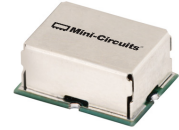


Wideband Frequency Mixer

HJK-272MH+

Level 13 (LO Power +13 dBm) 600 to 2700 MHz



CASE STYLE: TTT881

Maximum Ratings

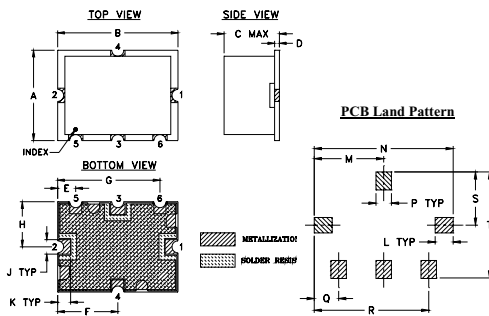
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
LO & RF Power	+20 dBm

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

Pad Connections

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

Outline Drawing

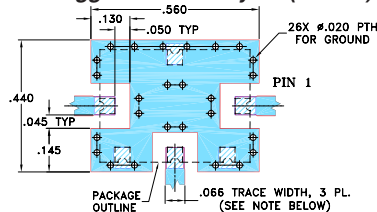


Suggested Layout, Tolerance to be within ±.002

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:

- 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.
- 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.
- 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

Features

- wide band, 600 to 2700 MHz
- good L-R isolation, 37 dB typ.
- protected by US Patent 6,807,407

Applications

- base stations
- communication systems
- cellular
- PCS
- DCS
- radar

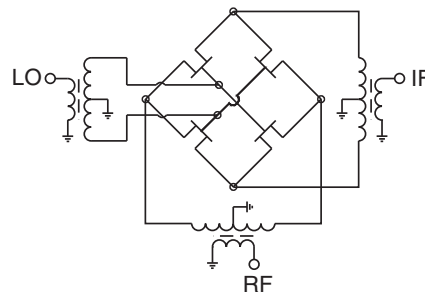
Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF/LO	600	—	2700	MHz
Frequency Range, IF	10	—	1000	MHz
Conversion Loss	—	7.4	9.0	dB
LO to RF Isolation	28	37	—	dB
LO to IF Isolation	20	27	—	dB
IP3	—	21	—	dBm
RF Input Power at 1 dB Compression	—	+16	—	dBm

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
597.00	627.00	7.44	37.11	36.89	2.58	4.40	22.10
642.50	672.50	7.28	38.22	36.20	2.43	4.39	22.41
733.50	763.50	7.00	39.37	37.18	2.19	4.23	22.27
824.50	854.50	6.88	53.10	35.57	2.04	4.08	22.12
900.00	930.00	6.83	55.81	31.90	1.96	3.94	22.33
1047.00	1077.00	6.68	50.14	29.64	1.88	3.57	21.18
1120.50	1150.50	6.64	45.95	28.86	1.78	3.38	21.47
1267.50	1297.50	6.68	43.96	28.54	1.70	3.09	21.73
1341.00	1371.00	6.70	44.91	29.03	1.67	3.00	21.54
1414.50	1444.50	6.80	47.05	29.45	1.62	2.97	22.02
1561.50	1591.50	7.09	45.49	30.79	1.62	3.07	23.43
1671.75	1701.75	7.26	48.74	32.45	1.49	3.20	23.21
1745.25	1775.25	7.04	50.07	34.48	1.34	3.31	21.92
1818.75	1848.75	6.94	48.54	36.93	1.23	3.40	21.27
1965.75	1995.75	6.75	43.78	40.52	1.08	3.51	21.23
2039.25	2069.25	6.73	42.71	40.82	1.06	3.51	21.12
2186.25	2216.25	6.73	42.66	37.01	1.14	3.40	20.68
2333.25	2363.25	6.92	57.54	33.28	1.31	3.14	21.18
2640.00	2670.00	7.38	44.82	28.76	1.72	2.71	21.95
2800.00	2830.00	7.83	41.68	28.65	1.94	2.58	21.76

