

Non-Catalog Model

Frequency Mixer

Level 7 (LO Power +7 dBm)

GRA-8

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 : D09

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	0.0005		10	MHz
	RF (fL to fU)	0.0005		10	MHz
	IF	0		10	MHz
Conversion Loss	mid band		6.0	7.5	dB
	Total Range			8.5	dB
LO-RF Isolation	Low Range	50	60		dB
	Mid Range	40	50		dB
	Upper Range	35	45		dB
LO-IF Isolation	Low Range	50	60		dB
	Mid Range	40	50		dB
	Upper Range	35	45		dB
1 dB Comp. Input Power			+1		dBm

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

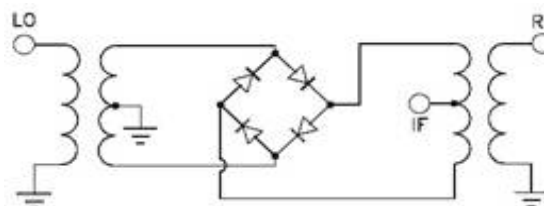
Mid Range = [10fL to fU/2]

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	1
RF	6
IF	4
GROUND	2, 3, 5

Electrical Schematics



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Typical Performance Data

RF (MHz)	LO (MHz)	CONVERSION LOSS (dB)			LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
		@LO (dBm)				@LO (dBm)			@LO (dBm)		
		+4	+7	+10		+4	+7	+10	+4	+7	+10
0.001	3.0	5.43	5.26	4.97	0.001	63.5	67.3	68.1	64.0	67.0	70.0
0.002	3.0	5.18	4.96	4.76	0.002	63.3	67.2	68.0	64.0	67.0	70.0
0.005	3.0	4.98	4.92	4.61	0.005	63.5	67.2	67.7	64.0	67.0	70.0
0.01	3.0	4.96	4.88	4.59	0.01	64.0	67.0	67.9	64.0	67.0	70.0
0.02	3.0	5.04	4.84	4.64	0.02	64.0	67.0	68.0	64.0	67.0	70.0
0.05	3.1	5.04	4.84	4.61	0.05	64.0	66.9	68.4	64.0	67.0	70.0
0.10	3.1	5.00	4.79	4.59	0.10	64.0	67.0	68.5	64.0	67.0	70.0
0.20	3.2	5.06	4.88	4.63	0.20	64.0	67.0	68.6	64.0	67.0	70.0
0.50	3.5	5.07	4.86	4.64	0.50	64.0	67.0	68.8	64.0	67.0	70.0
0.70	3.7	5.11	4.83	4.66	0.70	64.0	67.0	68.8	64.0	67.0	70.0
1.00	4.0	5.13	4.88	4.66	1.00	64.0	66.6	67.8	64.0	67.0	70.0
1.43	4.4	5.12	4.91	4.71	1.43	64.0	65.9	65.9	64.0	67.0	70.0
2.00	5.0	5.16	4.91	4.72	2.00	63.7	64.5	64.0	64.0	67.0	70.0
2.86	5.9	5.15	4.97	4.78	2.86	59.1	57.6	56.3	64.0	67.0	70.0
4.29	7.3	5.22	5.16	4.88	4.29	54.4	53.0	52.3	64.0	67.0	70.0
5.00	8.0	5.24	5.17	4.89	5.00	51.1	50.1	50.2	64.0	67.0	70.0
6.43	9.4	5.36	5.18	4.97	6.43	48.8	48.6	48.8	64.0	67.0	70.0
7.14	4.1	5.24	5.21	4.95	7.14	45.7	45.6	46.0	64.0	67.0	70.0
8.57	5.6	5.34	5.23	5.11	8.57	43.0	43.1	43.6	64.0	67.0	70.0
10.00	7.0	5.54	5.22	5.22	10.00	42.0	42.0	42.2	64.0	67.0	70.0

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Typical Performance Data

RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)			LO/RF (MHz)	max. DC output (mV)	DC Offset (mV)
	@LO (dBm)			@LO (dBm)				@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10		+4	+7	+10	+7		
0.10	1.58	1.41	1.30	1.78	3.30	7.11	0.10	1.62	1.47	1.38	0.001	-275.2	-0.11
0.20	1.54	1.37	1.27	1.64	2.70	4.36	0.20	1.58	1.44	1.35	0.005	-271.2	-0.13
0.42	1.54	1.38	1.28	1.57	2.54	3.76	0.42	1.58	1.43	1.35	0.01	-264.3	-0.13
0.74	1.53	1.37	1.28	1.55	2.46	3.67	0.74	1.59	1.44	1.36	0.02	-261.9	-0.13
1.00	1.54	1.37	1.28	1.56	2.41	3.56	1.00	1.58	1.44	1.36	0.05	-262.0	-0.12
1.70	1.54	1.38	1.29	1.51	2.32	3.35	1.70	1.59	1.44	1.37	0.10	-259.7	-0.12
2.00	1.53	1.38	1.28	1.50	2.29	3.30	2.00	1.59	1.44	1.36	0.20	-261.0	-0.12
2.66	1.54	1.38	1.29	1.46	2.21	3.16	2.66	1.60	1.45	1.37	0.50	-262.4	-0.13
3.29	1.54	1.37	1.28	1.39	2.10	2.93	3.29	1.60	1.45	1.37	0.70	-264.8	-0.13
4.25	1.53	1.37	1.28	1.31	1.98	2.76	4.25	1.62	1.47	1.39	1.00	-265.8	-0.13
5.00	1.53	1.37	1.29	1.29	1.95	2.67	5.00	1.64	1.50	1.42	2.00	-266.1	-0.13
5.53	1.52	1.37	1.28	1.29	1.94	2.63	5.53	1.64	1.50	1.42	3.33	-259.8	-0.13
6.17	1.52	1.36	1.28	1.31	1.96	2.64	6.17	1.65	1.52	1.43	4.17	-258.1	-0.12
7.00	1.50	1.37	1.28	1.35	2.01	2.74	7.00	1.68	1.55	1.46	5.00	-255.2	-0.12
7.45	1.50	1.36	1.28	1.38	2.03	2.75	7.45	1.69	1.56	1.47	5.83	-250.6	-0.12
8.09	1.49	1.36	1.28	1.39	2.02	2.71	8.09	1.71	1.58	1.49	6.67	-246.6	-0.09
8.40	1.49	1.36	1.27	1.39	1.98	2.67	8.40	1.72	1.58	1.51	7.00	-247.1	-0.10
9.04	1.48	1.36	1.28	1.35	1.94	2.58	9.04	1.74	1.62	1.54	7.50	-246.8	-0.13
9.36	1.48	1.36	1.28	1.34	1.92	2.55	9.36	1.75	1.61	1.54	8.33	-247.7	-0.09
10.00	1.48	1.35	1.27	1.34	1.90	2.51	10.00	1.78	1.65	1.57	10.00	-247.8	-0.11

