

Frequency Mixer

SAM-1+

Level 7 (LO Power +7 dBm) 1 to 600 MHz



Generic photo used for illustration purposes only

CASE STYLE: A03

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

LO	8
RF	1
IF	3,4 [^]
GROUND	2,5,6,7
CASE GROUND	2

[^]pins must be connected together externally

Features

- low conversion loss, 5.67 dB typ.
- high isolation L-R, 45 dB typ., 40 dB typ. L-I
- hermetically sealed

Applications

- VHF/UHF
- instrumentation
- federal & defense communications

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF f_L - f_U	IF	Mid-Band m		Total Range Max.	Total Range Max.	L		M		U		L		M		U	
		\bar{X}	σ			Max.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
1-600	DC-600	5.67	0.05	7.0	8.5	55	45	45	30	35	20	50	40	40	25	30	20

1 dB COMP.: +1 dBm typ.

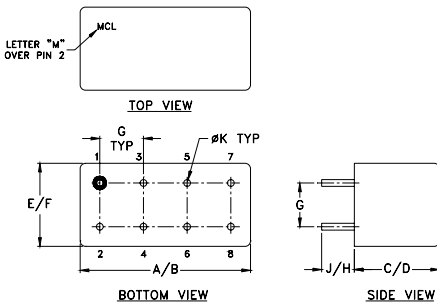
L = low range [f_L to $10 f_L$]

M = mid range [$10 f_L$ to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

m = mid band [$2f_L$ to $f_U/2$]

Outline Drawing



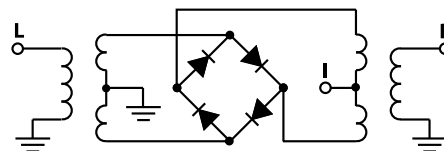
Outline Dimensions (inch/mm)

A	B	C	D	E	F
.480	.500	.390	.405	.210	.230
12.19	12.70	9.91	10.29	5.33	5.84
G	H	J	K	wt	
.100	.20	.14	.020	grams	
2.54	5.08	3.56	0.51	2.3	

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1.00	31.00	7.00	>67.00	1.34	2.92
5.00	35.00	5.81	>67.00	1.23	2.84
20.00	50.00	5.82	>67.00	1.20	2.70
39.65	69.65	5.79	60.82	1.21	2.87
58.97	88.97	5.75	56.81	1.21	2.73
97.62	67.62	5.72	52.49	1.20	2.53
136.26	106.26	5.69	49.36	1.18	2.46
174.91	144.91	5.77	47.07	1.16	2.46
200.00	170.00	5.87	45.71	1.15	2.42
232.88	202.88	5.82	44.45	1.11	2.40
271.52	241.52	5.63	42.63	1.21	2.40
310.17	280.17	5.69	41.76	1.29	2.37
348.81	318.81	5.81	40.89	1.27	2.37
387.46	357.46	5.71	40.87	1.27	2.39
426.11	396.11	5.99	38.89	1.29	2.40
464.75	434.75	5.95	37.39	1.30	2.37
500.00	470.00	5.94	37.14	1.31	2.41
522.72	492.72	6.05	37.11	1.32	2.41
561.37	531.37	6.32	37.22	1.33	2.42
600.00	570.00	6.59	35.63	1.34	2.37

