

High IP3 Frequency Mixer

LAVI-25VH+

Level 23 (LO Power +23 dBm) 400 to 2500 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, 32 dBm typ.
- wideband, 400 to 2500 MHz
- excellent L-R isolation, 50 dB typ. and L-I isolation, 45 dB typ.
- high 1 dB compression, 20 dBm typ.
- shielded metal cover
- aqueous washable
- protected by US Patent 6,807,407

Applications

- cellular/PCS base stations
- ISM applications
- wideband communications
- defense communications



CASE STYLE: CK605
PRICE: \$24.95 ea. QTY. (1-9)
\$17.95 ea. QTY. (100)

+ 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.

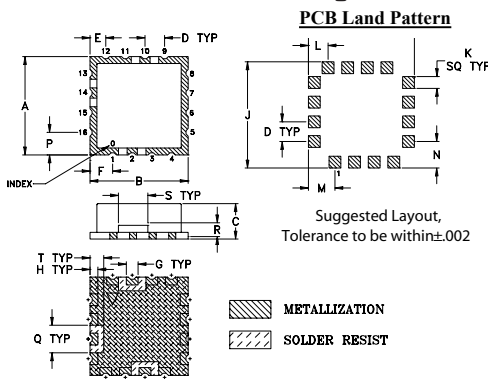
Electrical Specifications (T_{AMB}=25°C)

FREQUENCY (MHz)			CONVERSION LOSS (dB)			RF in at 1dB Compr (dBm)	IP3 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Min.	Typ.	Min.
400-2500	650-2800	70-1500	7.8	0.25	9.6	+20	32	50	35	45	30

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)
RF	LO	LO +23dBm	LO +23dBm	LO +23dBm	LO +23dBm	LO +23dBm	LO +23dBm	LO +23dBm	LO +23dBm
400.10	650.11	7.31	56.98	55.33	1.70	2.76	31.41	70.00	1.07
580.10	834.40	7.32	55.57	45.22	1.73	3.12	32.54	100.00	1.15
760.10	1018.68	7.13	50.30	43.63	1.72	2.86	32.24	150.00	1.35
940.10	1202.97	7.39	45.50	42.65	1.77	2.52	34.15	200.00	1.58
1120.10	1387.25	7.69	43.61	38.94	2.02	2.31	32.65	250.00	1.62
1300.10	1571.54	7.58	42.32	40.68	1.99	2.32	32.17	300.00	1.71
1480.10	1755.82	7.33	44.25	41.72	1.79	2.54	31.38	350.00	1.83
1660.10	1940.11	7.55	46.42	45.12	1.54	3.12	30.99	450.00	2.11
1840.10	2124.40	7.76	54.12	46.33	1.43	3.71	31.99	650.00	2.26
2020.10	2308.68	7.76	48.47	43.32	1.44	4.13	32.38	850.00	2.04
2200.10	2492.97	7.68	41.85	36.56	1.50	4.40	32.37	1050.00	1.82
2380.10	2677.25	7.61	39.02	33.28	1.57	3.89	32.32	1250.00	1.56
2500.10	2800.11	7.91	39.71	34.21	1.70	2.47	31.79	1500.00	1.47

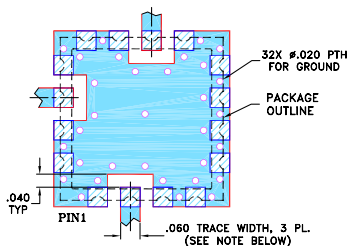
Outline Drawing



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	

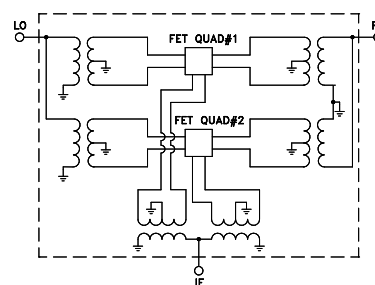
Demo Board MCL P/N: TB-433+ Suggested PCB Layout (PL-012)