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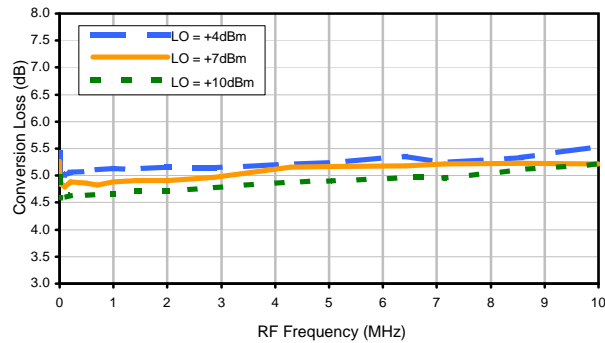


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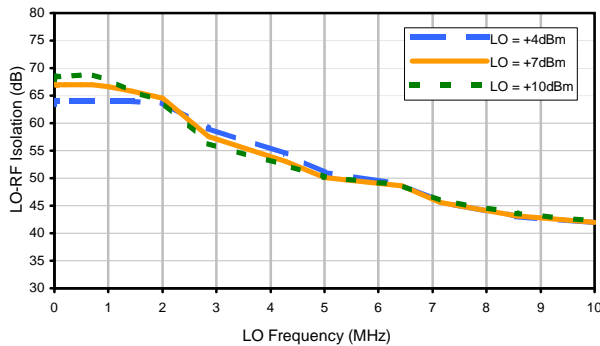


Typical Performance Curves

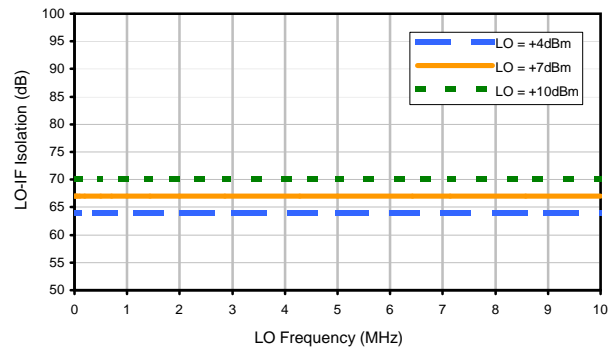
Conversion Loss



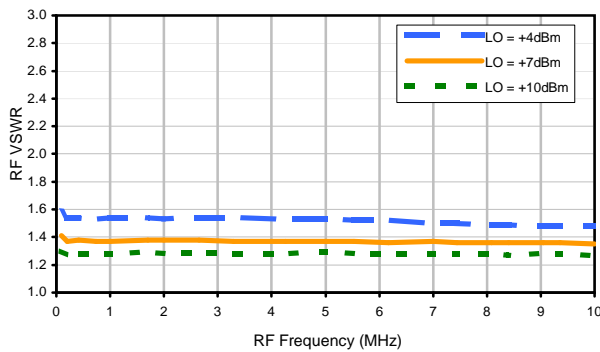
LO-RF Isolation



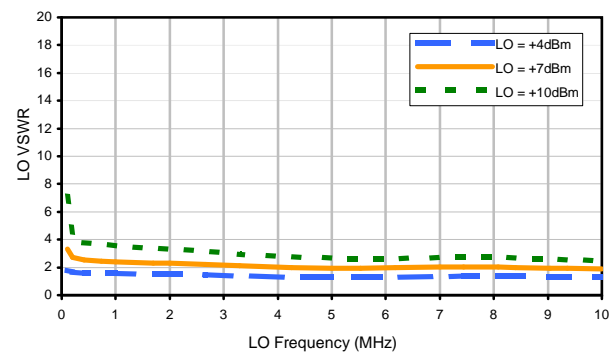
LO-IF Isolation



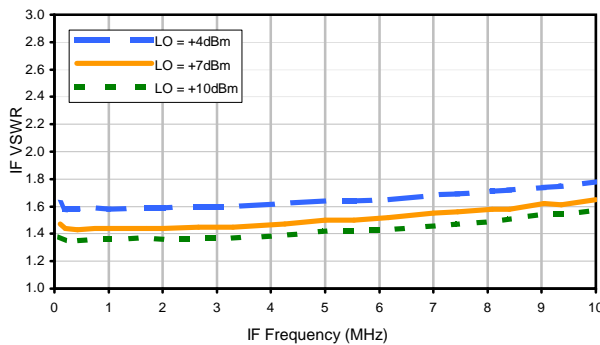
RF VSWR



LO VSWR



IF VSWR



Max. DC Output

