High IP3

Frequency Mixer

LAVI-252H+

Level 17 (LO Power +17 dBm) 200 to 2500 MHz

CASE STYLE: CK605

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

Maximum Ratings

Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+23 dBm
RF Power	+20 dBm

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

Pin Connections

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

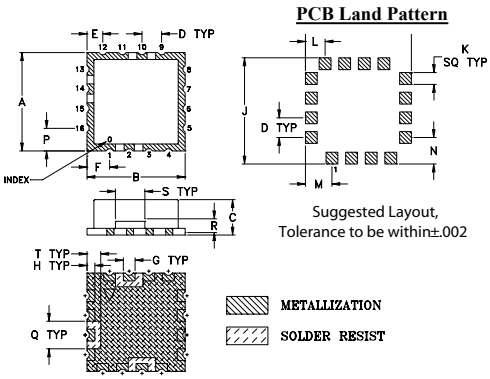
Features

- high IP3, 25 dBm typ.
- wideband, 200 to 2500 MHz
- excellent L-R isolation, 40 dB typ. and L-I isolation, 45 dB typ.
- high 1 dB compression, 17 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

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

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

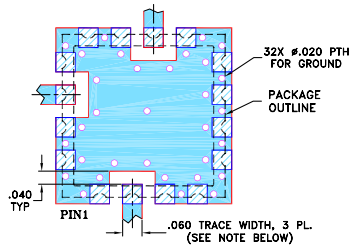
FREQUENCY (MHz)			CONVERSION LOSS* (dB)			RF in at 1dB Compr (dBm)	IP3 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Min.	Typ.	Min.
200-2500	130-2430	50-2000	7.8	0.25	10.3	+17	25	40	25	45	33

*Conversion Loss at IF=70 MHz

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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm		LO +17dBm
200.10	130.10	7.15	49.54	47.51	1.47	2.09	22.89	50.10	1.31
360.10	290.10	7.07	45.88	49.54	1.64	2.26	23.73	200.10	1.40
520.10	450.10	6.99	46.60	53.42	1.72	2.44	23.68	350.10	1.55
640.10	570.10	7.22	45.06	57.45	1.73	2.57	25.47	500.10	1.81
840.10	770.10	7.34	43.28	71.70	1.69	2.75	24.43	650.10	1.97
960.10	890.10	7.40	42.56	58.43	1.67	2.80	25.57	800.10	2.19
1240.10	1170.10	7.59	44.20	48.94	1.70	2.76	26.35	950.10	2.25
1400.10	1330.10	7.80	44.57	47.62	1.69	2.68	26.80	1100.10	2.31
1560.10	1490.10	7.62	41.48	46.18	1.53	2.59	26.27	1250.10	2.21
1720.10	1650.10	7.54	39.51	46.16	1.26	2.53	24.16	1400.10	2.19
1880.10	1810.10	7.72	39.24	45.42	1.32	2.61	23.32	1550.10	1.93
2000.10	1930.10	7.79	38.56	44.29	1.51	2.70	24.43	1700.10	1.77
2160.10	2090.10	8.20	36.91	44.23	1.75	2.77	25.60	1850.10	1.54
2360.10	2290.10	8.64	35.23	47.27	1.96	2.68	26.89	1930.10	1.51
2500.10	2430.10	9.15	34.83	52.94	2.05	2.54	27.99	2000.10	1.46

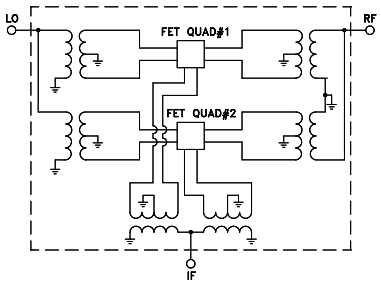
Demo Board MCL P/N: TB-433+
Suggested PCB Layout (PL-012)



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



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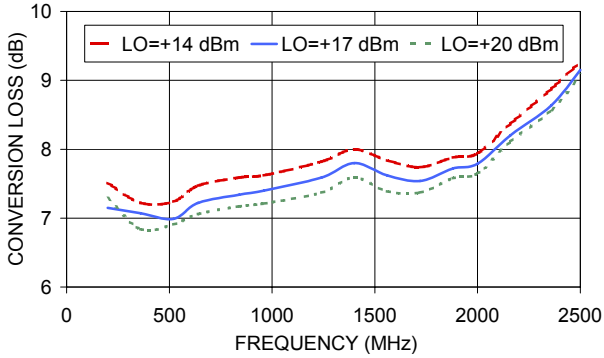
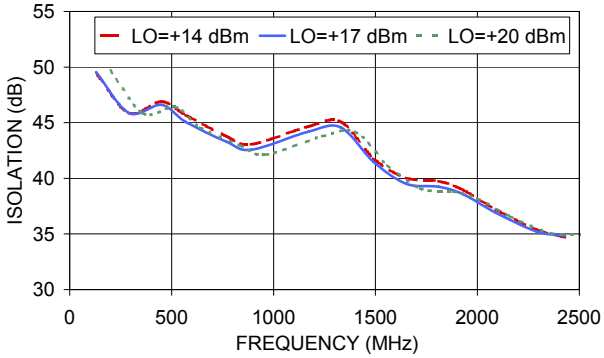
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

