

Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-722MH+

Level 13 (LO Power +13 dBm) 2300 to 7200 MHz



Generic photo used for illustration purposes only

CASE STYLE: HV1195

Maximum Ratings

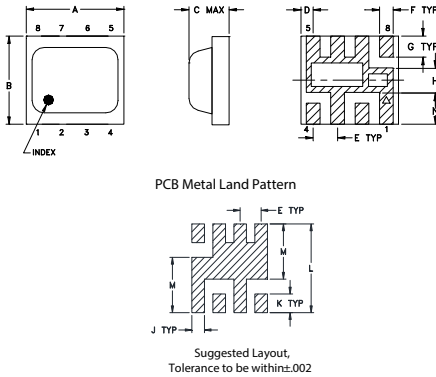
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW

For extended temperature range, consult factory.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

LO	8
RF	4
IF	2
GROUND	1,3,5,6,7

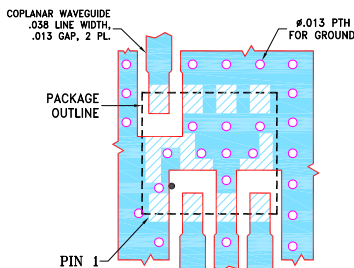
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.2098	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.043	.204	.127	0.065	grams
1.27	0.76	1.09	5.18	3.23	1.65	0.08

Demo Board MCL P/N: TB-382 Suggested PCB Layout (PL-239)



- NOTES:
- TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020"±.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Features

- wide bandwidth, 2300 to 7200 MHz
- low conversion loss, 6.5 dB typ.
- excellent IF BW, DC to 3000 MHz
- LTCC double balanced mixer
- tiny size, low profile, 0.08"
- useable as up and down converter
- aqueous washable
- protected by US patent 7,027,795

Applications

- satellite up and down converters
- defense radar and communications
- line of sight links
- ISM
- WIFI
- blue tooth
- VSAT
- ISM

Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS* (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
2300-7200	DC-3000					
LO/RF $f_c - f_u$	IF	Typ.	σ	Max.		
2300-3200		6.2	0.1	7.7	33	26
3200-3700		6.0	0.1	7.6	30	25
3700-4200		6.1	0.2	7.8	28	23
4200-7200		6.7	0.2	9.3	21	14

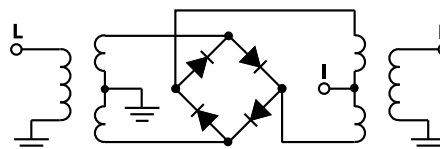
1 dB Compression: +9 dBm typ.

* Conversion loss at 30 MHz IF. σ is a measure of repeatability from unit to unit.

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation (dB)		VSWR RF Port (:1)	VSWR LO Port (:1)
		L-R (dB)	L-I (dB)		
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
2200.00	2230.00	6.16	39.12	25.57	2.86
2600.00	2630.00	6.03	31.85	27.55	3.05
3000.00	3030.00	6.07	30.38	25.74	2.86
3200.00	3230.00	6.02	30.26	24.45	2.57
3600.00	3630.00	5.81	29.81	24.80	2.50
3800.00	3830.00	5.87	28.44	27.73	2.59
4000.00	4030.00	5.88	28.21	30.73	3.19
4200.00	4230.00	6.29	27.20	22.10	2.83
4400.00	4430.00	6.47	26.31	16.52	3.01
4800.00	4830.00	7.15	24.39	13.52	3.36
5000.00	5030.00	6.95	23.42	13.64	3.42
5200.00	5230.00	6.68	22.81	14.44	3.50
5600.00	5630.00	6.65	21.93	16.64	3.29
5800.00	5830.00	6.64	21.60	18.04	3.19
6000.00	6030.00	6.40	21.25	20.04	3.11
6220.00	6250.00	6.63	21.15	22.65	3.02
6640.00	6670.00	6.47	19.90	22.94	3.25
6840.00	6870.00	6.46	19.00	19.65	3.60
7060.00	7090.00	6.90	19.84	16.96	3.63
7260.00	7290.00	7.19	21.20	14.78	4.23

