

Non-Catalog Model

Frequency Mixer

TUF-3H

Level 17 (LO Power +17 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 : B02

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	0.15		400	MHz
	RF (fL to fU)	0.15		400	MHz
	IF	0		400	MHz
Conversion Loss	mid band		5.0	7.0	dB
	Total Range			8.0	dB
LO-RF Isolation	Low Range	50	60		dB
	Mid Range	35	50		dB
	Upper Range	30	40		dB
LO-IF Isolation	Low Range	40	60		dB
	Mid Range	25	45		dB
	Upper Range	20	35		dB
IP3 Input		+27.5	+30		dBm
1 dB Comp. Input Power			+14		dBm

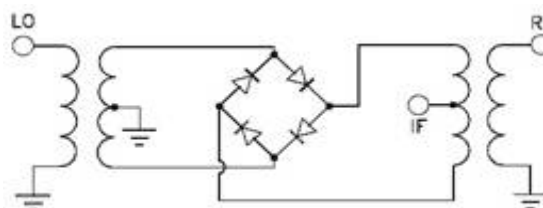
Notes: Low Range = [fL to 10fL] Mid Range = [10fL to fU/2] Upper Range = [fU/2 to fU]
mid band = [2fL to fU/2]

IP3 : RF Power = 0 dBm @ 200 MHz & 202 MHz , LO Power = +17 dBm @ 180 MHz
Non-hermetic

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

PIN CONNECTIONS	
LO	4
RF	1
IF	2
GROUND	3

Electrical Schematics



Frequency Mixer

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+14	+17	+20
0.1	30.1	5.71	5.43	5.26
5.0	35.0	5.24	4.99	4.92
10.0	40.0	5.17	4.91	4.78
30.6	60.6	5.65	5.18	4.95
51.1	81.1	5.56	5.17	4.99
71.6	101.6	5.51	5.15	4.98
92.1	122.1	5.61	5.19	5.01
112.5	142.5	5.52	5.17	5.01
133.0	163.0	5.53	5.20	5.06
153.5	183.5	5.61	5.28	5.11
174.0	204.0	5.55	5.26	5.12
194.5	224.5	5.57	5.21	5.08
215.0	245.0	5.70	5.33	5.13
256.0	286.0	5.89	5.62	5.42
276.4	306.4	5.83	5.59	5.43
296.9	326.9	5.78	5.53	5.38
317.4	347.4	5.83	5.54	5.38
337.9	367.9	5.91	5.52	5.37
358.4	388.4	6.15	5.63	5.44
378.9	408.9	6.38	5.89	5.59
399.4	429.4	6.43	6.09	5.80
419.9	449.9	6.63	6.33	6.10
440.3	470.3	6.92	6.60	6.36
460.8	490.8	7.31	6.95	6.67
481.3	511.3	7.85	7.42	6.99
501.8	531.8	8.52	7.94	7.27
522.3	552.3	9.14	8.28	7.22
542.8	572.8	9.47	8.20	6.83
563.3	593.3	9.52	7.90	6.48
583.8	613.8	9.27	7.43	6.48
604.2	634.2	8.98	7.20	6.54
624.7	654.7	8.67	7.28	6.75
645.2	675.2	8.64	7.46	7.00
665.7	695.7	8.59	7.66	7.27
686.2	716.2	8.69	7.89	7.52
706.7	736.7	8.82	8.19	7.82
727.2	757.2	9.07	8.45	8.09
768.1	798.1	9.37	8.80	8.51
829.6	859.6	10.42	9.55	9.37
850.1	880.1	10.72	10.00	9.84

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	29.35	31.52	31.15
30.6	60.6	27.76	29.93	28.56
51.1	81.1	30.49	27.55	27.71
71.6	101.6	28.00	26.25	29.63
92.1	122.1	24.25	25.69	32.79
112.5	142.5	28.00	32.52	28.86
133.0	163.0	23.07	28.48	26.16
153.5	183.5	25.72	29.72	28.98
174.0	204.0	29.80	25.81	24.59
194.5	224.5	31.04	24.15	23.06
215.0	245.0	24.52	23.15	23.02
235.5	265.5	23.66	21.59	21.99
256.0	286.0	25.94	23.53	22.48
276.4	306.4	29.14	27.61	26.68
296.9	326.9	30.11	28.87	26.78
317.4	347.4	30.10	24.59	23.34
337.9	367.9	21.84	21.96	22.31
358.4	388.4	18.94	22.12	22.18
378.9	408.9	15.23	16.74	20.48
399.4	429.4	14.46	14.09	17.09
419.9	449.9	13.96	12.94	13.44
440.3	470.3	13.54	12.79	12.66
460.8	490.8	13.13	12.74	12.82
481.3	511.3	12.71	12.82	13.54
501.8	531.8	12.38	13.04	14.59
522.3	552.3	12.77	14.10	16.62
542.8	572.8	13.27	14.88	19.27
563.3	593.3	13.66	16.12	23.77
583.8	613.8	14.51	19.45	26.26
604.2	634.2	15.87	23.91	29.02
624.7	654.7	19.00	26.81	28.99
645.2	675.2	22.73	27.01	27.54
665.7	695.7	24.76	26.90	25.50
686.2	716.2	23.51	25.56	25.23
706.7	736.7	24.92	24.89	26.02
727.2	757.2	24.47	24.56	25.60
768.1	798.1	23.49	24.88	26.82
788.6	818.6	24.15	26.97	28.98
829.6	859.6	21.98	27.73	32.45
850.1	880.1	21.40	24.66	30.00

