

High IP3 Frequency Mixer

LAVI-971VH+

Level 21 (LO Power +21 dBm) 270 to 970 MHz



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.

Maximum Ratings

Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+24 dBm
RF Power	+21 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, 33 dBm typ.
- excellent L-R isolation, 48 dB typ; and L-I isolation, 36 dB typ.
- high 1 dB compression, 20 dBm typ.
- shielded metal cover
- aqueous washable
- protected by US Patent 6,807,407

Applications

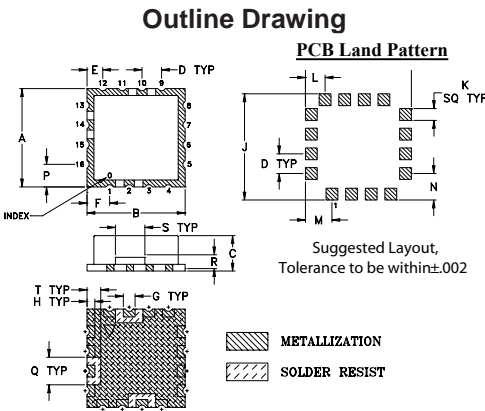
- cellular base stations
- mobile radio
- defense communications
- industrial communications

Electrical Specifications (T_{AMB} = 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.
270-970	340-1040	10-600	7.5	0.12	9.5	+20	33	60	48	32	36	28

Typical Performance Data

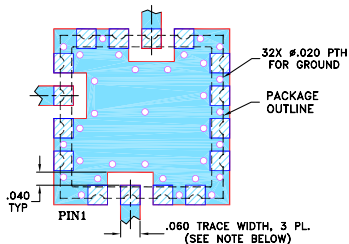
Frequency (MHz)		Conv. Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)	IP2 (dBm)	IF Freq. (MHz)	VSWR IF (:1)
RF	LO	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm
263.60	336.60	6.86	56.36	40.04	1.36	4.43	30.78	70.53	10.00	1.14
295.30	368.30	6.90	58.28	39.90	1.36	4.54	31.20	70.77	41.70	1.10
327.00	400.00	7.01	56.66	39.10	1.36	4.75	30.63	66.84	73.40	1.17
367.00	440.00	6.91	54.07	37.65	1.33	3.38	32.15	65.28	105.10	1.25
407.00	480.00	7.01	53.48	38.10	1.32	3.59	31.30	60.99	136.80	1.30
487.00	560.00	7.11	50.85	38.26	1.28	2.61	33.82	63.96	200.20	1.42
527.00	600.00	7.24	47.68	37.36	1.27	2.37	33.56	64.16	231.90	1.50
567.00	640.00	7.42	46.99	37.73	1.26	2.07	34.15	59.84	263.60	1.57
607.00	680.00	7.54	45.44	36.77	1.26	2.17	33.70	60.56	295.30	1.66
647.00	720.00	7.58	43.92	35.61	1.26	1.92	34.92	58.31	327.00	1.76
687.00	760.00	7.56	43.00	35.27	1.27	2.35	35.35	60.45	367.00	1.85
767.00	840.00	7.50	43.00	36.38	1.33	2.68	33.34	59.13	447.00	2.12
807.00	880.00	7.61	43.56	37.66	1.36	2.23	33.60	60.43	527.00	2.35
847.00	920.00	7.89	44.73	40.20	1.39	2.88	32.28	57.83	967.00	2.51
1007.00	1080.00	8.31	40.03	43.62	1.59	2.19	31.58	55.31	1007.00	2.63



Outline Dimensions (inch/mm)

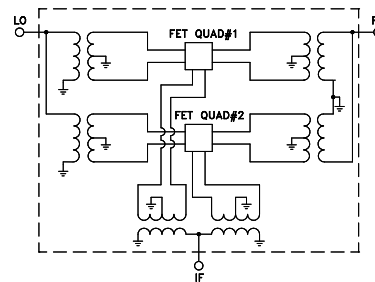
A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.572	2.54	2.032	2.921	1.524	1.016	13.72	1.524
L	M	N	P	Q	R	S	T	wt.	
.100	.135	.135	.115	.140	.070	.150	.070	grams	
2.54	3.429	3.429	2.921	3.556	1.778	3.81	1.778	1.0	

