67.07	71.35	61.14	72.30	62.58	65.42	52.24	67.51	60.52	73.62
3	110.41	56.82	47.12	59.27	56.13	70.37	51.13	59.99	51.09	81.46	54.10	72.61
4	111.37	91.34	71.12	82.46	87.39	85.12	71.38	82.69	69.77	91.99	68.07	84.56
5	111.84	75.77	65.82	72.29	71.74	73.18	62.10	85.01	57.38	74.63	56.12	77.85
6	109.81	99.54	83.69	94.82	86.53	88.35	86.82	90.78	77.14	92.31	76.42	106.46
7	110.95	92.36	85.37	82.33	84.18	81.94	80.88	83.72	70.36	94.97	68.49	84.69
8	110.37	107.47	94.62	102.84	99.13	98.38	104.66	95.95	88.31	96.24	84.53	97.49
9	108.46	106.26	92.30	100.80	92.38	90.62	97.51	90.95	83.22	92.32	78.76	101.52
10	107.98	106.53	104.77	108.17	103.93	103.89	105.60	106.00	101.61	101.28	95.39	102.05
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 250.25 MHz; -5.00 dBm.
LO IN: 280.25 MHz; +7.00 dBm
IF OUT: 30.00 MHz; -10.48 dBm

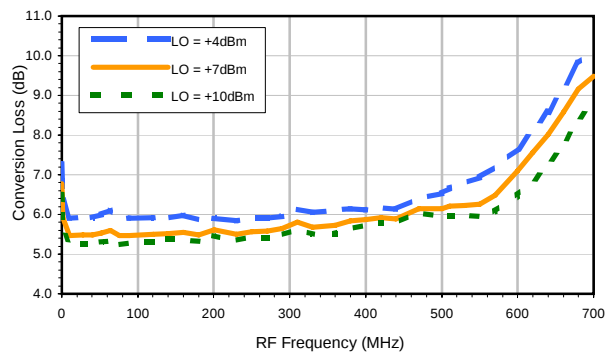
- Notes:
1. All Harmonics are in (dBc) relative to IF OUTPUT
 2. + entry denotes harmonics are in (dBc) above IF OUTPUT
 3. RF Cal represents the Harmonics level of the RF Input Signal to the mixer