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+14dBm (dB)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	1.41	0.94	0.68
30.6	60.6	1.14	0.80	0.59
51.1	81.1	1.16	0.79	0.57
71.6	101.6	1.23	0.79	0.55
92.1	122.1	1.18	0.74	0.51
112.5	142.5	1.14	0.68	0.47
133.0	163.0	1.08	0.66	0.47
153.5	183.5	1.09	0.64	0.46
174.0	204.0	1.05	0.60	0.43
194.5	224.5	1.10	0.70	0.52
215.0	245.0	0.98	0.68	0.52
235.5	265.5	0.92	0.55	0.45
256.0	286.0	1.05	0.56	0.45
276.4	306.4	1.24	0.71	0.55
296.9	326.9	1.44	0.85	0.63
317.4	347.4	1.62	1.03	0.71
337.9	367.9	1.78	1.29	0.82
358.4	388.4	1.76	1.44	0.94
378.9	408.9	1.89	1.53	1.11
399.4	429.4	2.13	1.67	1.28
419.9	449.9	2.34	1.91	1.45
440.3	470.3	2.32	1.94	1.55
460.8	490.8	2.14	1.73	1.39
481.3	511.3	1.69	1.32	1.04
501.8	531.8	1.19	0.90	0.75
522.3	552.3	0.63	0.54	0.70
542.8	572.8	0.32	0.51	0.96
563.3	593.3	0.32	0.77	1.20
583.8	613.8	0.59	1.16	1.21
604.2	634.2	1.03	1.43	1.23
624.7	654.7	1.34	1.40	1.11
645.2	675.2	1.56	1.31	1.00
665.7	695.7	1.60	1.21	0.93
686.2	716.2	1.65	1.13	0.91
706.7	736.7	1.44	1.03	0.88
727.2	757.2	1.43	0.95	0.82
768.1	798.1	1.20	0.74	0.63
788.6	818.6	1.20	0.66	0.52
829.6	859.6	1.09	0.56	0.38
850.1	880.1	0.98	0.51	0.31

