Non-Catalog Model

Frequency Mixer   SAM-3
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.

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

CASE STYLE : A03

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (fL to fU)	0.1		500	MHz
	RF (fL to fU)	0.1		500	MHz
	IF	0		500	MHz
Conversion Loss	**mid band**		5.0	7.0	dB
	Total Range			8.5	dB
LO-RF Isolation	**Low Range**	50	60		dB
	Mid Range	35	50		dB
	Upper Range	30	35		dB
LO-IF Isolation	**Low Range**	40	50		dB
	Mid Range	30	45		dB
	Upper Range	20	30		dB
1 dB Comp. Input Power			+1		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]

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

Case Style *A*

Outline Dimensions

TOP VIEW

BOTTOM VIEW

SIDE VIEW
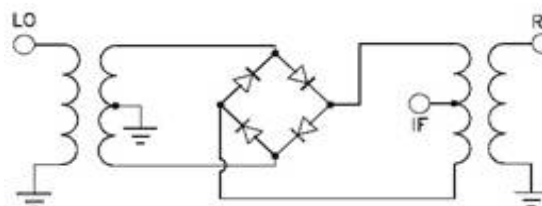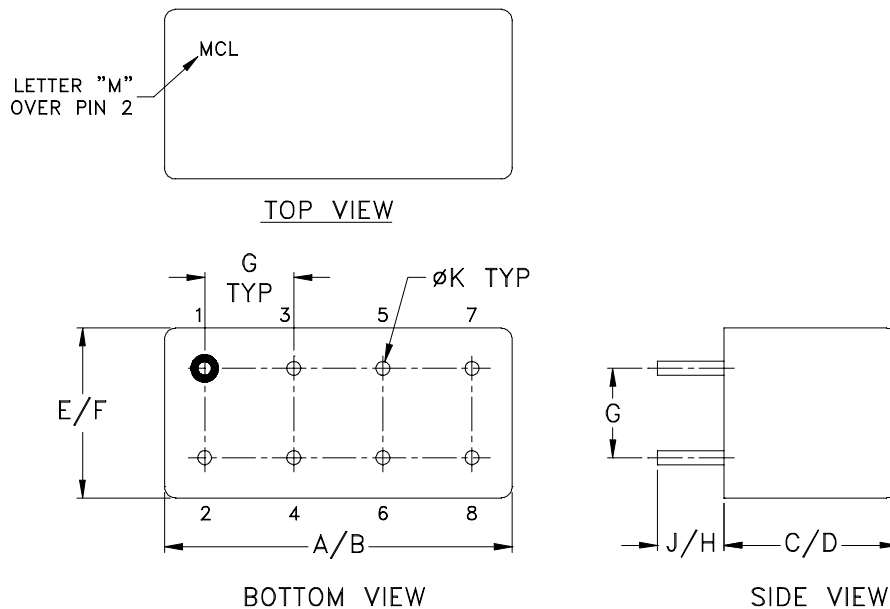
CASE#	A	B	C	D	E	F	G	H	J	K	WT, GRAM
A03	.480 (12.19)	.500 (12.70)	.390 (9.91)	.405 (10.29)	.210 (5.33)	.230 (5.84)	.100 (2.54)	.20 (5.08)	.14 (3.56)	.020 (.51)	2.3
A11			.240 (6.10)	.255 (6.48)							1.9

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

Notes:
1. Header material: C.R.S.
   Pin material: #52 alloy.
   Cover material: Cupro-Nickel.
2. Pin finish: Electro Tin-Silver.
3. Insulated spacer available. Request P/N B14-047-01.
4. Tolerance on pin diameter +/-.005 inch.
5. Glass meniscus 0.015 inch max.
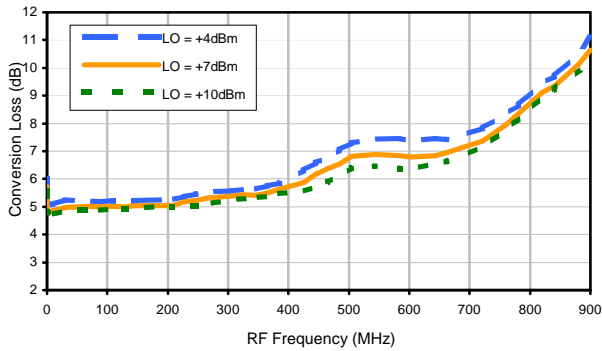6. Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.