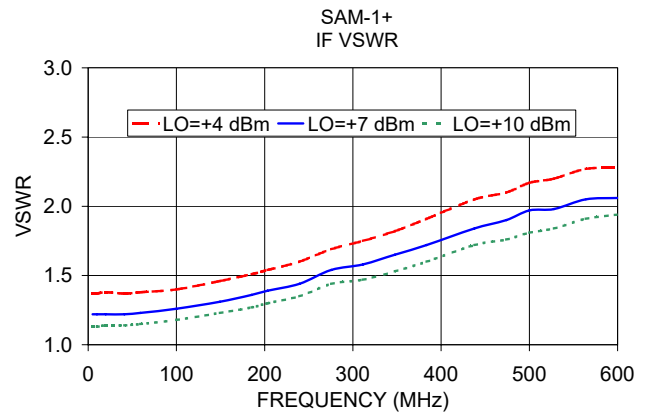
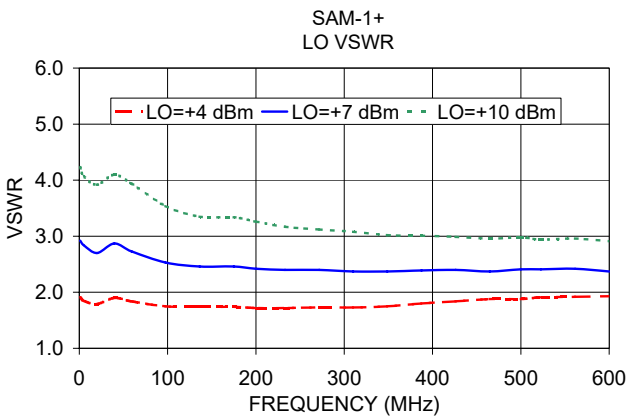
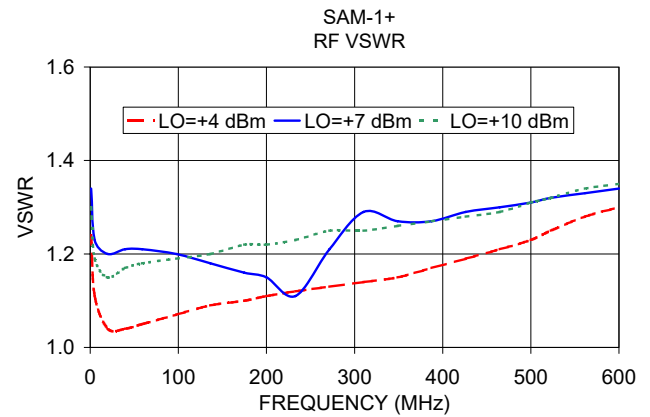
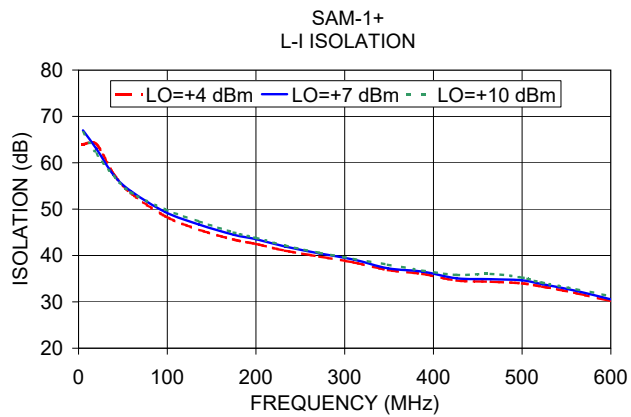
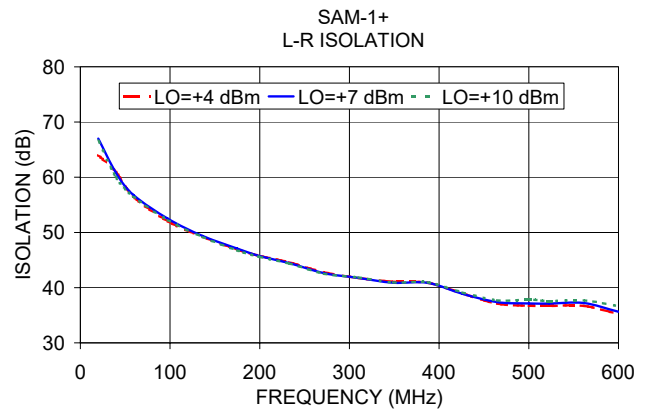
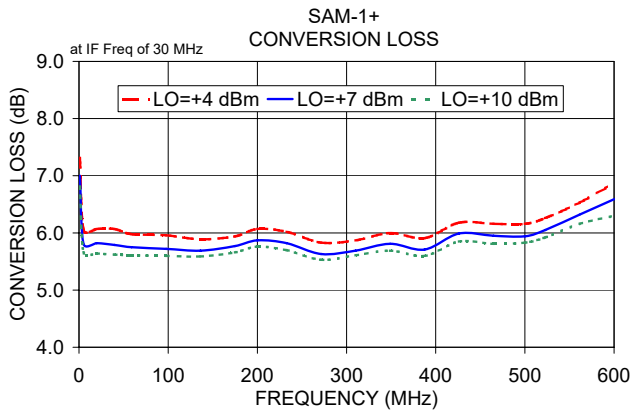
Electrical Schematic



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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