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Frequency Mixer

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Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=200.1MHz (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)=400.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+17			+17			+17
190.0	10.1	5.46	10.0	20.1	5.01	390.0	10.1	6.13
185.4	14.7	5.48	19.7	29.8	4.96	380.3	19.8	6.06
180.8	19.3	5.42	29.5	39.6	4.86	370.5	29.6	5.99
176.2	23.9	5.34	39.2	49.3	4.92	360.8	39.3	5.92
171.5	28.6	5.36	49.0	59.1	4.97	351.0	49.1	5.87
166.9	33.2	5.30	58.7	68.8	4.90	341.3	58.8	5.80
162.3	37.8	5.29	68.5	78.6	4.99	331.5	68.6	5.74
157.7	42.4	5.30	78.2	88.3	5.04	321.8	78.3	5.79
153.1	47.0	5.34	87.9	98.0	5.02	312.1	88.0	5.72
148.5	51.6	5.27	97.7	107.8	5.03	302.3	97.8	5.62
143.8	56.3	5.21	107.4	117.5	5.08	292.6	107.5	5.65
139.2	60.9	5.24	117.2	127.3	5.08	282.8	117.3	5.64
134.6	65.5	5.19	126.9	137.0	5.11	273.1	127.0	5.62
130.0	70.1	5.18	136.7	146.8	5.10	263.3	136.8	5.60
125.4	74.7	5.25	146.4	156.5	5.17	253.6	146.5	5.64
120.8	79.3	5.20	156.2	166.3	5.22	243.8	156.3	5.63
116.2	83.9	5.18	165.9	176.0	5.19	234.1	166.0	5.62
111.5	88.6	5.18	175.6	185.7	5.23	224.4	175.7	5.69
106.9	93.2	5.15	185.4	195.5	5.29	214.6	185.5	5.72
102.3	97.8	5.08	195.1	205.2	5.20	204.9	195.2	5.72
97.7	102.4	5.10	204.9	215.0	5.23	195.1	205.0	5.77
93.1	107.0	5.15	214.6	224.7	5.22	185.4	214.7	5.84
88.5	111.6	5.14	224.4	234.5	5.19	175.6	224.5	5.84
83.8	116.3	5.14	234.1	244.2	5.27	165.9	234.2	5.84
79.2	120.9	5.14	243.8	253.9	5.33	156.2	243.9	5.91
74.6	125.5	5.10	253.6	263.7	5.45	146.4	253.7	5.89
70.0	130.1	5.09	263.3	273.4	5.48	136.7	263.4	5.82
65.4	134.7	5.10	273.1	283.2	5.46	126.9	273.2	5.81
60.8	139.3	5.13	282.8	292.9	5.51	117.2	282.9	5.79
56.2	143.9	5.15	292.6	302.7	5.51	107.4	292.7	5.72
51.5	148.6	5.17	302.3	312.4	5.50	97.7	302.4	5.72
46.9	153.2	5.18	312.1	322.2	5.60	87.9	312.2	5.74
42.3	157.8	5.16	321.8	331.9	5.60	78.2	321.9	5.74
37.7	162.4	5.15	331.5	341.6	5.54	68.5	331.6	5.74
33.1	167.0	5.16	341.3	351.4	5.51	58.7	341.4	5.76
28.5	171.6	5.17	351.0	361.1	5.50	49.0	351.1	5.81
23.8	176.3	5.20	360.8	370.9	5.48	39.2	360.9	5.82
19.2	180.9	5.21	370.5	380.6	5.45	29.5	370.6	5.83
14.6	185.5	5.27	380.3	390.4	5.48	19.7	380.4	5.89
10.0	190.1	5.30	390.0	400.1	5.49	10.0	390.1	5.97

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+14	+17	+20	+14	+17	+20
0.1	64.78	66.42	66.35	68.59	66.28	63.03
5.0	60.18	61.64	63.09	64.99	64.07	62.71
10.0	59.08	60.33	61.40	61.56	61.62	60.74
30.6	71.60	74.47	77.21	60.61	56.39	54.07
51.1	69.13	73.22	78.25	57.25	52.88	50.58
71.6	67.99	72.62	77.65	53.85	50.40	47.96
92.1	68.20	76.87	77.22	51.78	48.75	46.56
112.5	69.20	76.84	76.17	49.54	46.71	44.72
133.0	67.22	74.79	65.19	45.80	44.19	42.83
153.5	71.99	77.06	68.10	44.93	43.62	41.91
174.0	74.28	69.16	65.89	42.23	42.31	41.41
194.5	90.00	60.27	56.07	39.48	39.83	39.83
215.0	68.35	62.08	56.68	38.49	38.79	38.51
256.0	59.64	63.30	63.48	35.60	35.36	35.47
276.4	57.49	64.15	66.74	35.35	36.09	35.75
296.9	55.73	59.70	57.44	33.98	35.20	35.49
317.4	51.74	54.74	54.42	32.89	34.51	35.30
337.9	46.20	46.88	47.18	32.09	34.56	36.04
358.4	45.67	46.29	48.30	30.55	32.64	34.19
378.9	44.00	43.91	46.02	29.03	31.36	33.26
399.4	46.22	43.90	47.26	27.97	29.46	31.37
419.9	51.68	47.25	48.32	28.85	28.48	29.71
440.3	51.96	48.19	47.66	28.47	28.22	28.50
460.8	56.15	51.92	49.84	28.56	28.47	28.32
481.3	58.49	51.66	47.42	28.32	28.70	28.87
501.8	51.33	49.16	46.75	27.84	28.25	28.40
522.3	48.59	46.52	43.75	28.00	28.68	28.69
542.8	44.79	43.81	42.12	27.62	28.45	28.58
563.3	43.06	42.32	40.82	27.64	28.42	28.45
583.8	40.59	40.05	40.28	27.89	28.45	28.58
604.2	40.24	40.37	40.98	28.07	28.19	28.45
624.7	38.47	37.92	37.82	28.40	27.53	28.00
645.2	37.89	37.53	37.88	28.45	26.98	27.44
665.7	36.50	35.38	34.97	27.78	26.11	26.50
686.2	35.71	35.01	35.43	26.88	25.51	25.95
706.7	34.73	33.70	33.09	26.04	25.06	25.09
727.2	34.31	33.55	33.27	26.52	25.24	24.88
768.1	34.23	32.56	31.66	28.93	25.94	24.56
829.6	32.20	30.66	28.99	25.41	24.26	22.38
850.1	29.75	29.36	27.68	23.02	23.64	21.98

