Non-Catalog Model

Frequency Mixer GRA-6H

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.

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

CASE STYLE : D09

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (fL to fU)	0.01		50	MHz
	RF (fL to fU)	0.01		50	MHz
	IF	0		50	MHz
Conversion Loss	**mid band**		5.0	6.0	dB
	Total Range			7.0	dB
LO-RF Isolation	**Low Range**	45	50		dB
	Mid Range	30	45		dB
	Upper Range	25	35		dB
LO-IF Isolation	**Low Range**	40	50		dB
	Mid Range	35	47		dB
	Upper Range	25	32		dB
IP3 Input		+27.5	+30		dBm
1 dB Comp. Input Power			+10		dBm

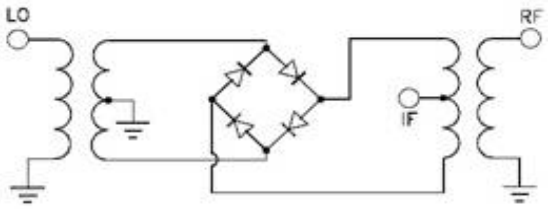
Notes: Low Range = [fL to 10fL] Mid Range = [10fL to fU/2] Upper Range = [fU/2 to fU]
mid band = [2fL to fU/2]

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

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	1
RF	6
IF	4
GROUND	2, 3, 5

Electrical Schematics



Frequency Mixer GRA-6H

Typical Performance Data

RF (MHz)	LO (MHz)	CONVERSION LOSS (dB) @LO (dBm)		
		+4	+7	+10
0.01	10.0	5.92	5.62	5.42
0.05	10.1	5.73	5.43	5.23
1.00	11.0	5.50	5.12	4.91
2.00	12.0	5.61	5.21	5.02
5.18	15.2	5.54	5.17	4.96
8.63	18.6	5.44	5.12	4.94
10.35	20.4	5.33	4.99	4.86
12.08	22.1	5.46	5.14	4.98
15.52	25.5	5.54	5.22	5.04
18.97	29.0	5.56	5.23	5.06
20.70	30.7	5.46	5.15	5.00
24.14	34.1	5.33	5.09	4.98
29.32	19.3	5.42	5.11	4.98
31.04	21.0	5.43	5.15	5.02
34.49	24.5	5.32	5.06	4.95
37.93	27.9	5.31	5.10	5.02
41.38	31.4	5.37	5.14	5.06
44.83	34.8	5.41	5.19	5.11
46.55	36.6	5.45	5.20	5.11
50.00	40.0	5.49	5.28	5.17

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+4	+7	+10	+4	+7	+10
0.01	43.3	46.6	49.3	46.9	51.1	54.8
0.05	42.6	45.6	48.2	46.8	51.5	56.3
1.00	42.6	45.6	48.1	47.0	51.7	56.5
2.00	42.6	45.5	48.0	47.1	51.7	56.6
5.18	42.3	45.3	47.5	46.9	51.9	55.6
8.63	42.0	44.7	46.0	46.7	50.8	50.8
10.35	42.0	44.6	45.3	46.8	50.7	47.9
12.08	41.4	43.0	42.1	46.7	47.7	45.2
15.52	41.1	43.0	42.8	45.6	47.4	45.0
18.97	40.7	41.4	40.6	43.9	42.5	41.1
20.70	40.7	41.9	42.2	43.1	42.0	41.1
24.14	40.5	40.5	39.7	40.7	39.6	38.9
29.32	39.4	39.4	38.1	39.9	38.6	37.6
31.04	38.0	38.0	36.6	38.3	37.4	36.4
34.49	37.4	38.0	37.2	37.3	37.2	36.9
37.93	36.6	36.8	36.5	36.1	35.5	36.0
41.38	35.3	35.5	34.7	35.3	34.7	34.0
44.83	33.7	34.2	34.0	34.1	33.9	33.7
46.55	32.4	32.8	32.3	33.0	32.7	32.4
50.00	32.2	32.4	31.4	32.6	32.1	31.7

