High IP3

Frequency Mixer

HJK-261H+

Level 17 (LO Power +17 dBm) 120 to 260 MHz

Generic photo used for illustration purposes only

CASE STYLE: TTT881

+RoHS Compliant

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+19 dBm
RF Power	+20 dBm

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

Pad Connections

LO	2
RF	1
IF	3
GROUND	4,5,6

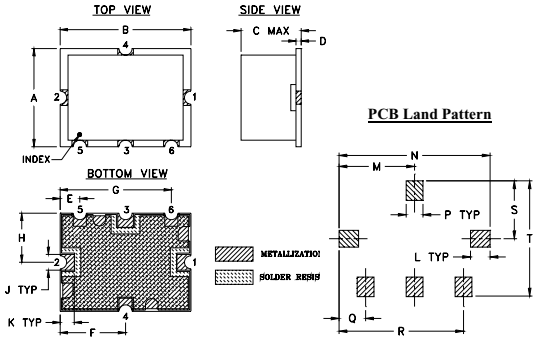
Features

- high IP3, 30 dBm typ.
- excellent L-R isolation, 55 dB typ.; L-I isolation, 37 dB typ.

Applications

- base stations
- amateur radio
- aeronautical
- mobile radio
- radar
- emergency

Outline Drawing



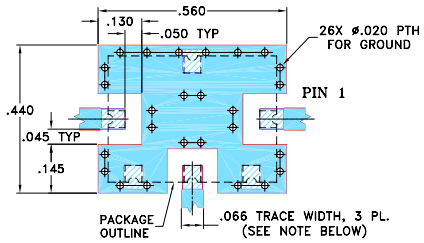
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K
.38	.50	.23	.020	.075	.250	.425	.187	.050	.050
9.65	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	1.27

L	M	N	P	Q	R	S	T	wt.
.070	.270	.540	.060	.095	.445	.208	.415	grams
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8

Demo Board MCL P/N: TB-12
Suggested PCB Layout (PL-079)



NOTE:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. THE USE OF SOLDER MASK OVER THE GROUND AREA UNDER THE UNIT AS SHOWN IS RECOMMENDED TO PREVENT POTENTIAL SHORTING. IF USER CHOOSES TO EXPOSE METAL UNDER THE ENTIRE UNIT GROUND PAD FOR IMPROVED GROUNDING, IT IS RECOMMENDED A SOLDER MASK DAM BE APPLIED AROUND EACH GROUND PAD TO ENSURE FILLET AND CONNECTION AT GROUND PADS.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER), SEE NOTE 2.

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

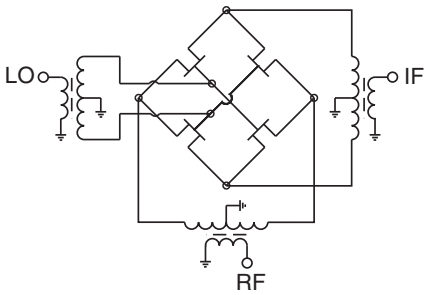
Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	120	—	260	MHz
Frequency Range, LO	190	—	330	MHz
Frequency Range, IF	10	—	150	MHz
Conversion Loss	—	7.1	8.5	dB
LO to RF Isolation	45	55	—	dB
LO to IF Isolation	30	37	—	dB
IP3	—	30	—	dBm
RF Input Power at 1 dB Compression	—	+14	—	dBm

Typical Performance Data

Frequency		Conversion Loss (dB)	Isolation L-R	Isolation L-I	VSWR RF Port	VSWR LO Port	IP3 (dBm)
RF MHz	LO MHz	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
120.0	190.1	6.83	61.00	45.90	2.07	3.67	31.59
136.0	206.1	6.85	59.18	43.59	2.05	3.42	32.64
146.0	216.1	6.95	57.55	42.12	2.09	3.24	33.14
156.0	226.1	6.78	56.37	40.85	2.11	3.00	34.33
161.0	231.1	6.58	55.91	40.25	2.11	2.85	35.11
174.0	244.1	6.50	55.48	38.78	2.07	2.34	36.14
184.0	254.1	6.64	55.75	38.39	2.07	1.92	36.04
194.0	264.1	6.80	55.72	37.75	2.08	1.57	37.31
214.0	284.1	6.66	54.99	37.36	2.04	1.33	35.67
224.0	294.1	6.53	55.51	37.49	1.98	1.49	35.53
244.0	314.1	6.75	57.80	38.90	1.94	1.93	33.40
264.0	334.1	6.84	59.95	40.10	1.90	2.27	32.28