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+14	+17	+20
10.1	40.1	40.80	41.23	41.18
30.6	60.6	32.31	32.48	32.83
51.1	81.1	28.31	28.70	28.90
71.6	101.6	25.80	26.19	26.57
92.1	122.1	24.33	24.83	25.15
112.5	142.5	23.04	23.55	24.02
133.0	163.0	22.40	22.73	22.93
153.5	183.5	21.97	22.75	23.21
174.0	204.0	21.35	22.15	22.72
194.5	224.5	21.12	21.95	22.61
215.0	245.0	21.14	21.69	22.33
235.5	265.5	21.96	22.24	22.55
256.0	286.0	23.12	23.48	23.59
276.4	306.4	23.35	23.99	24.28
296.9	326.9	23.18	24.18	25.32
317.4	347.4	21.98	23.11	24.46
337.9	367.9	20.17	20.95	21.72
358.4	388.4	18.70	19.17	19.42
378.9	408.9	17.62	17.66	17.50
399.4	429.4	16.83	16.62	16.25
419.9	449.9	16.34	16.08	15.61
440.3	470.3	15.58	15.31	14.95
460.8	490.8	15.37	15.01	14.71
481.3	511.3	15.20	14.96	14.80
501.8	531.8	15.33	15.11	14.90
522.3	552.3	16.10	15.85	15.53
542.8	572.8	16.53	16.17	15.64
563.3	593.3	16.83	16.21	15.52
583.8	613.8	16.52	15.77	15.12
604.2	634.2	15.82	14.94	14.39
624.7	654.7	14.88	14.17	13.81
645.2	675.2	14.02	13.43	13.14
665.7	695.7	13.10	12.75	12.50
686.2	716.2	12.48	12.13	11.89
706.7	736.7	11.76	11.46	11.22
727.2	757.2	11.15	10.78	10.59
768.1	798.1	10.08	9.56	9.22
788.6	818.6	9.48	8.90	8.60
829.6	859.6	8.58	7.89	7.44
850.1	880.1	8.04	7.40	6.93

