

High IP3

Frequency Mixer

Level 17 (LO Power +17 dBm) 320 to 550 MHz

HJK-551H+



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.	

Pin Connections

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

Features

- high IP3, 30 dBm typ.
- excellent L-R isolation, 53 dB typ.;
- L-I isolation, 38 dB typ.

Applications

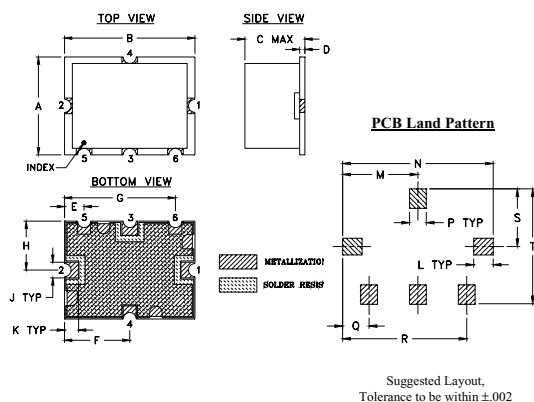
- base stations
- communication systems
- wireless application in Health care
- weather instruments/radar/satellites
- general aviation air to ground telephone
- land mobile radio
- aeronautical
- emergency

CASE STYLE: TTT881
PRICE: \$9.95 ea. QTY. (10)

+RoHS Compliant

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

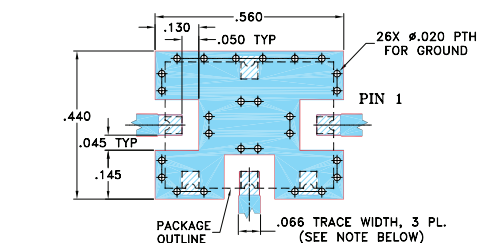
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	
.38	.50	.23	.020	.075	.250	.425	.187	.05
9.65	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27
L	M	N	P	Q	R	S	T	
.070	.270	.540	.060	.095	.445	.208	.415	
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	

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



NOTE:

1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.

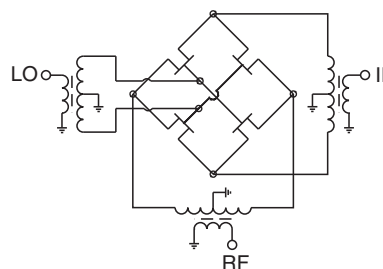
Electrical Specifications at 25°C

Parameter	Condition	Min.	Typ.	Max.	Units
Frequency Range, RF		320		550	MHz
Frequency Range, LO		275		505	
Frequency Range, IF		10		150	
Conversion Loss		—	7.0	8.3	dB
LO to RF Isolation		43	53	—	dB
LO to IF Isolation		30	38	—	dB
IP3		—	30	—	dBm
1 dB Compression (Input)			+20		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
316	271	6.84	57.84	42.84	1.99	3.00	32.72
340	295	6.73	56.55	41.08	1.94	2.71	32.75
380	335	6.75	55.62	38.82	1.86	2.06	34.75
404	359	6.65	55.97	37.93	1.85	1.66	37.26
420	367	6.68	56.16	37.86	1.82	1.54	35.33
420	375	6.57	56.22	37.86	1.80	1.45	37.63
460	415	6.63	56.44	38.55	1.74	1.43	36.38
492	447	6.76	58.22	39.37	1.78	1.71	34.45
500	455	6.79	58.62	39.51	1.79	1.78	37.29
508	463	6.79	58.51	39.94	1.81	1.85	36.32
516	471	6.81	58.62	40.05	1.83	1.91	35.57
524	479	6.84	59.47	40.29	1.86	1.97	33.94
532	487	6.87	60.05	40.92	1.87	2.03	34.83
540	495	6.91	60.08	41.21	1.91	2.08	34.18
548	503	6.98	59.66	41.58	1.95	2.12	34.86
556	511	7.05	57.21	42.05	1.99	2.17	31.13

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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.

For detailed performance specs & shopping online see web site

REV. OR
M137921
ED-13875/1
HJK-551H+
WL/CP/AM
120713
Page 2