Frequency Mixer

SAM-3

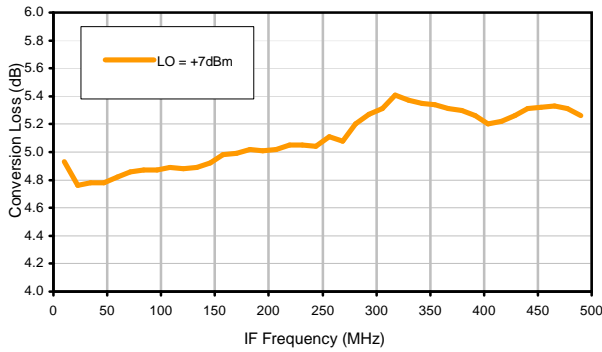## *Typical Performance Curves*
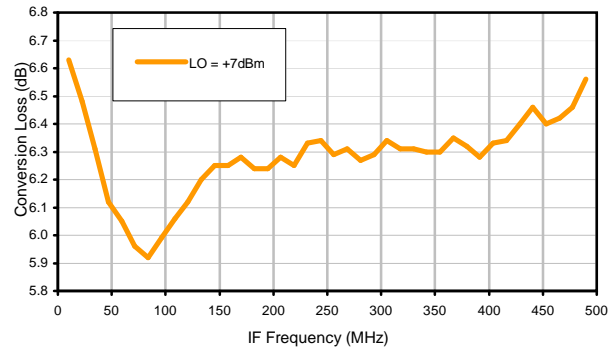
Conversion Loss @ IF=30MHz

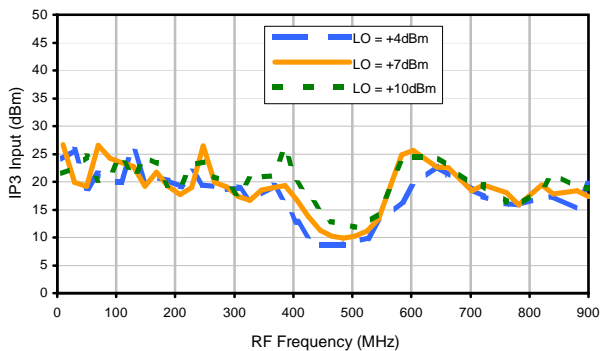### Conversion Loss vs. IF @ RF=250.1MHz
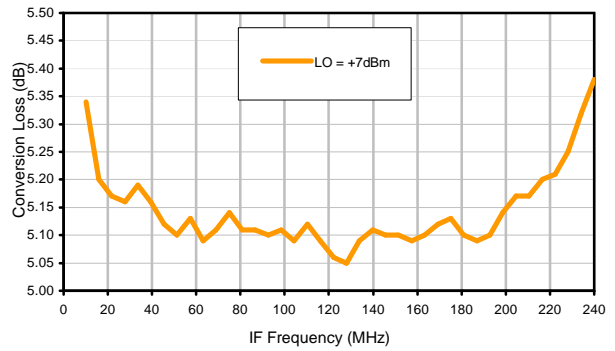
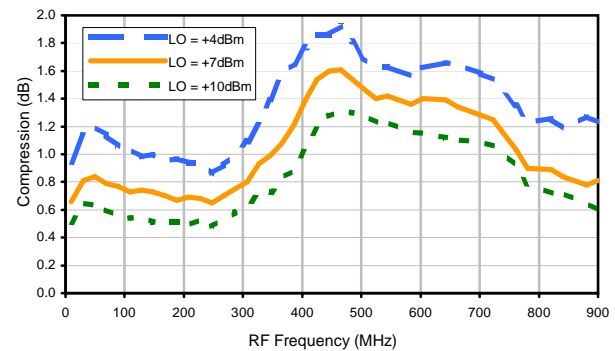### Conversion Loss vs. IF @ RF=10.1MHz