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=400.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+14	+17	+20		+14	+17	+20		+14	+17	+20
5.0	35.0	1.66	1.40	1.24	5.0	1.32	1.51	2.55	5.0	1.78	1.56	1.47
10.1	40.1	1.48	1.29	1.19	10.1	1.09	1.44	2.11	10.0	2.72	2.14	1.75
30.6	60.6	1.53	1.32	1.21	30.6	1.10	1.53	2.32	20.0	2.62	2.05	1.67
51.1	81.1	1.49	1.31	1.20	51.1	1.09	1.52	2.28	30.0	2.60	2.06	1.67
71.6	101.6	1.48	1.30	1.19	71.6	1.12	1.48	2.16	40.0	2.41	1.90	1.55
92.1	122.1	1.49	1.29	1.17	92.1	1.11	1.45	2.15	50.0	2.31	1.84	1.50
112.5	142.5	1.42	1.24	1.13	112.5	1.15	1.48	2.17	60.0	2.26	1.80	1.47
133.0	163.0	1.42	1.25	1.14	133.0	1.19	1.53	2.25	70.0	2.27	1.81	1.49
153.5	183.5	1.42	1.25	1.13	153.5	1.15	1.52	2.21	80.0	2.43	1.92	1.58
174.0	204.0	1.35	1.19	1.09	174.0	1.20	1.51	2.15	90.0	2.49	1.98	1.62
194.5	224.5	1.36	1.16	1.07	194.5	1.25	1.53	2.17	100.0	2.58	2.05	1.69
215.0	245.0	1.37	1.18	1.07	215.0	1.24	1.56	2.23	110.0	2.63	2.10	1.73
235.5	265.5	1.34	1.20	1.09	235.5	1.29	1.61	2.26	120.0	2.58	2.05	1.70
256.0	286.0	1.29	1.17	1.09	256.0	1.30	1.63	2.25	130.0	2.51	1.99	1.64
276.4	306.4	1.25	1.12	1.06	276.4	1.29	1.62	2.25	140.0	2.48	1.97	1.63
296.9	326.9	1.18	1.06	1.05	296.9	1.35	1.63	2.26	150.0	2.51	1.99	1.65
317.4	347.4	1.16	1.01	1.10	317.4	1.40	1.68	2.31	160.0	2.56	2.04	1.70
337.9	367.9	1.16	1.04	1.14	337.9	1.44	1.70	2.30	170.0	2.59	2.07	1.74
358.4	388.4	1.21	1.07	1.15	358.4	1.54	1.73	2.28	180.0	2.59	2.09	1.76
378.9	408.9	1.26	1.09	1.13	378.9	1.58	1.80	2.32	190.0	2.61	2.10	1.78
399.4	429.4	1.29	1.17	1.15	399.4	1.56	1.87	2.42	200.0	2.63	2.10	1.78
419.9	449.9	1.35	1.26	1.21	419.9	1.54	1.94	2.53	210.0	2.64	2.10	1.78
440.3	470.3	1.42	1.36	1.30	440.3	1.53	1.94	2.56	220.0	2.67	2.12	1.80
460.8	490.8	1.55	1.48	1.42	460.8	1.55	1.97	2.59	230.0	2.70	2.15	1.83
481.3	511.3	1.69	1.61	1.54	481.3	1.55	1.92	2.53	240.0	2.71	2.18	1.85
501.8	531.8	1.87	1.78	1.66	501.8	1.57	1.93	2.56	250.0	2.70	2.17	1.86
522.3	552.3	2.04	1.90	1.73	522.3	1.58	1.94	2.56	260.0	2.66	2.15	1.85
542.8	572.8	2.17	1.96	1.75	542.8	1.61	1.92	2.52	270.0	2.66	2.14	1.84
563.3	593.3	2.25	2.00	1.80	563.3	1.63	1.89	2.48	280.0	2.73	2.17	1.87
583.8	613.8	2.27	2.00	1.87	583.8	1.65	1.89	2.49	290.0	2.81	2.24	1.91
