Up Converter
Frequency Mixer

LAVI-U252VH+

Level 21 (LO Power +21 dBm) 10 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	+24 dBm
IF Power	+21 dBm

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

Pin Connections

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

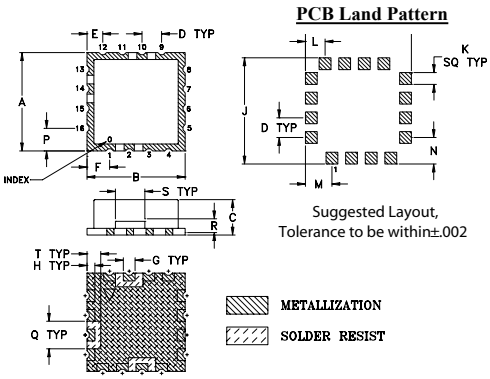
Features

- up converter mixer
- wide input frequency range
- very high IP3, 30 dBm typ.
- excellent L-R isolation, 45 dB typ; L-I isolation, 51 dB typ.
- good 1 dB compression, 16 dBm typ.
- shielded metal cover
- aqueous washable
- protected by US Patent 6,807,407

Applications

- cellular base station
- mobile radio
- defense communications
- CATV
- VHF/UHF radios

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)

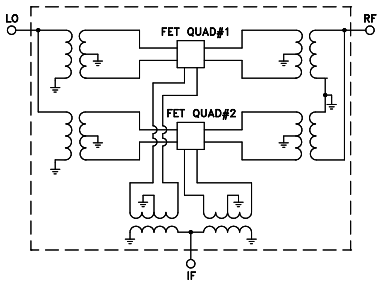
FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ**	Max.	Typ.	Min.	Typ.	Min.	Typ.
10-1300	1800-2800	1500-2500	7.8	0.15	9.5	51	33	45	27	30

1 dB COMPR. +16 dBm typ.
* Conversion Loss at 300 MHz IF
** σ is a standard deviation.

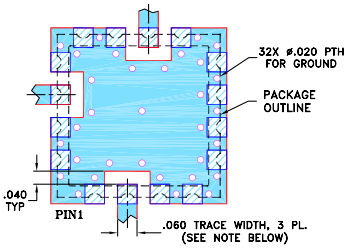
Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	Isolation L-I (dB)	Isolation L-R (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
			LO	LO	LO	LO	LO	LO
IF (IN)	LO	RF (OUT)	+21dBm	+21dBm	+21dBm	+21dBm	+21dBm	+21dBm
300.00	1800.00	1500.00	7.23	55.10	49.97	2.01	3.15	29.03
300.00	1850.00	1550.00	7.05	53.96	48.85	1.95	3.51	30.35
300.00	1900.00	1600.00	7.10	55.08	50.06	1.84	3.04	29.42
300.00	1950.00	1650.00	7.05	54.08	49.09	1.72	3.95	30.71
300.00	2050.00	1750.00	7.13	55.63	48.31	1.49	4.07	30.90
300.00	2100.00	1800.00	7.14	57.37	47.58	1.38	3.72	29.99
300.00	2150.00	1850.00	7.07	56.86	45.18	1.27	4.13	30.44
300.00	2200.00	1900.00	7.06	57.94	44.09	1.19	4.12	29.92
300.00	2300.00	2000.00	7.14	57.28	41.15	1.09	4.37	30.36
300.00	2400.00	2100.00	7.33	55.34	38.74	1.21	4.92	31.47
300.00	2450.00	2150.00	7.44	53.11	38.21	1.31	4.21	31.32
300.00	2500.00	2200.00	7.62	49.33	36.92	1.40	5.85	31.99
300.00	2600.00	2300.00	7.95	44.55	36.63	1.57	5.54	32.82
300.00	2700.00	2400.00	8.14	42.26	38.18	1.62	4.41	33.63
300.00	2750.00	2450.00	8.08	42.86	40.66	1.60	5.42	32.28
300.00	2800.00	2500.00	7.96	41.67	40.72	1.52	3.70	32.62