- 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

Electrical Schematic



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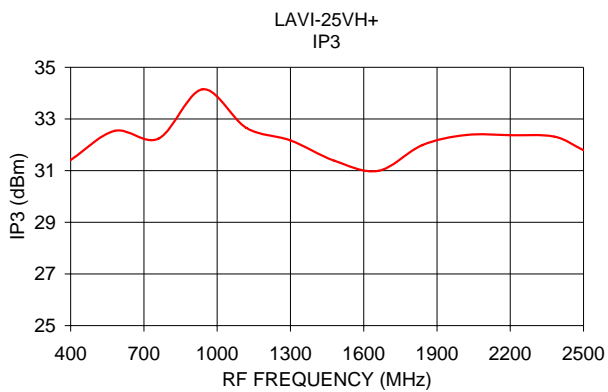
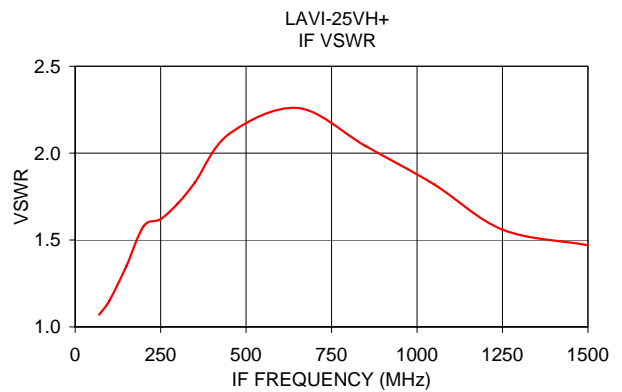
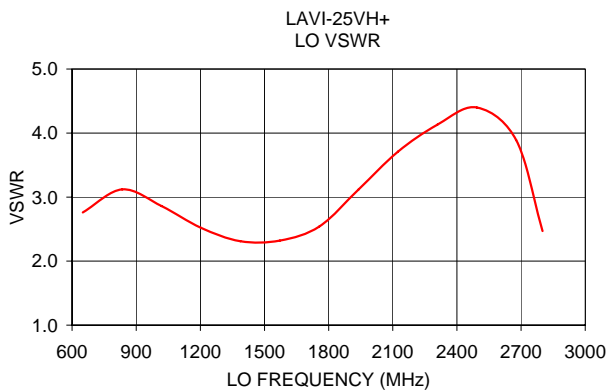
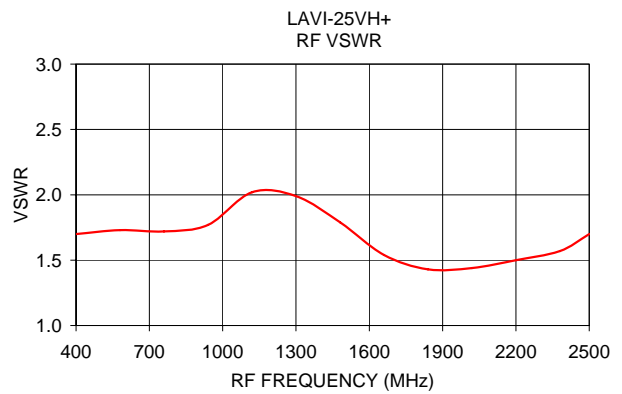
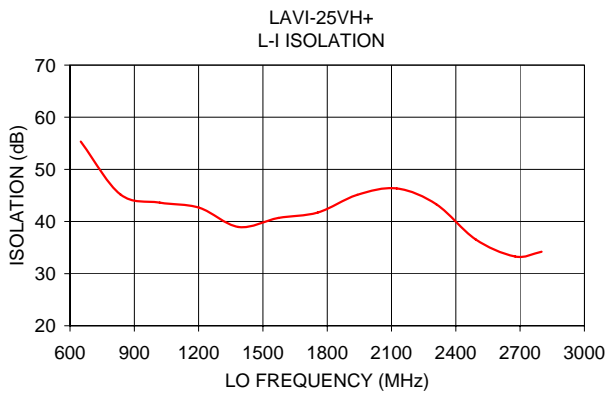
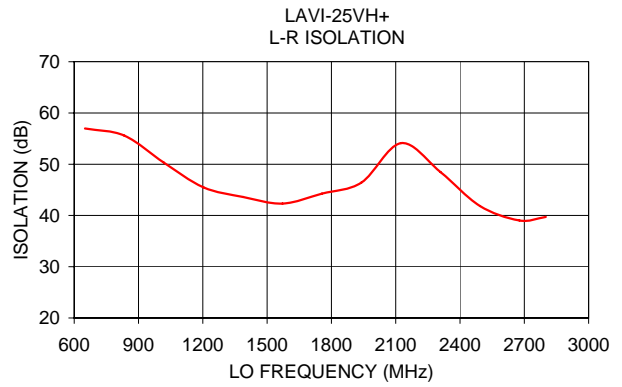
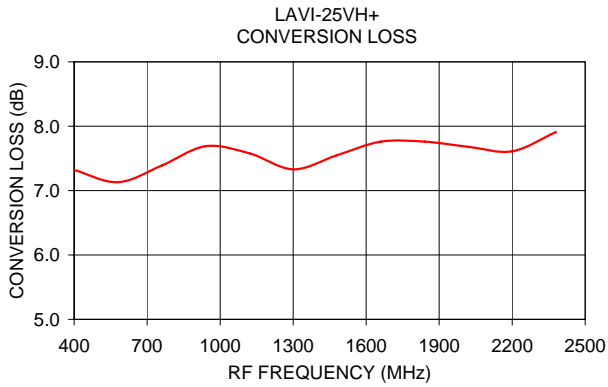
For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

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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Harmonic Table ($T_{AMB} = 25^{\circ}C$) (Relative to desired IF output)

RF HARMONICS ORDER	RF.CAL (-dBc)											
	0	1	2	3	4	5	6	7	8	9	10	
0	-	-	9	16	20	23	22	55	31	49	43	53
1	-	36	+0	27	16	41	35	54	48	52	57	57
2	100	45	60	49	62	44	58	51	60	61	68	71
3	>111	82	82	79	67	77	69	88	79	90	94	109
4	>125	102	100	100	91	99	92	93	98	97	108	102
5	>125	119	115	110	105	112	107	>117	109	116	>119	>120
6	>125	>118	>122	118	>121	115	>115	>117	117	116	>123	>118
7	>125	>119	>119	>122	123	>117	>121	>116	>121	120	>123	>122
8	>125	>120	>119	>117	>123	>121	>120	>122	>121	>121	>121	122
9	>125	>119	>120	>120	>119	>124	>123	>121	>122	>122	>120	>123
10	>125	>120	>119	>120	>119	>122	>123	122	>122	>121	>122	>121

Test conditions: RF IN: 1250.10 MHz, +.02 dBm.
 LO IN: 1500.01 MHz, +23.00 dBm.
 IF OUT: 249.91 MHz, -7.56 dBm.
 C. LOSS: 7.58 dB.