604.2	634.2	2.31	2.06	1.97	604.2	1.66	1.88	2.52	300.0	2.87	2.29	1.96
624.7	654.7	2.34	2.17	2.09	624.7	1.69	1.89	2.54	310.0	2.88	2.30	1.98
645.2	675.2	2.39	2.27	2.20	645.2	1.73	1.94	2.58	320.0	2.86	2.27	1.96
665.7	695.7	2.45	2.36	2.31	665.7	1.84	1.99	2.60	330.0	2.82	2.24	1.93
686.2	716.2	2.51	2.43	2.38	686.2	1.97	2.10	2.70	340.0	2.82	2.23	1.91
706.7	736.7	2.55	2.49	2.43	706.7	2.14	2.22	2.79	350.0	2.84	2.24	1.91
727.2	757.2	2.60	2.53	2.48	727.2	2.36	2.34	2.86	360.0	2.89	2.27	1.94
768.1	798.1	2.66	2.55	2.48	768.1	2.92	2.62	3.01	370.0	2.96	2.33	1.98
788.6	818.6	2.70	2.57	2.49	788.6	3.15	2.78	3.13	380.0	2.99	2.36	2.01
829.6	859.6	2.84	2.62	2.53	829.6	3.73	3.18	3.42	390.0	2.97	2.35	2.01
850.1	880.1	2.86	2.67	2.57	850.1	4.62	3.46	3.48	400.0	2.91	2.35	2.05

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	14	35	18	36	20	54	25	41	41	52
1	-	16	+0	25	13	38	24	36	38	48	30	51
2	98	63	54	62	51	76	54	65	48	68	55	62
3	>100	52	53	56	58	61	50	56	49	79	55	71
4	>100	83	79	81	77	80	71	76	71	81	77	79
5	>100	78	77	80	75	83	67	78	65	86	69	82
6	>100	>94	92	92	>94	90	>94	92	89	93	84	>94
7	>100	>94	>94	93	91	>94	90	90	87	91	85	90
8	>100	>94	>94	>94	>94	>94	>94	>94	82	>94	>94	>94
9	>100	>94	>94	>94	>94	>94	>94	>94	>94	87	>94	>94
10	>100	>94	>94	>94	>94	>94	>94	>94	>94	>94	92	>94
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 200.1 MHz; -1.00 dBm.
LO IN: 230.01 MHz; +17.00 dBm
IF OUT: 29.91 MHz; -6.18 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	24	44	30	45	33	61	40	60	52	62
1	-	17	+0	28	13	39	22	43	46	56	43	59
2	82	55	47	55	45	63	47	67	45	70	48	69
3	>100	41	37	43	39	44	38	45	52	53	51	58
4	>100	66	70	72	62	77	57	79	58	77	61	73
5	>100	62	52	53	55	53	50	61	47	53	52	71
6	>100	87	71	95	68	78	69	75	65	69	66	88
7	>100	89	75	65	61	61	64	64	60	65	57	68
8	>100	95	83	96	74	93	73	78	70	76	70	71
9	>100	80	82	85	89	73	69	71	70	75	64	67
10	>100	98	89	98	93	97	81	90	77	83	76	80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 200.1 MHz; 9.00 dBm.
LO IN: 230.01 MHz; +17.00 dBm
IF OUT: 29.91 MHz; 3.72 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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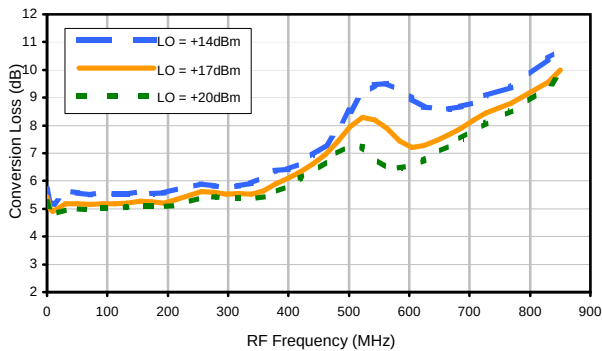


