

# High IP3 Frequency Mixer

## LAVI-23VH+

### Level 20 (LO Power +20 dBm) 1200 to 2000 MHz



CASE STYLE: CK605  
PRICE: \$22.95 ea. QTY. (1-9)  
\$15.95 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.

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

#### Features

- excellent IP2, 60 dBm typ.
- very high IP3, 30 dBm typ.
- excellent L-R isolation, 58 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

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

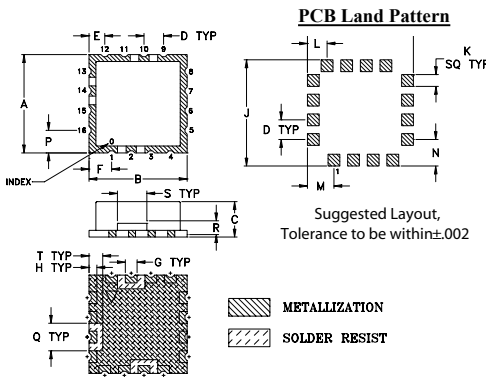
#### Electrical Specifications (T<sub>AMB</sub>=25°C)

FREQUENCY (MHz)			CONVERSION LOSS (dB)			RF in at 1dB Compr. (dBm)	IP3 (dBm)	IP2 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Typ.	Min.	Typ.	Min.
1200-2000	1270-2070	50-1000	8.4	0.25	9.8	+20	30	60	58	40	40	30

#### Typical Performance Data

Frequency (MHz)		Conv. Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)	IP2 (dBm)	IF Freq. (MHz)	VSWR IF (:1)
RF	LO	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm	LO +20dBm
1130.10	1200.10	8.03	58.01	48.07	2.55	3.21	27.33	64.81	50.56	2.25
1210.10	1280.10	8.11	61.92	45.06	2.35	3.07	27.38	70.09	131.48	2.17
1290.10	1360.10	8.20	66.68	43.03	2.12	2.92	27.93	69.70	171.94	2.08
1370.10	1440.10	8.31	69.52	41.84	1.90	2.82	28.87	69.69	212.40	2.07
1450.10	1520.10	8.44	60.76	40.90	1.70	2.77	29.84	69.89	293.32	1.93
1510.10	1580.10	8.51	63.12	40.69	1.58	2.74	31.14	74.50	374.24	1.77
1590.10	1660.10	8.47	71.54	40.56	1.58	2.77	30.60	71.13	495.62	1.57
1650.10	1720.10	8.49	61.70	41.59	1.61	2.84	30.04	70.61	576.54	1.45
1730.10	1800.10	8.64	54.10	44.07	1.57	2.95	29.73	76.15	697.92	1.32
1790.10	1860.10	8.72	52.88	46.98	1.58	3.02	29.32	64.92	778.84	1.29
1870.10	1940.10	8.78	55.06	51.49	1.58	3.12	28.56	57.71	859.76	1.27
1930.10	2000.10	8.80	60.72	52.56	1.54	3.17	27.93	55.37	960.90	1.31
2010.10	2080.00	8.87	59.17	48.96	1.52	3.20	27.42	56.67	1001.36	1.35

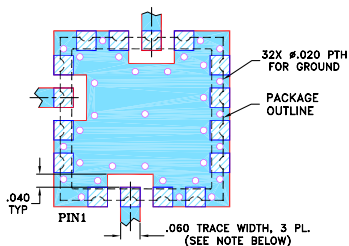
#### Outline Drawing



#### Outline Dimensions (inch/mm)

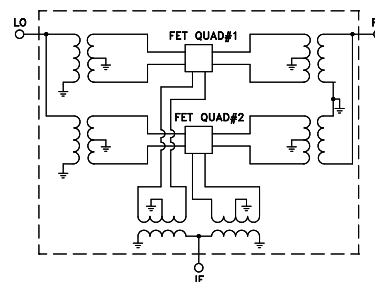
A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.572	2.54	2.032	2.921	1.524	1.016	13.72	1.524
L	M	N	P	Q	R	S	T	wt.	
.100	.135	.135	.115	.140	.070	.150	.070	grams	
2.54	3.429	3.429	2.921	3.556	1.778	3.81	1.778	1.0	