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Typical Performance Data

RF/LO (MHz)	RF VSWR (:1) @LO (dBm)			LO VSWR (:1) @LO (dBm)			IF (MHz)	IF VSWR (:1) @LO (dBm)			LO/RF (MHz) @LO (dBm)	max. DC output (mV)	DC Offset (mV)
	+4	+7	+10	+4	+7	+10		+4	+7	+10	+7		
5.00	1.56	1.34	1.20	1.20	1.49	2.48	5.00	1.64	1.45	1.34	0.01	-951.0	-1.88
7.43	1.56	1.34	1.20	1.23	1.47	2.49	7.43	1.64	1.46	1.34	0.10	-976.2	-3.28
8.65	1.56	1.34	1.21	1.22	1.42	2.46	8.65	1.64	1.46	1.35	1.00	-978.6	-3.33
10.00	1.56	1.34	1.21	1.23	1.46	2.40	10.00	1.65	1.46	1.35	3.34	-980.3	-3.40
12.30	1.55	1.33	1.20	1.23	1.43	2.39	12.30	1.66	1.47	1.36	5.00	-977.3	-3.40
15.95	1.54	1.33	1.20	1.24	1.40	2.30	15.95	1.68	1.49	1.38	8.34	972.7	-3.39
18.38	1.53	1.32	1.20	1.27	1.39	2.27	18.38	1.69	1.50	1.39	10.00	-983.5	-3.50
20.81	1.52	1.32	1.19	1.25	1.40	2.24	20.81	1.71	1.52	1.40	11.67	-985.1	-3.64
23.24	1.51	1.30	1.18	1.25	1.40	2.22	23.24	1.72	1.53	1.43	15.01	-1006.1	-3.74
25.68	1.49	1.29	1.18	1.22	1.43	2.21	25.68	1.73	1.55	1.44	18.34	-1002.7	-3.19
28.11	1.48	1.28	1.17	1.20	1.45	2.24	28.11	1.75	1.56	1.46	21.67	-1023.0	-3.39
31.76	1.45	1.26	1.15	1.18	1.49	2.26	31.76	1.77	1.59	1.49	25.01	-1015.6	-3.74
35.41	1.43	1.25	1.15	1.19	1.52	2.28	35.41	1.81	1.63	1.53	28.34	-1010.0	-4.33
37.84	1.41	1.24	1.14	1.19	1.54	2.27	37.84	1.84	1.66	1.55	31.67	-1002.7	-4.53
39.05	1.40	1.23	1.14	1.18	1.55	2.30	39.05	1.85	1.68	1.57	35.00	-1008.7	-5.81
41.49	1.39	1.23	1.14	1.19	1.55	2.31	41.49	1.89	1.70	1.60	38.34	-1000.3	-6.67
45.14	1.36	1.21	1.14	1.21	1.56	2.32	45.14	1.95	1.75	1.65	41.67	-1000.5	-7.57
46.35	1.35	1.21	1.15	1.22	1.56	2.32	46.35	1.94	1.76	1.67	45.00	-993.3	-7.78
48.78	1.34	1.21	1.15	1.25	1.57	2.31	48.78	1.99	1.81	1.71	48.33	-982.3	-6.82
50.00	1.34	1.20	1.16	1.26	1.58	2.31	50.00	2.02	1.83	1.73	50.00	-975.3	-6.43

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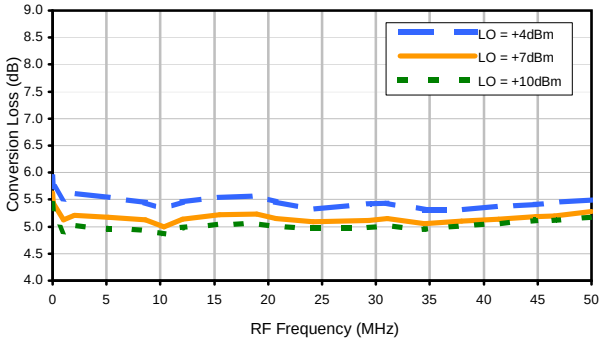
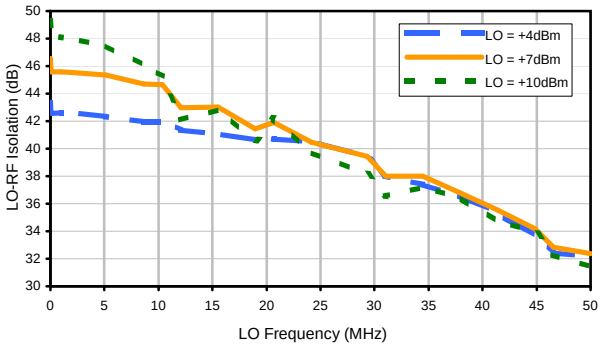
Typical Performance Curves