Frequency Mixer

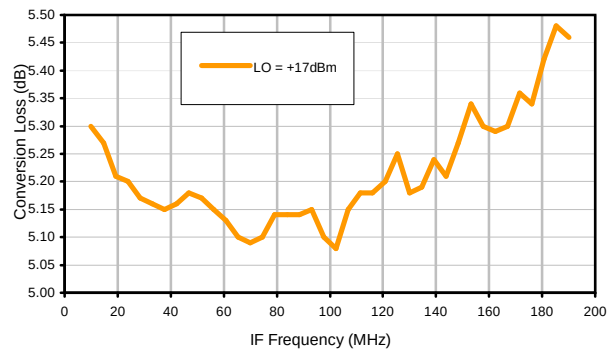
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Typical Performance Curves

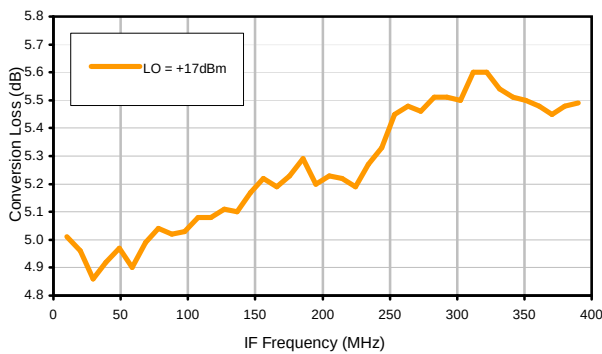
Conversion Loss @ IF=30MHz



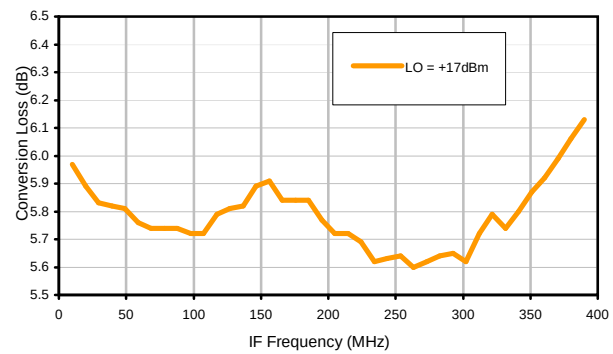
Conversion Loss vs. IF @ RF=200.1MHz



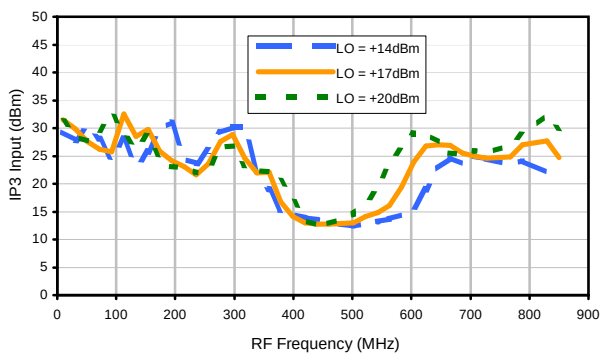
Conversion Loss vs. IF @ RF=10.1MHz



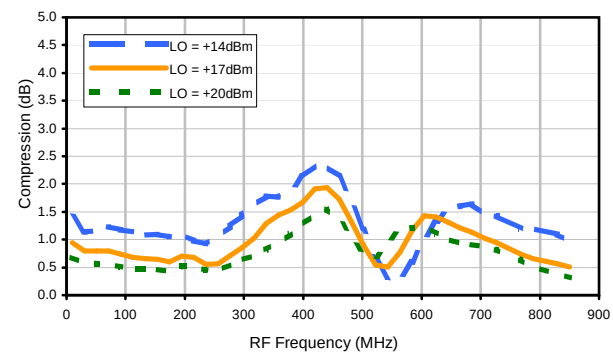
Conversion Loss vs. IF @ RF=400.1MHz



IP3 Input



Compression @ RF IN=+14dBm



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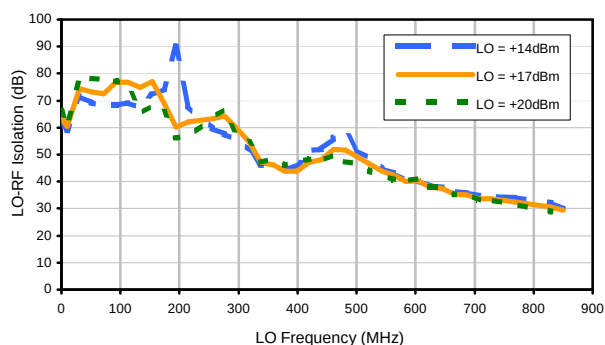


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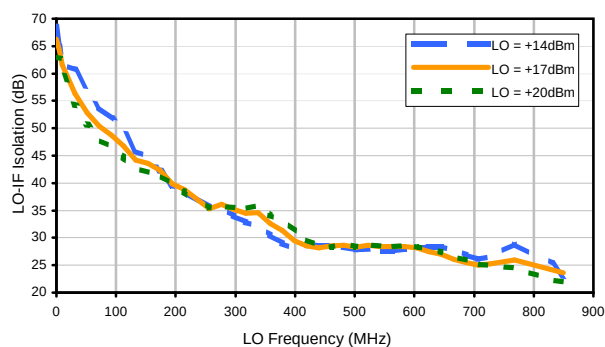