Frequency Mixer

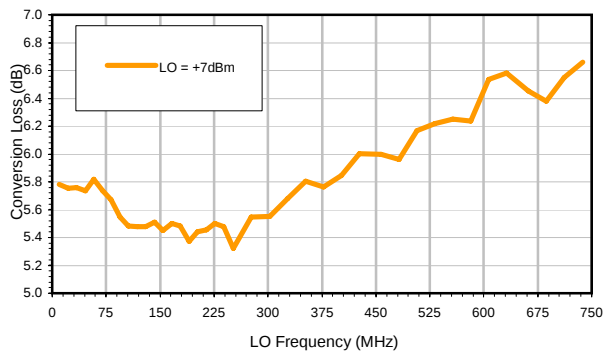
Typical Performance Curves

ML-1+

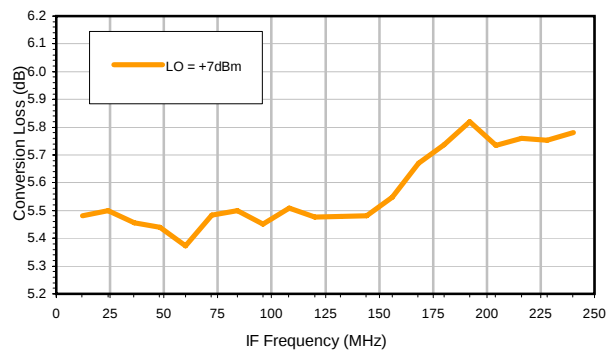
Conversion Loss @IF=30 MHz



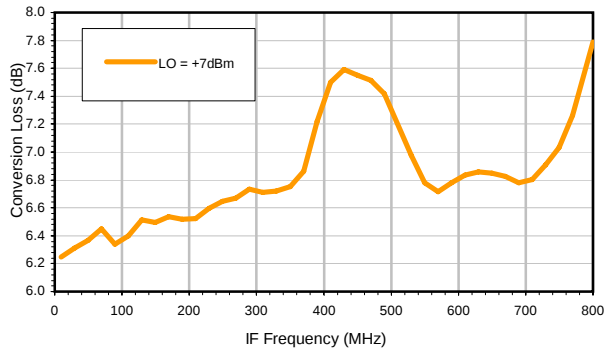
Conversion Loss vs. LO @ RF=250.25 MHz



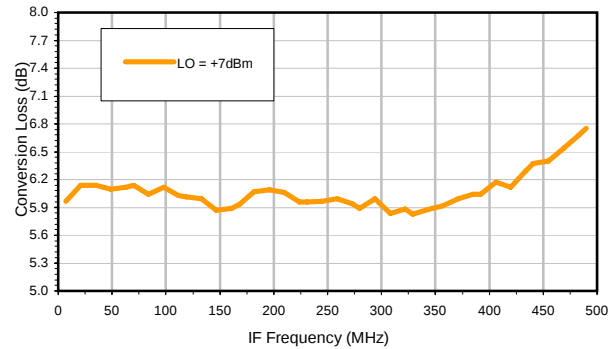
Conversion Loss vs. IF @ RF=250.25 MHz



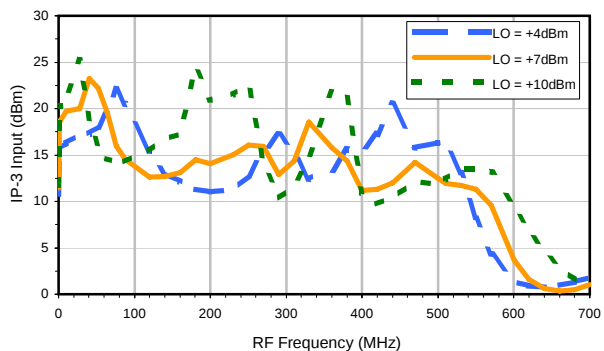
Conversion Loss vs. IF @ RF=0.5 MHz



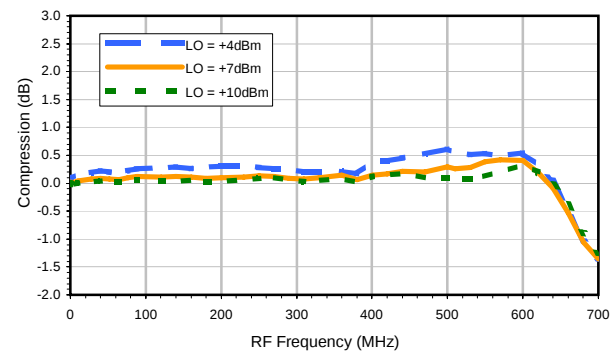
Conversion Loss vs. IF @ RF=500 MHz



IP-3 Input

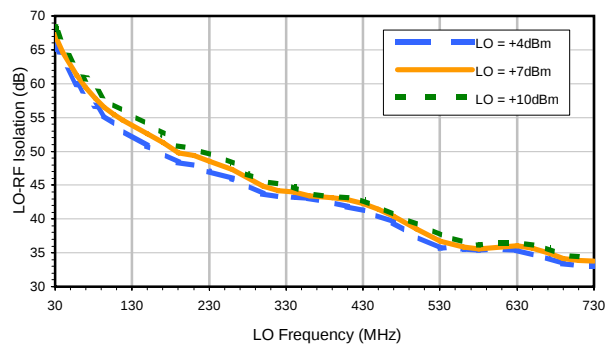


Compression @RF IN=+1 dBm

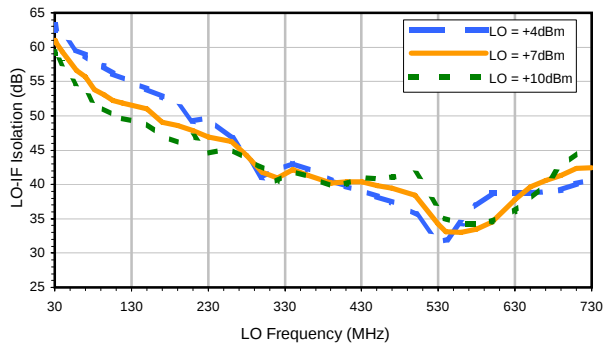


Typical Performance Curves

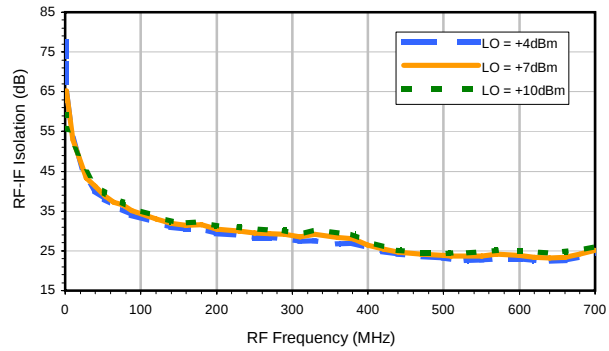
LO-RF Isolation



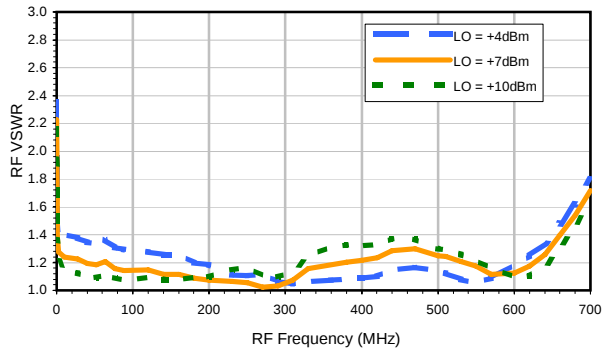
LO-IF Isolation



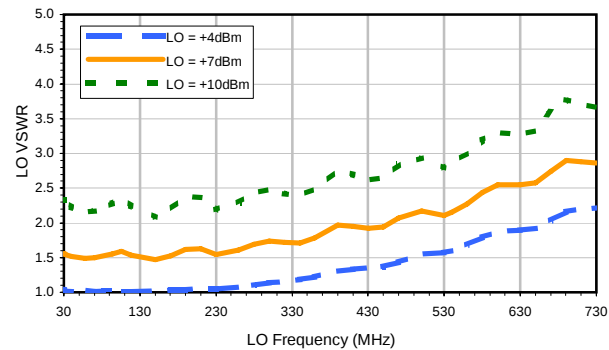
RF-IF Isolation



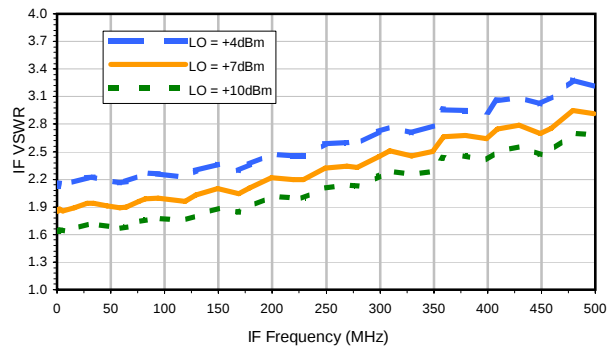
RF VSWR



LO VSWR



IF VSWR



Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	18.81	32.34	26.35	30.12	22.62	40.04	31.88	44.59	30.83	40.40
1	---	23.87	---	34.92	13.44	41.10	21.11	38.78	37.76	56.66	32.24	50.52