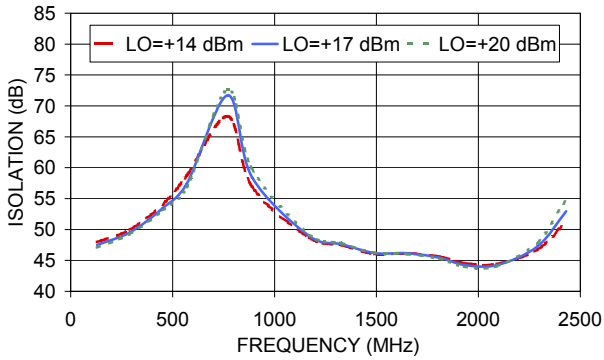
LAVI-252H+
CONVERSION LOSS



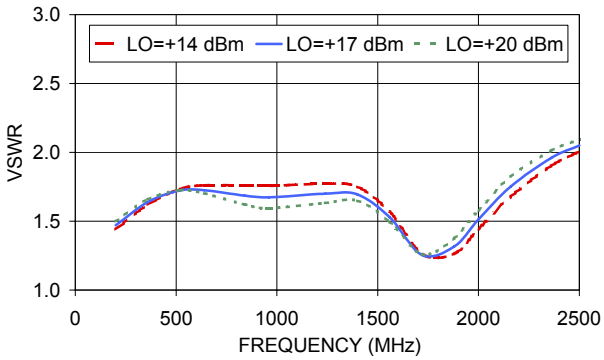
LAVI-252H+
L-R ISOLATION



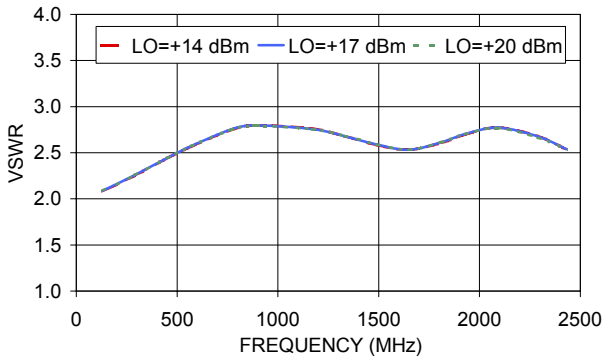
LAVI-252H+
L-I ISOLATION



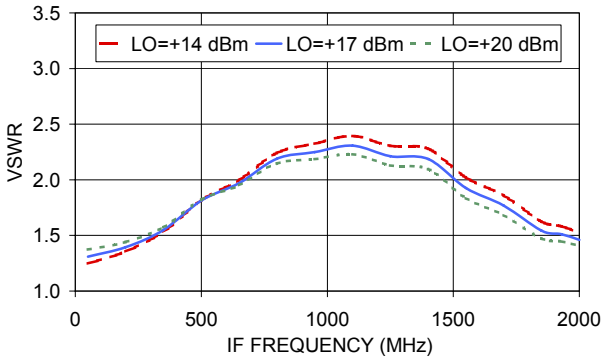
LAVI-252H+
RF VSWR



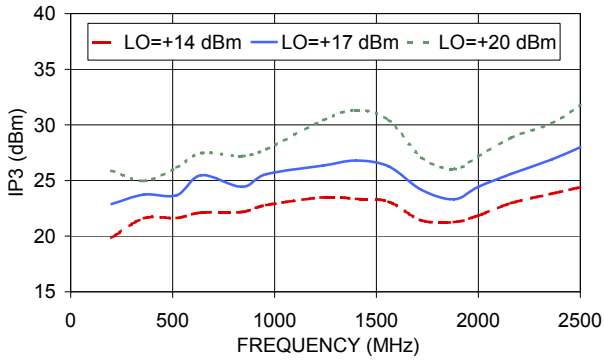
LAVI-252H+
LO VSWR



LAVI-252H+
IF VSWR



LAVI-252H+
IP3



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