Typical Performance Curves

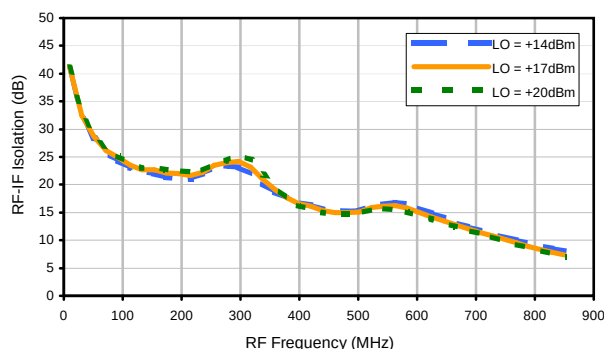
LO-RF Isolation



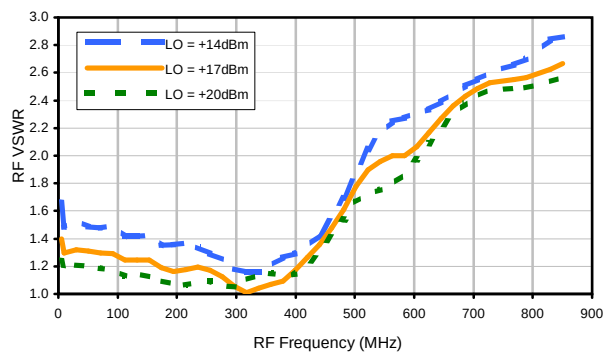
LO-IF Isolation



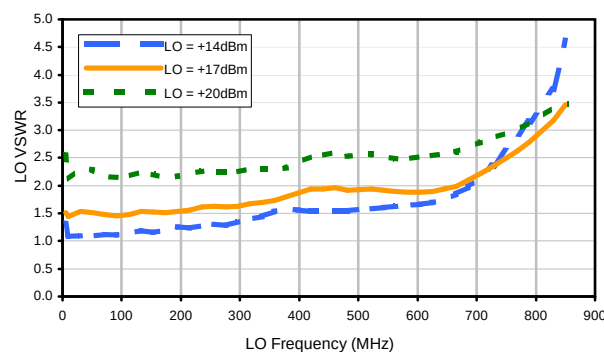
RF-IF Isolation



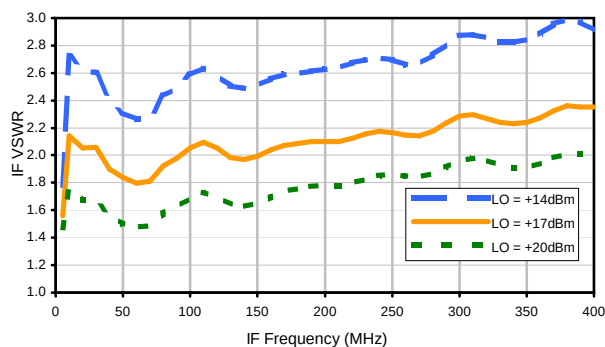
RF VSWR



LO VSWR



IF VSWR



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3	>100	52	53	56	58	61	50	56	49	79	55	71
4	>100	83	79	81	77	80	71	76	71	81	77	79
5	>100	78	77	80	75	83	67	78	65	86	69	82
6	>100	>94	92	92	>94	90	>94	92	89	93	84	>94
7	>100	>94	>94	93	91	>94	90	90	87	91	85	90
8	>100	>94	>94	>94	>94	>94	>94	>94	82	>94	>94	>94
9	>100	>94	>94	>94	>94	>94	>94	>94	>94	87	>94	>94
10	>100	>94	>94	>94	>94	>94	>94	>94	>94	>94	92	>94
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

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1	-	17	+0	28	13	39	22	43	46	56	43	59
2	82	55	47	55	45	63	47	67	45	70	48	69
3	>100	41	37	43	39	44	38	45	52	53	51	58
4	>100	66	70	72	62	77	57	79	58	77	61	73
5	>100	62	52	53	55	53	50	61	47	53	52	71
6	>100	87	71	95	68	78	69	75	65	69	66	88
7	>100	89	75	65	61	61	64	64	60	65	57	68
8	>100	95	83	96	74	93	73	78	70	76	70	71
9	>100	80	82	85	89	73	69	71	70	75	64	67
10	>100	98	89	98	93	97	81	90	77	83	76	80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

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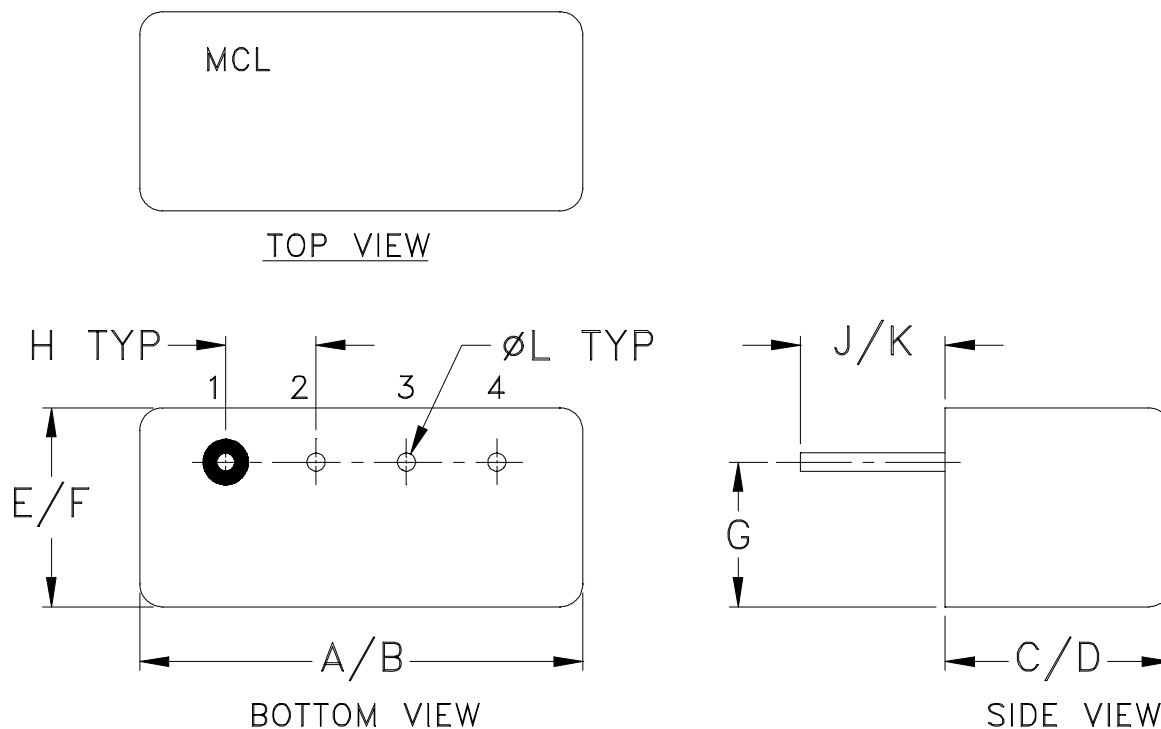
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B02

B13

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
B02	.480 (12.19)	.500 (12.70)	.240 (6.10)	.255 (6.48)	.210 (5.33)	.230 (5.84)	.16 (4.06)	.100 (2.54)	.14 (3.56)	.20 (5.08)	.020 (.51)	1.9
B13			.390 (9.91)	.405 (10.29)								2.3

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.
- 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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