Electrical Schematic



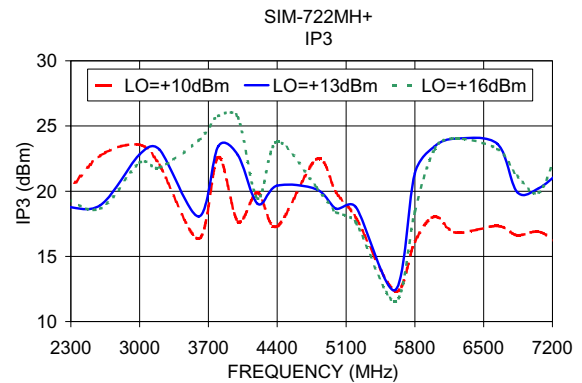
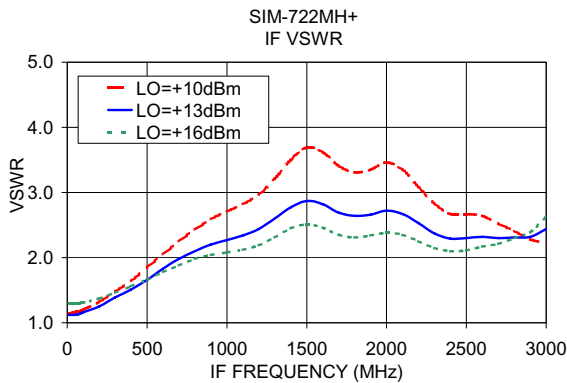
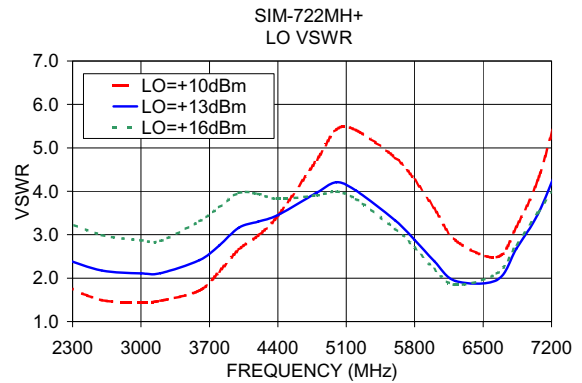
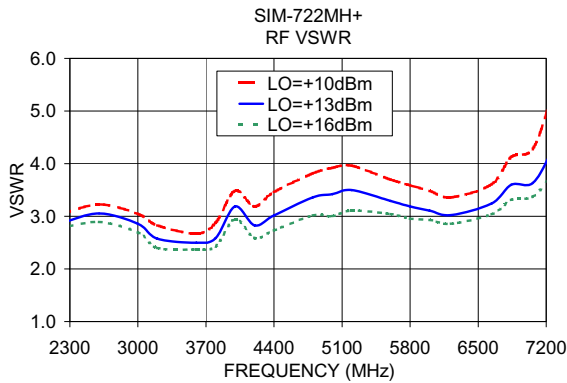
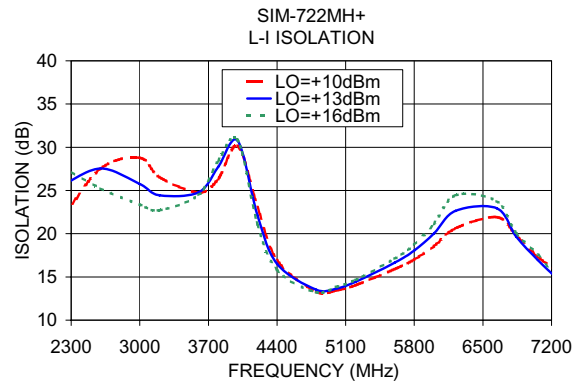
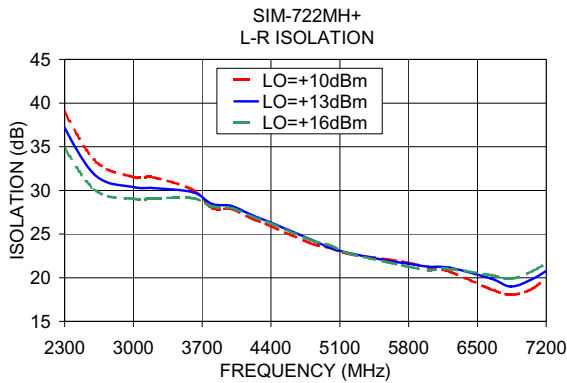
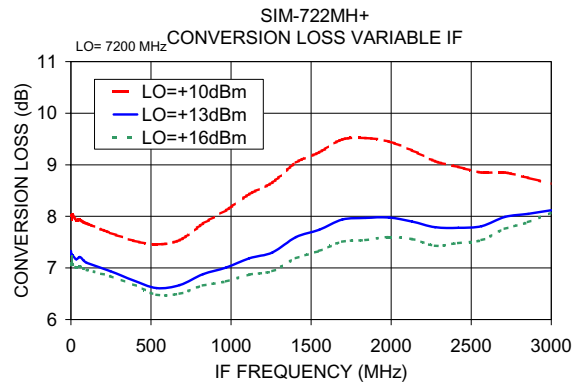
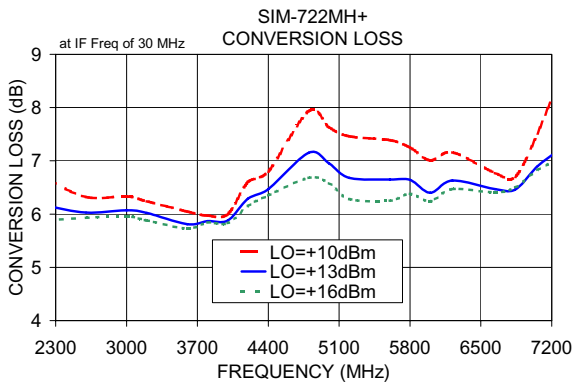
Notes

- 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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. B
ECO-000060
SIM-722MH+
ED-12399/9
DJ/RS/QL
200821



Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[SIM-722MH+](#)