

Frequency Mixer

Level17 (LO Power +17dBm) 1430 to 1650 MHz

HJK-1651H+



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	+20 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

- very high IP3, 32 dBm typ.
- excellent L-R isolation, 45 dB typ.; L-I isolation, 32 dB typ.
- compression, 3 dB higher than LO power
- protected by US Patent 6,807,407

Applications

- aeronautical communication
- differential GPS
- fixed satellite
- mobile satellite
- geostationary mobile

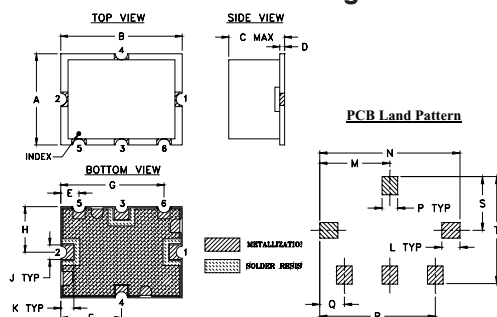
Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	1430		1650	MHz
Frequency Range, LO	1520	—	1740	MHz
Frequency Range, IF	10	—	300	MHz
Conversion Loss	—	7.3	8.3	dB
LO to RF Isolation	35	45	—	dB
LO to IF Isolation	24	32	—	dB
IP3	—	32	—	dBm
RF Input Power at 1 dB Compression	—	+20	—	dBm

Typical Performance Data

Frequency	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF MHz	LO MHz	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
1430.00	1520.00	7.14	47.79	31.97	1.42	30.22
1440.00	1530.00	7.08	47.17	31.70	1.39	31.18
1450.00	1540.00	7.07	47.12	31.60	1.39	31.59
1460.00	1550.00	7.02	47.17	31.69	1.38	32.20
1480.00	1570.00	6.97	47.75	31.92	1.39	32.20
1500.00	1590.00	7.01	46.48	31.92	1.38	31.94
1520.00	1610.00	7.13	45.39	32.04	1.37	33.16
1530.00	1620.00	7.22	45.50	32.03	1.38	33.71
1538.00	1628.00	7.27	45.31	32.15	1.39	34.08
1540.00	1630.00	7.28	45.26	32.21	1.39	34.15
1544.00	1634.00	7.28	45.08	32.35	1.40	33.68
1560.00	1650.00	7.21	44.51	32.98	1.40	32.73
1590.00	1680.00	7.24	44.81	33.72	1.39	32.03
1605.00	1695.00	7.26	44.64	34.20	1.38	32.23
1635.00	1725.00	7.33	45.43	35.26	1.41	31.11
1650.00	1740.00	7.32	45.23	35.92	1.52	30.80

Outline Drawing

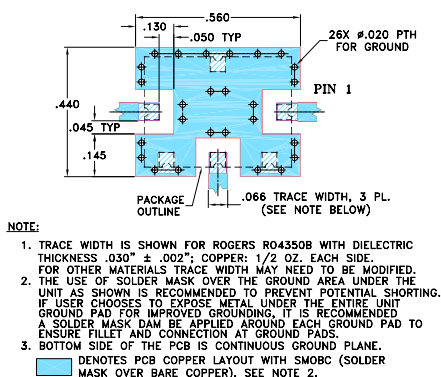


Suggested Layout, Tolerance to be within ±.002

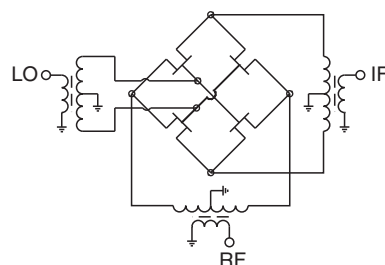
Outline Dimensions (inch)

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)