Electrical Schematic



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

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.
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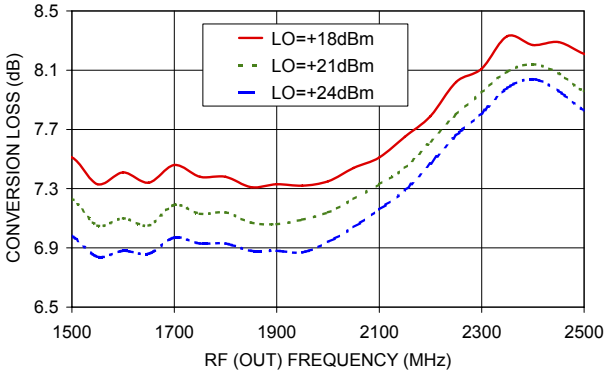
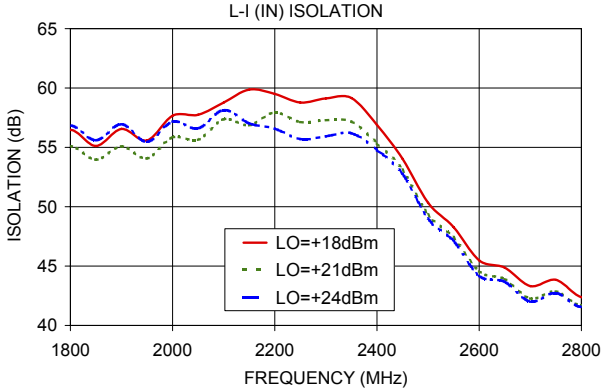
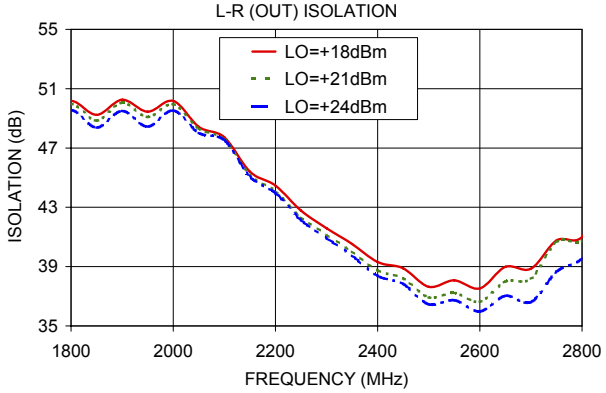
LAVI-U252VH+
CONVERSION LOSS



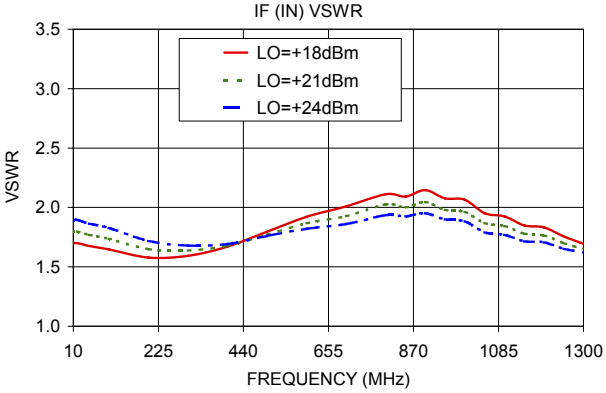
LAVI-U252VH+
L-I (IN) ISOLATION



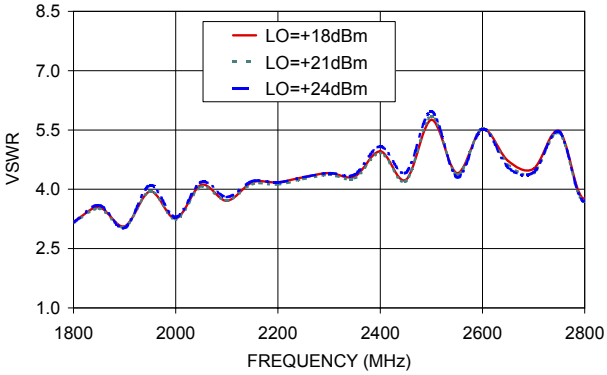
LAVI-U252VH+
L-R (OUT) ISOLATION



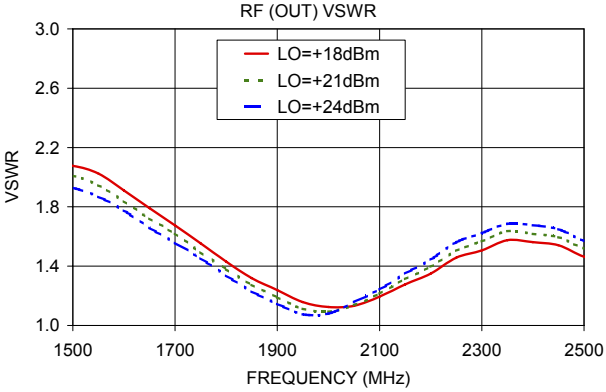
LAVI-U252VH+
IF (IN) VSWR



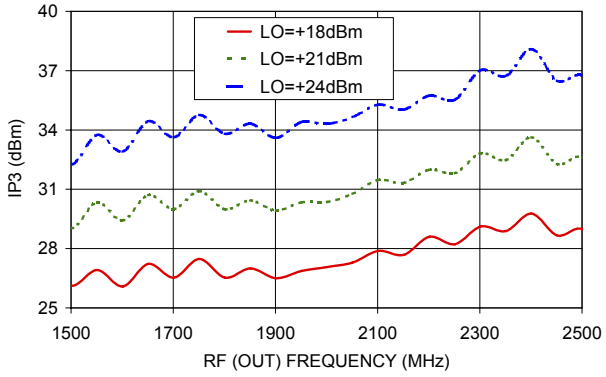
LAVI-U252VH+
LO VSWR



LAVI-U252VH+
RF (OUT) VSWR



LAVI-U252VH+
IP3



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