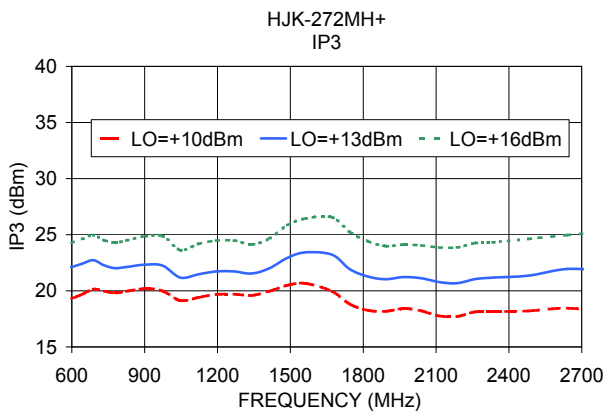
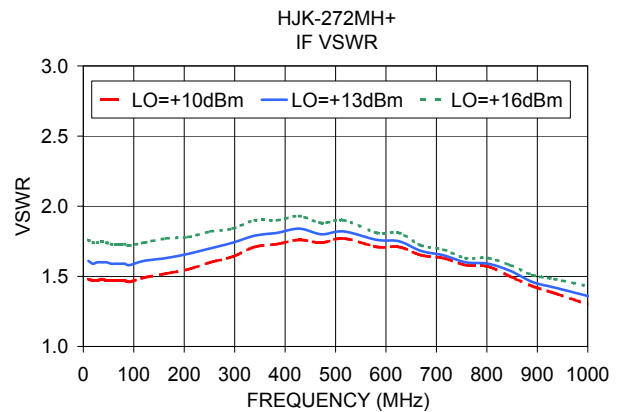
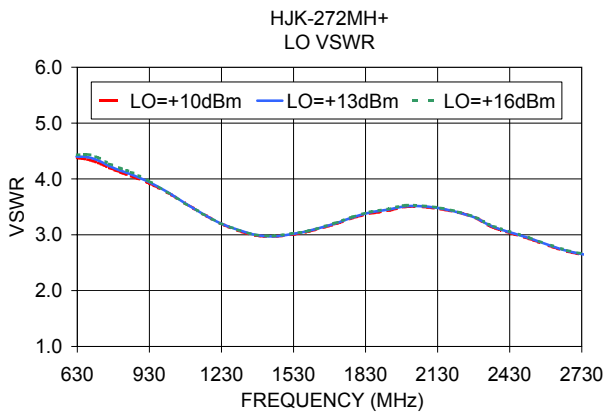
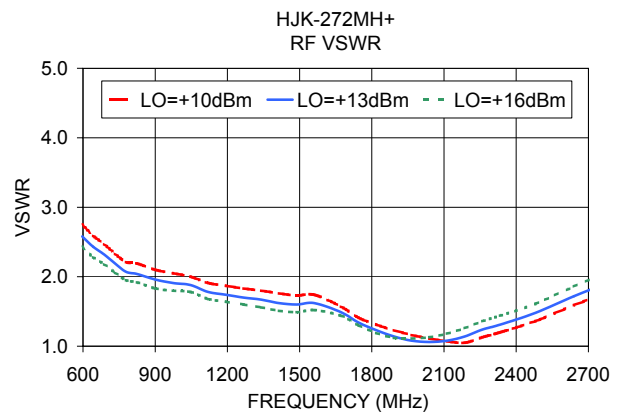
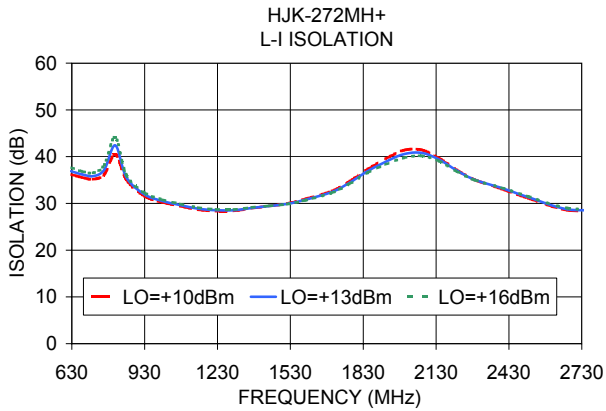
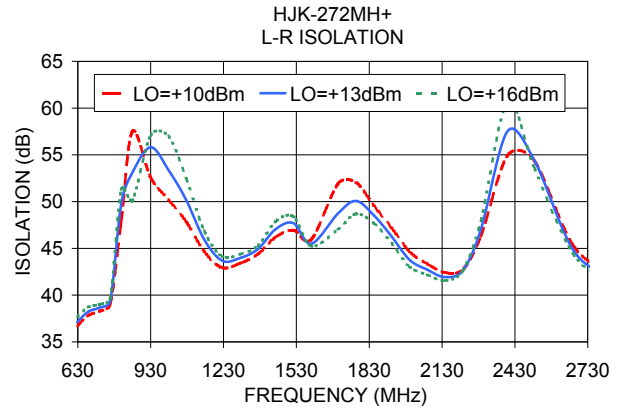
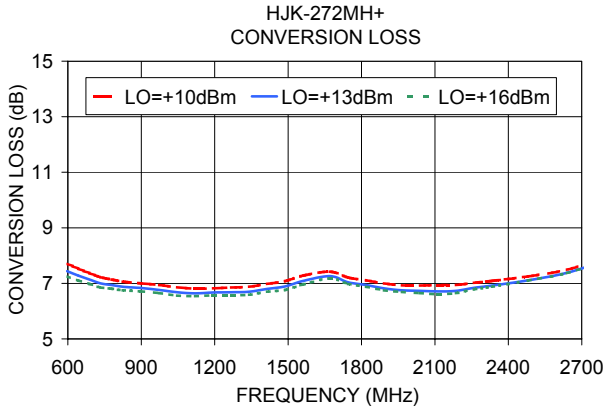
Electrical Schematic



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-Circuit's applicable established test performance criteria and measurement instructions.
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