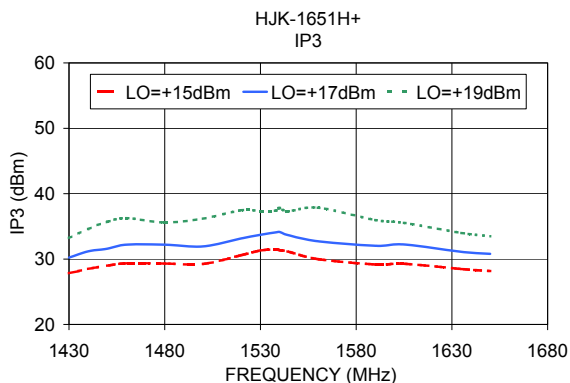
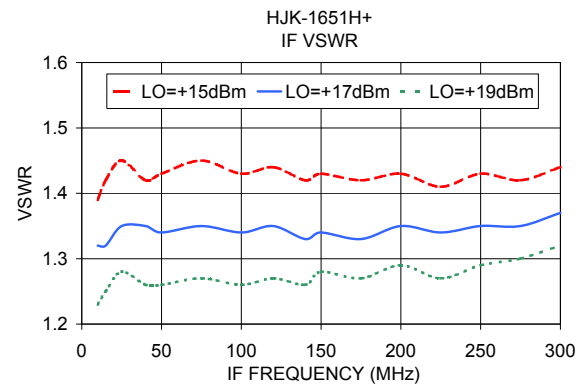
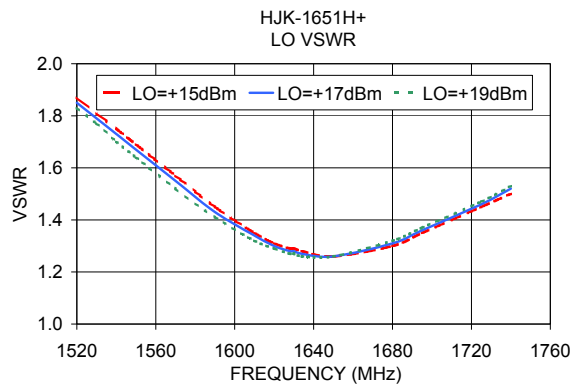
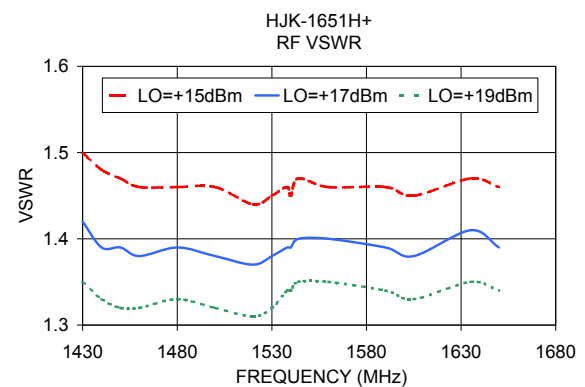
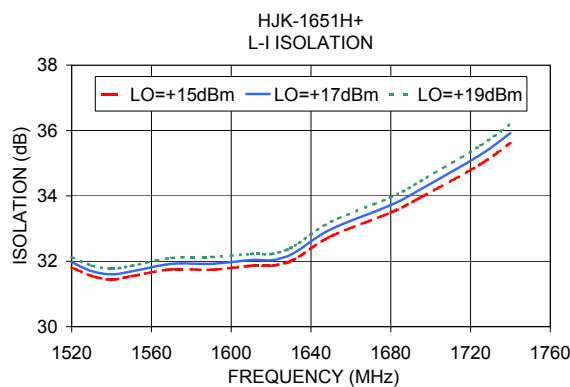
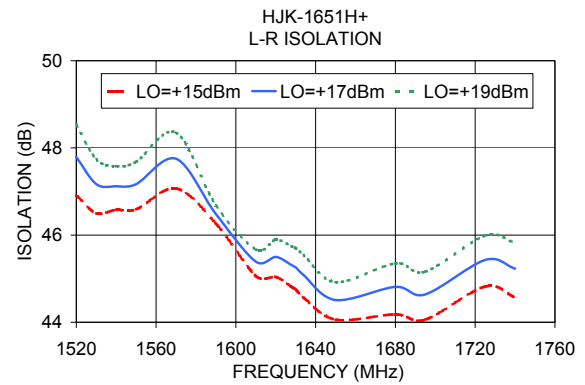
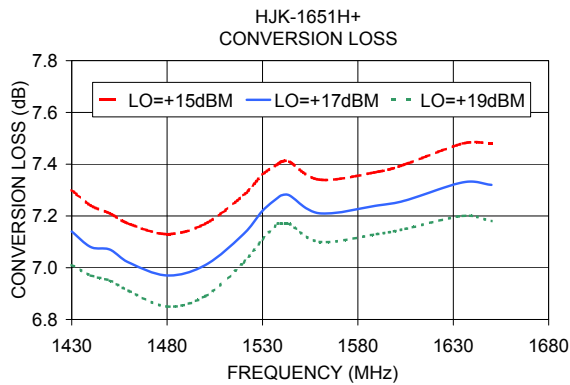
Electrical Schematic



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-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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





Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document 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