2	117.74	73.58	71.51	71.05	64.23	72.40	61.35	73.89	55.75	72.42	79.12	74.10
3	120.40	69.28	61.84	71.51	68.25	87.51	58.56	72.01	56.33	82.59	63.84	89.10
4	121.36	92.61	84.91	88.86	86.36	87.66	81.00	89.86	82.05	95.23	83.81	91.85
5	121.83	97.49	90.72	93.03	86.09	95.43	80.48	96.69	81.44	95.86	80.02	97.94
6	119.80	97.24	98.67	97.35	98.41	95.75	95.34	94.26	95.15	97.08	96.78	100.48
7	120.94	97.79	96.77	97.80	97.58	97.31	94.12	96.75	92.42	96.71	98.09	98.16
8	120.36	98.75	97.47	98.36	98.63	97.61	98.42	93.95	96.70	91.25	96.60	97.09
9	118.45	96.24	99.00	98.10	100.06	98.84	96.64	95.56	90.60	95.42	91.56	98.14
10	117.97	96.08	99.08	97.56	98.81	97.44	98.16	96.19	96.90	91.76	95.64	93.69
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 250.25 MHz; -15.00 dBm.
LO IN: 280.25 MHz; +7.00 dBm
IF OUT: 30.00 MHz; -20.47 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	---	---	27.07	42.47	36.01	40.84	35.22	52.34	42.60	57.32	42.40	53.81
1	---	24.23	---	34.59	13.16	43.17	20.13	38.92	38.23	57.08	38.10	53.60
2	107.75	77.21	67.07	71.35	61.14	72.30	62.58	65.42	52.24	67.51	60.52	73.62