#### 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



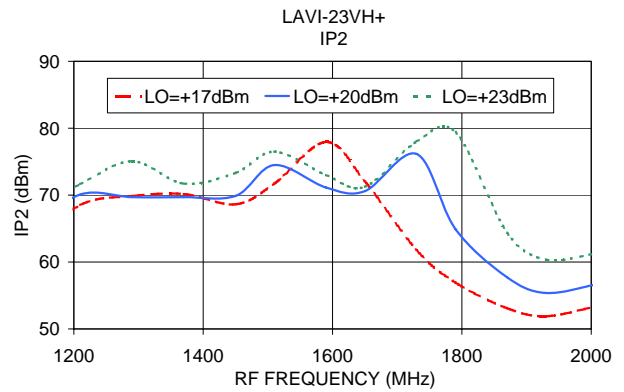
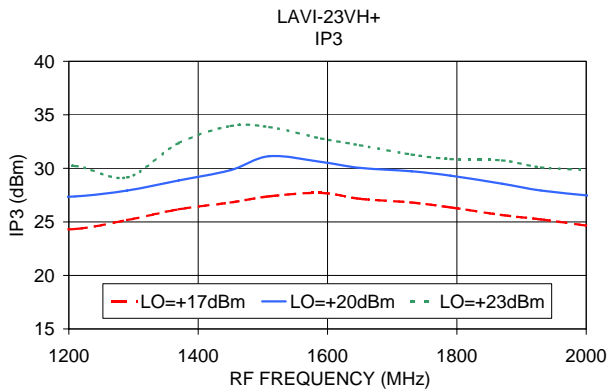
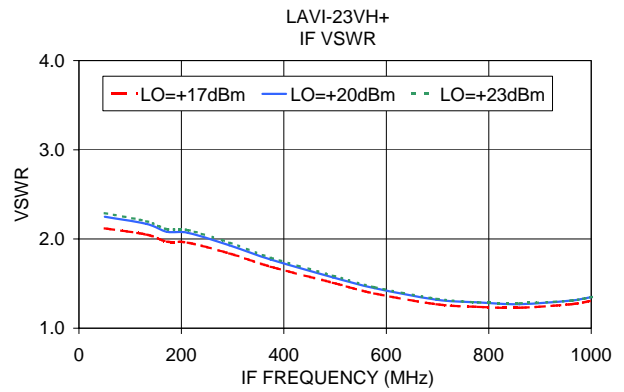
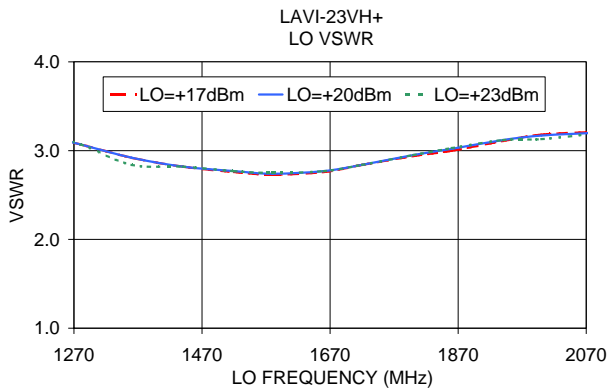
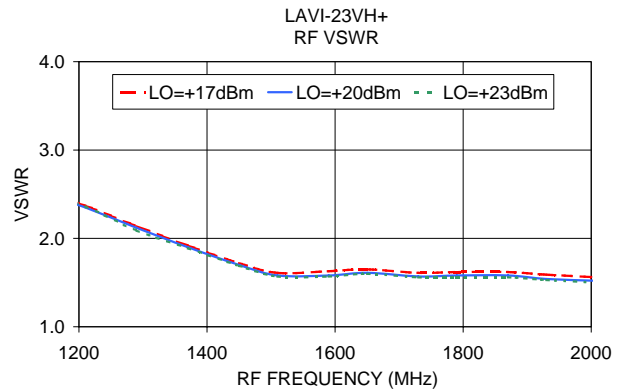
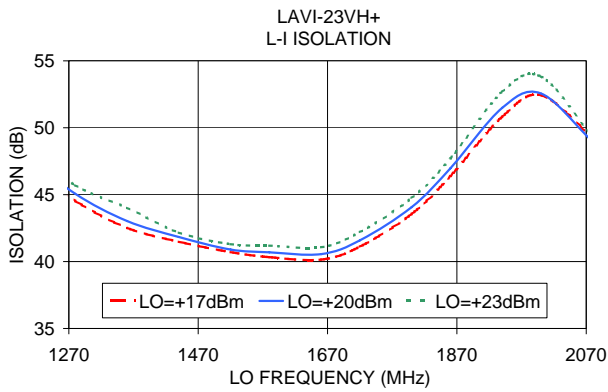
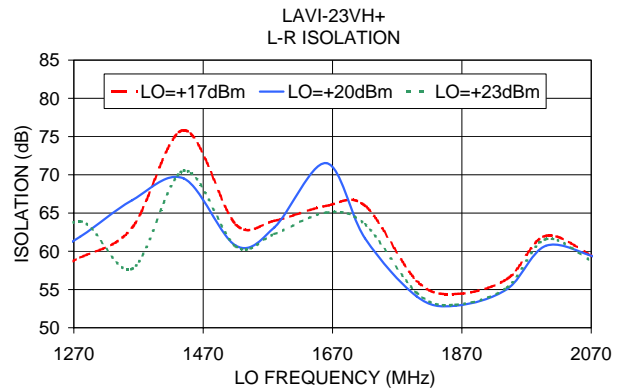
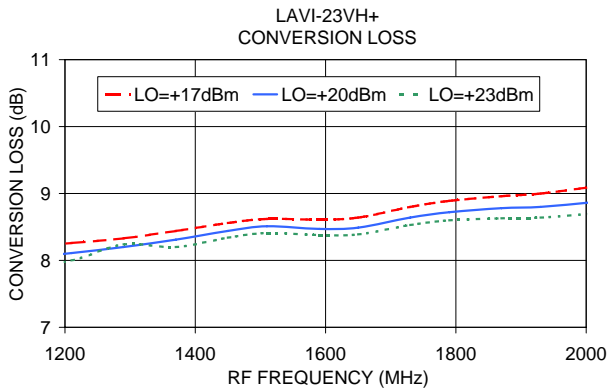
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