

Up Converter Frequency Mixer

Level 7 (LO Power +7 dBm) 1600 to 6000 MHz

SIM-U63+



Maximum Ratings

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

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

Pin Connections

LO	4
IF (IN)	2
RF (OUT)	8
GROUND	1,3,5,6,7

Features

- up converter mixer
- low conversion loss, 6.9 dB typ.
- high L-R isolation, 39 dB typ.
- ceramic, tiny size
- aqueous washable
- protected by US patent, 7,027,795

Applications

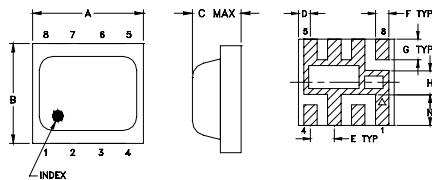
- ISM
- wide band receivers

CASE STYLE: HV1195
PRICE: \$8.95 ea. QTY (10-49)

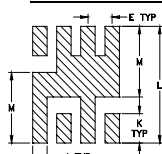
**+ RoHS compliant in accordance
with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Outline Drawing



PCB Land Pattern

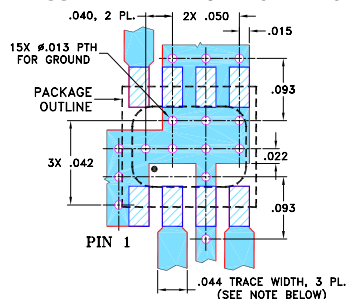


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.21	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.060	0.238	0.144	0.065	grams
1.27	0.76	1.52	6.05	3.66	1.65	0.08

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



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. 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

Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ**	Max.	Typ.	Min.	Typ.	Min.	Typ.
1600-2500	3100-5700	3800-6000	6.9	0.3	8.4	16	10	39	29	10

1 dB Compression: +1 dBm typ.

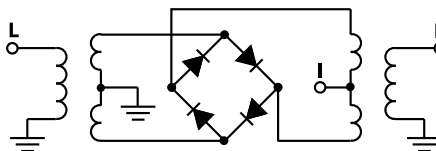
* Conversion loss at 2400 MHz IF

** σ is a standard deviation

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR RF (OUT) Port (:1)	VSWR LO Port (:1)
IF (IN)	LO	RF (OUT)	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2400.00	3100.00	5500.00	6.27	16.24	40.52	1.12	2.43
2400.00	3150.00	5550.00	6.35	16.28	40.43	1.16	2.36
2400.00	3200.00	5600.00	6.43	16.58	40.80	1.25	2.40
2400.00	3250.00	5650.00	6.61	16.60	40.95	1.34	2.32
2400.00	3300.00	5700.00	6.62	16.42	40.63	1.45	2.36
2400.00	3350.00	5750.00	6.79	16.53	40.50	1.55	2.33
2400.00	3400.00	5800.00	6.86	16.64	40.25	1.65	2.36
2400.00	3450.00	5850.00	7.07	16.71	39.98	1.66	2.38
2400.00	3500.00	5900.00	7.10	16.22	39.21	1.71	2.38
2400.00	3550.00	5950.00	7.22	16.61	39.49	1.66	2.46
2400.00	3600.00	6000.00	7.29	16.80	39.30	1.55	2.39

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

The Design Engineers Search Engine



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For detailed performance specs
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IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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.

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