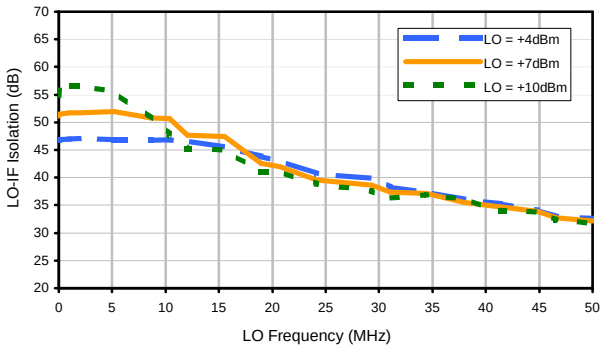
Conversion Loss



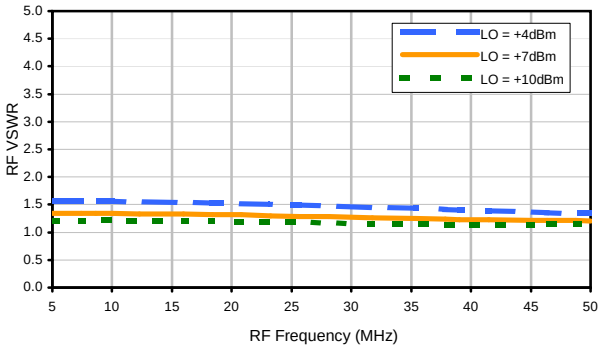
LO-RF Isolation



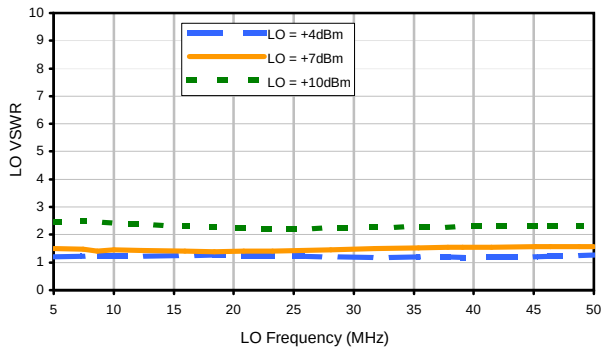
LO-IF Isolation



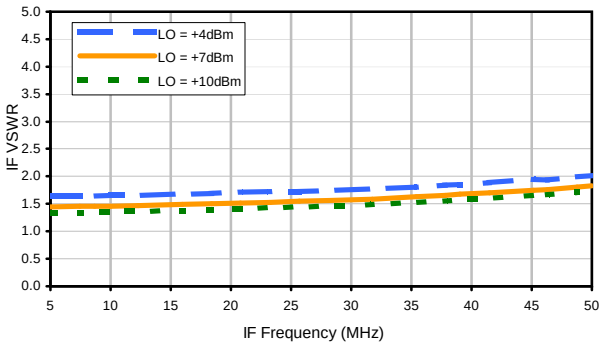
RF VSWR



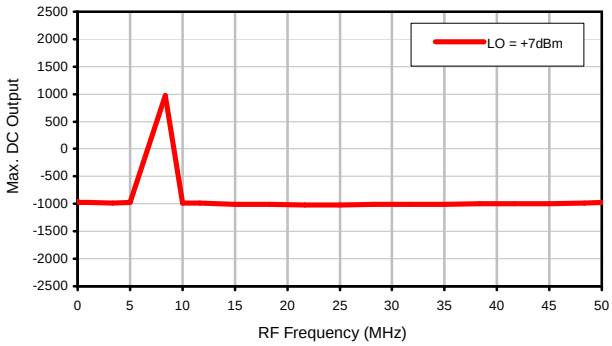
LO VSWR



IF VSWR



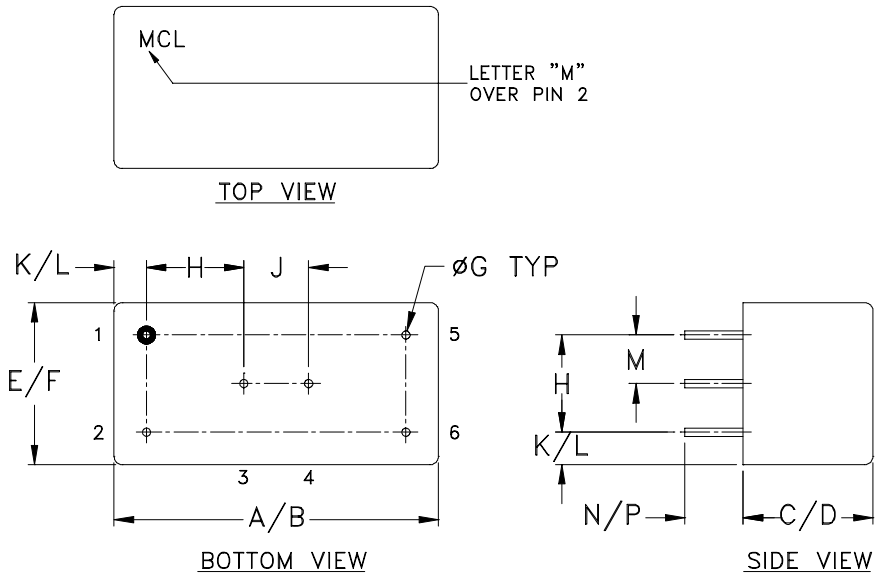
Max. DC Output



Case Style D

D08
D09

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M
D08	1.000 (25.40)	1.025 (26.04)	.390 (9.91)	.430 (10.92)	.500 (12.70)	.525 (13.34)	.025 (.64)	.300 (7.62)	.200 (5.08)	.09 (2.29)	.13 (3.30)	.150 (3.81)
D09			.240 (6.10)	.280 (7.11)								

CASE#	N	P	WT.GRAMS
D08	.20 (5.08)	.14 (3.56)	8.5
D09			7.5

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015

Notes:

1. Header material: C.R.S.
   Pin material: #52 alloy.
   Cover material: Cupro-Nickel.
2. Pin finish: Electro Tin-Silver.
3. Tolerance on pin diameter +/-.005 inch.
4. Glass meniscus 0.015 inch max.
5. Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.

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