3	110.41	56.82	47.12	59.27	56.13	70.37	51.13	59.99	51.09	81.46	54.10	72.61
4	111.37	91.34	71.12	82.46	87.39	85.12	71.38	82.69	69.77	91.99	68.07	84.56
5	111.84	75.77	65.82	72.29	71.74	73.18	62.10	85.01	57.38	74.63	56.12	77.85
6	109.81	99.54	83.69	94.82	86.53	88.35	86.82	90.78	77.14	92.31	76.42	106.46
7	110.95	92.36	85.37	82.33	84.18	81.94	80.88	83.72	70.36	94.97	68.49	84.69
8	110.37	107.47	94.62	102.84	99.13	98.38	104.66	95.95	88.31	96.24	84.53	97.49
9	108.46	106.26	92.30	100.80	92.38	90.62	97.51	90.95	83.22	92.32	78.76	101.52
10	107.98	106.53	104.77	108.17	103.93	103.89	105.60	106.00	101.61	101.28	95.39	102.05
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

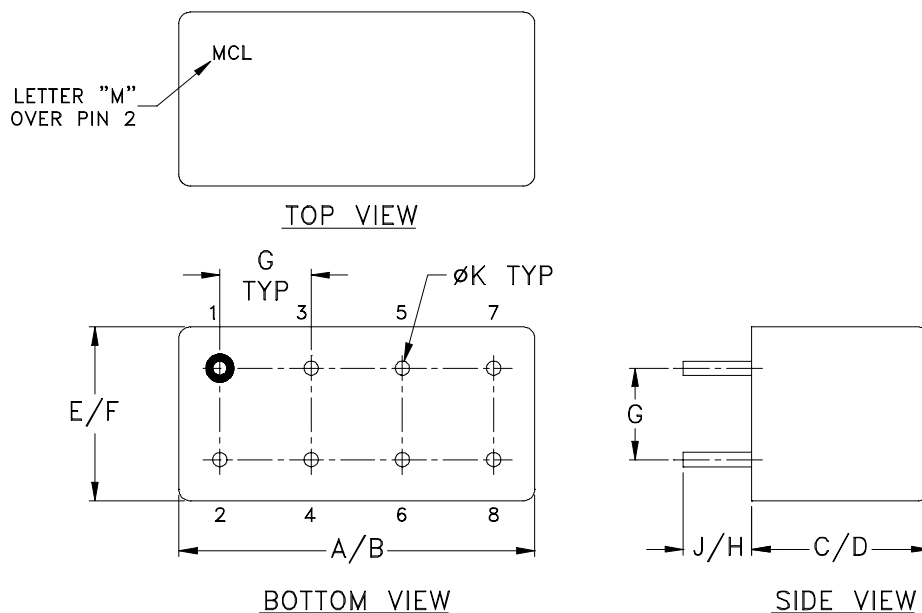
LO HARMONICS ORDER

Test conditions: RF IN: 250.25 MHz; -5.00 dBm.
LO IN: 280.25 MHz; +7.00 dBm
IF OUT: 30.00 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 represents the Harmonics level of the RF Input Signal to the mixer

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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