

High IP3 Frequency Mixer

LAVI-452VH+

Level 23 (LO Power +23 dBm) 3220 to 4500 MHz



Maximum Ratings

Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+25 dBm
RF Power	+23 dBm

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

LO	10
RF	2
IF	14
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Features

- very high IP3, 33 dBm typ.
- excellent L-R isolation, 45 dB typ. and L-I isolation, 40 dB typ.
- high 1 dB compression, 20 dBm typ.
- shielded metal cover
- aqueous washable
- protected by US Patent 6,807,407

Applications

- broadband wireless 4G system
- WiMax
- amateur radio
- wireless communications
- fixed microwave

CASE STYLE: CK605

PRICE: \$24.95 ea. QTY. (10)

\$17.95 ea. QTY. (100)

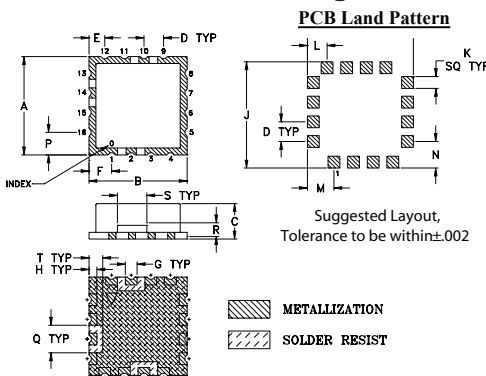
+RoHS Compliant

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

Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	3220	—	4500	MHz
Frequency Range, LO	2370	—	3650	MHz
Frequency Range, IF	300	—	1500	MHz
Conversion Loss	—	8.6	9.8	dB
LO to RF Isolation	28	36	—	dB
LO to IF Isolation	25	32	—	dB
IP3	—	33	—	dBm
RF Input Power at 1 dB Compression	—	+20	—	dBm

Outline Drawing

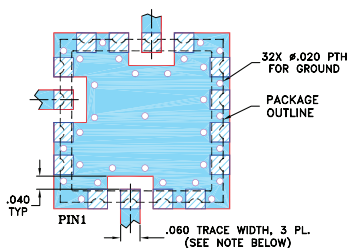


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.572	2.54	2.032	2.921	1.524	1.016	13.72	1.524

L	M	N	P	Q	R	S	T	wt.
.100	.135	.135	.115	.140	.070	.150	.070	grams
2.54	3.429	3.429	2.921	3.556	1.778	3.81	1.778	1.0

Demo Board MCL P/N: TB-433+ Suggested PCB Layout (PL-012)

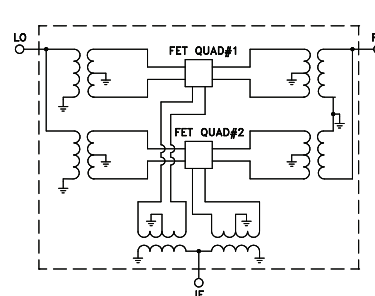


- NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)	IF Freq. (MHz)	VSWR IF (:1)	
								LO	+23dBm
3220	2370	7.73	36.18	37.19	2.45	3.74	33.77	290	1.98
3500	2650	7.49	43.81	45.20	1.84	4.88	32.85	410	1.78
3600	2750	7.42	44.44	41.81	1.66	4.23	33.39	500	1.64
3700	2850	7.40	43.91	39.37	1.48	3.34	34.11	600	1.52
3800	2950	7.45	44.73	37.42	1.36	3.04	34.40	700	1.45
3900	3050	7.55	47.43	36.34	1.30	2.97	35.16	800	1.42
4000	3150	7.59	49.82	35.87	1.25	2.85	34.80	900	1.43
4100	3250	7.69	49.67	35.83	1.19	2.71	33.56	1000	1.45
4150	3300	7.72	50.73	35.81	1.17	2.79	33.73	1100	1.48
4200	3350	7.90	51.77	35.68	1.14	2.74	33.36	1200	1.52
4300	3450	8.08	50.49	36.06	1.15	2.81	33.47	1300	1.57
4350	3500	8.06	47.88	35.81	1.22	2.48	35.11	1350	1.57
4400	3550	8.33	46.93	36.93	1.28	2.52	31.79	1400	1.61
4450	3600	8.31	44.70	37.50	1.38	2.42	31.63	1450	1.60
4500	3650	8.61	43.96	39.58	1.45	2.29	30.67	1500	1.65

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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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-Circuit's 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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