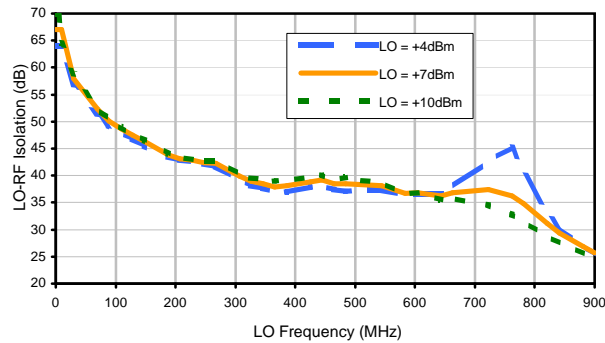### Conversion Loss vs. IF @ RF=500.1MHz

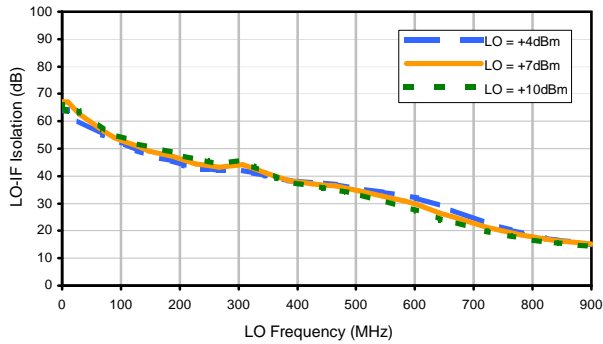### IP3 Input

Compression @ RF IN=+1dBm

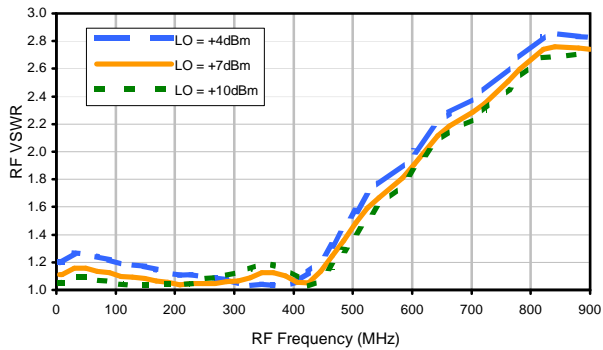## *Typical Performance Curves*
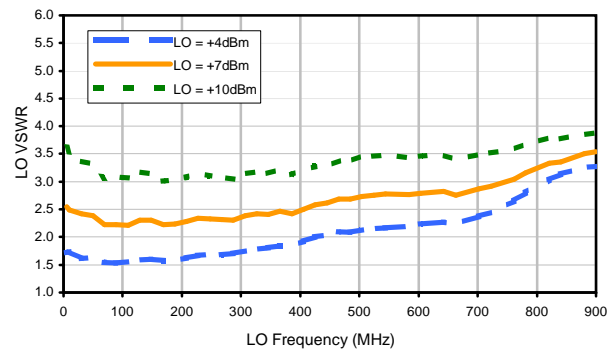
LO-RF Isolation

LO-IF Isolation

RF-IF Isolation
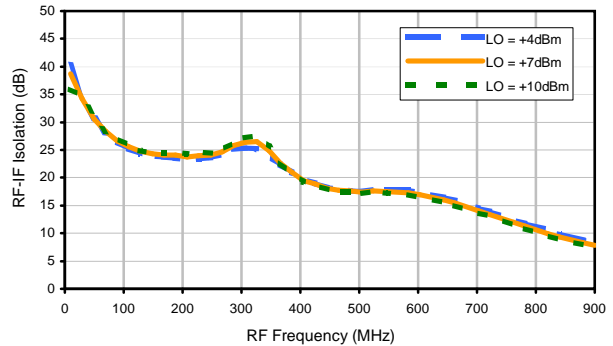
RF VSWR

LO VSWR

IF VSWR
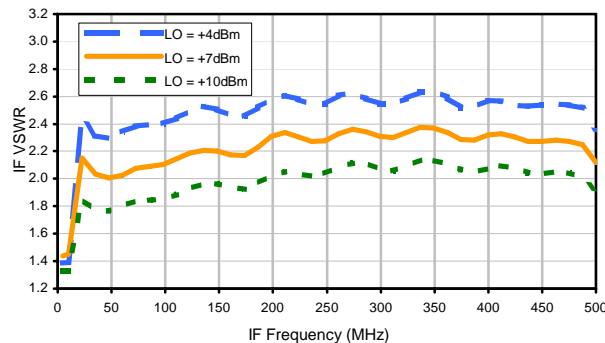
Harmonics Tables

RF HARMONICS ORDER

(-dBm)		(-dBc)									
0	-	-	19	23	14	38	26	37	37	48	49	66
1	-	20	+0	27	11	34	24	43	42	54	47	60
2	>100	67	57	68	58	66	68	>81	66	71	75	>81
3	>100	75	65	75	64	73	60	76	>81	>81	78	>81
4	>100	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
5	>100	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
6	>100	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
7	>100	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81	>81
8	>100	>81	>81	>81	>81	>81	>81	>81	77	>81	>81	>81
9	>100	>81	>81	>81	>81	>81	>81	>81	>81	61	>81	>81
10	>100	>81	>81	>81	>81	>81	>81	>81	>81	>81	73	>81
RF CAL	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

LO HARMONICS ORDER

Test conditions:
RF IN: 250.1 MHz; -14.00 dBm.
LO IN: 280.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -19.3 dBm

RF HARMONICS ORDER

(-dBm)		(-dBc)									
0	-	-	29	33	24	47	38	50	50	58	67	81
1	-	21	+0	28	12	34	26	48	43	61	53	64
2	94	54	51	56	51	56	58	66	61	65	67	77
3	>100	54	40	50	43	51	38	56	50	59	60	71
4	>100	73	70	75	64	75	63	77	68	88	76	79
5	>100	75	66	61	52	66	52	64	53	65	69	76
6	>100	>91	>91	87	86	87	79	80	74	81	78	>91
7	>100	>91	87	88	80	73	67	80	66	75	63	76
8	>100	>91	>91	>91	>91	88	>91	>91	>91	89	87	>91
9	>100	>91	>91	>91	>91	>91	82	83	81	72	79	>91
10	>100	>91	>91	>91	>91	>91	>91	>91	>91	>91	78	>91
RF CAL	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

LO HARMONICS ORDER

Test conditions:
RF IN: 250.1 MHz; -4.00 dBm.
LO IN: 280.01 MHz; +7.00 dBm
IF OUT: 29.91 MHz; -9.36 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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