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



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

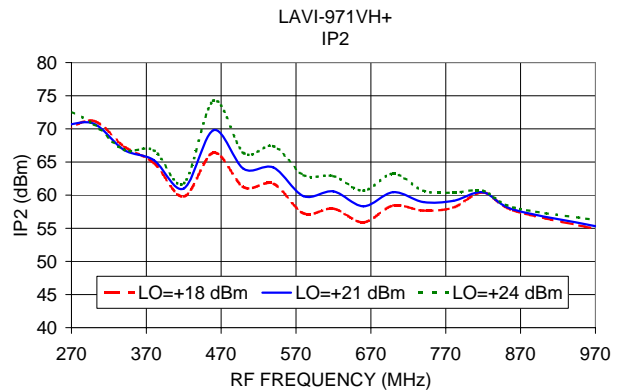
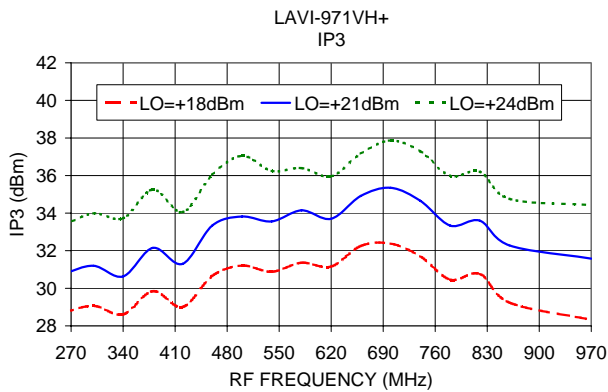
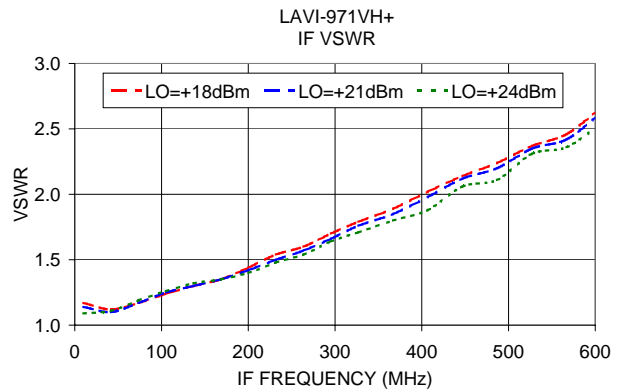
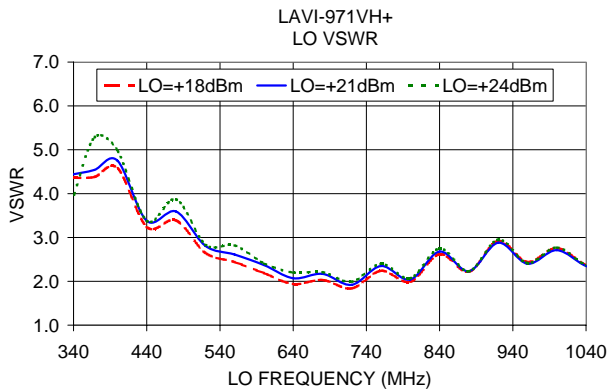
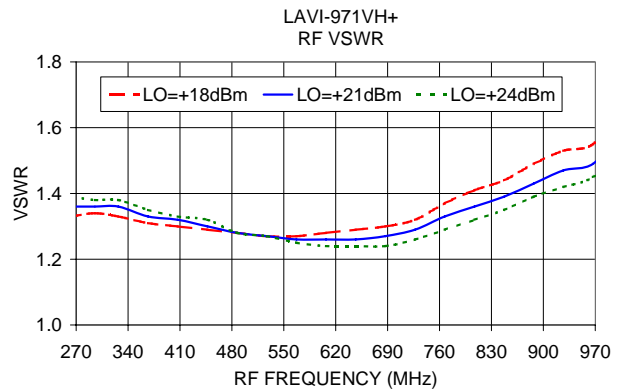
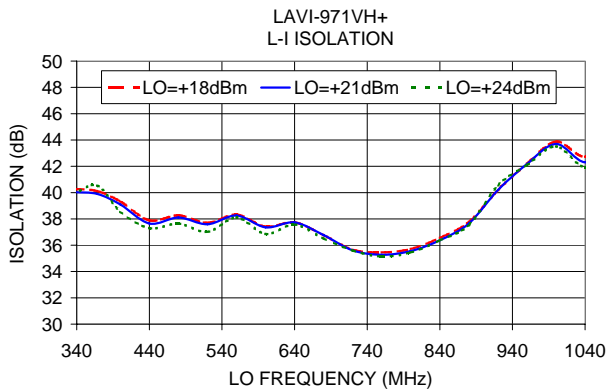
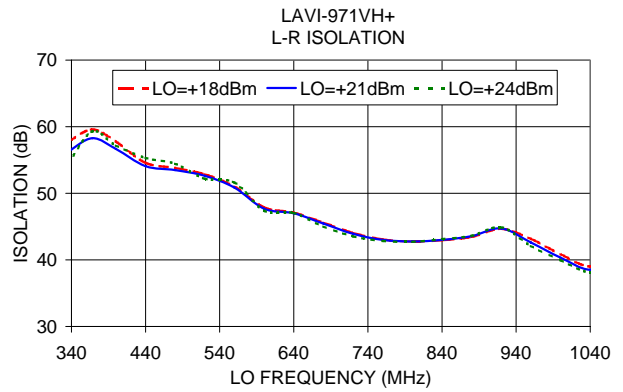
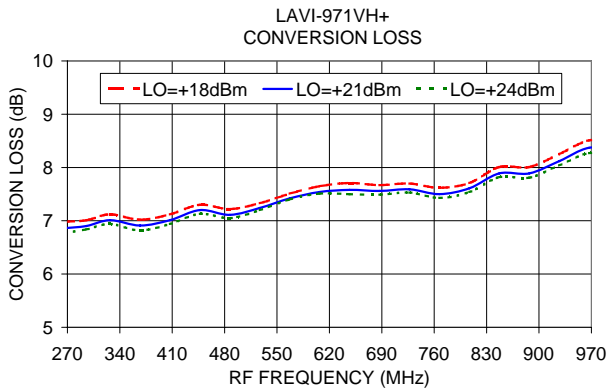
For detailed performance specs & shopping online see web site

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.

REV. OR
M112747
LAVI-971VH+
ED-12344A/1
WL/CP
071207
Page 1 of 2



ISO 9001 ISO 14001 AS 9100 CERTIFIED

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-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.