Electrical Schematic



REV. B
M151107
ED-13886/1
HJK-261H+
WL/CP/AM
200819

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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Mini-Circuits®
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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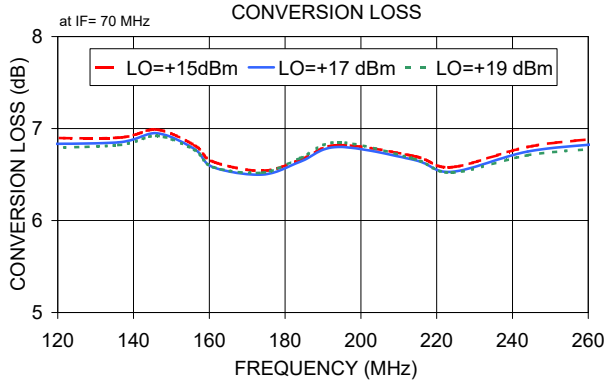
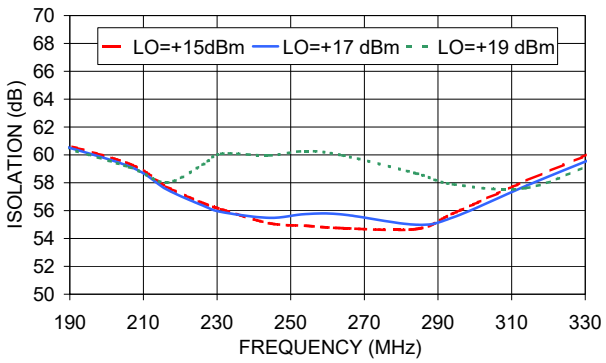
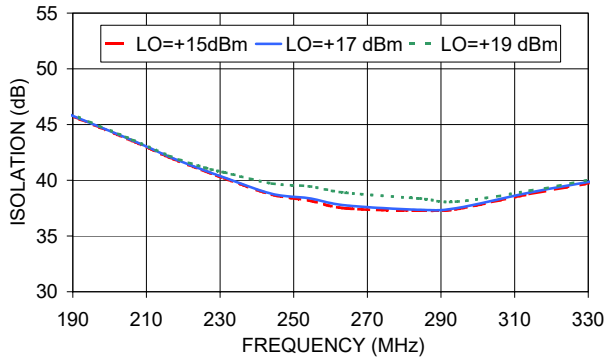
CONVERSION LOSS



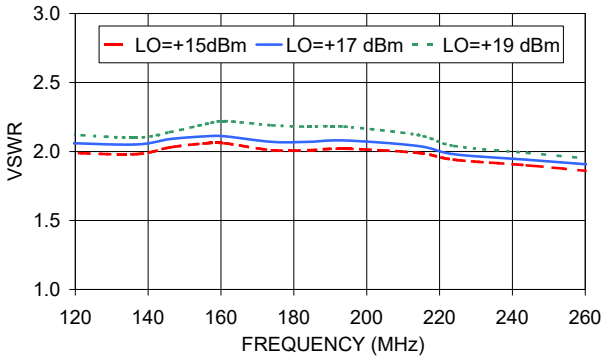
HJK-261H+
L-R ISOLATION



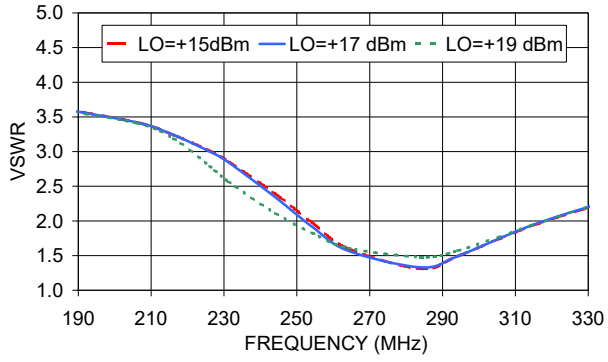
HJK-261H+
L-I ISOLATION



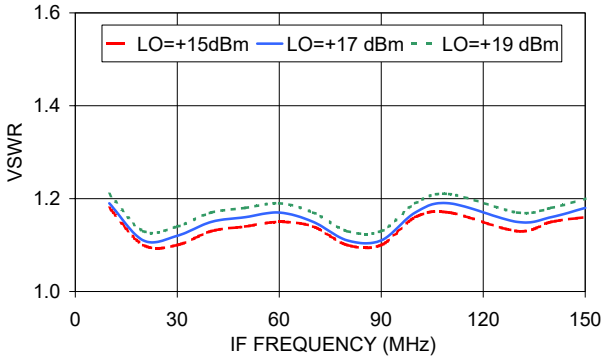
HJK-261H+
RF VSWR



HJK-261H+
LO VSWR



HJK-261H+
IF VSWR



HJK-261H+
IP3