

# High IP3 Frequency Mixer

Level 13 (LO Power +13 dBm) 818 to 853 MHz

## HJK-9MH+ HJK-9MH



CASE STYLE: TTT167  
PRICE: \$14.95 ea. QTY (1-9)

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

### Maximum Ratings

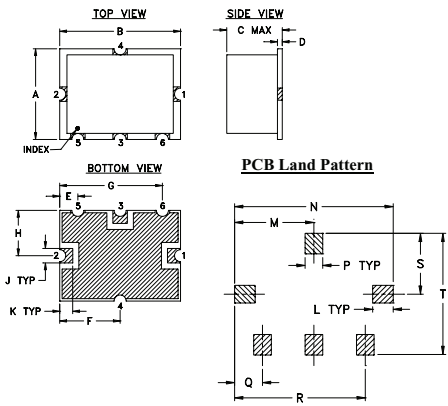
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
LO & RF Power	+16 dBm

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

### Pin Connections

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

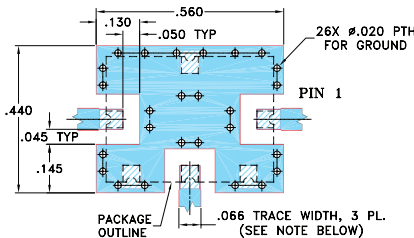
### Outline Drawing



### 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 R04350B 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.

### Features

- high IP3, 31 dBm typ.
- compression, 3 dB higher than LO power

### Applications

- base stations
- communication systems
- cellular

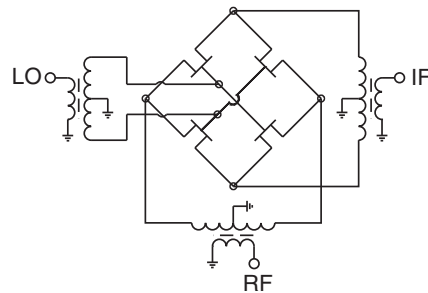
### Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS (dB)			RF in at 1dB Compr (dBm)	IP3 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Min.	Typ.	Min.
818-853	753-778	40-100	6.7	0.2	8.0	+16	31	37	24	27	20

### 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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
818.00	753.00	6.96	36.96	30.52	1.56	1.58	30.64
821.50	755.50	6.96	36.92	30.35	1.55	1.58	30.90
825.00	758.00	6.94	36.90	30.19	1.55	1.61	30.37
828.50	760.50	6.92	36.88	30.07	1.55	1.66	30.97
832.00	763.00	6.88	36.82	29.91	1.55	1.67	30.78
835.50	765.50	6.86	36.86	29.79	1.55	1.69	30.89
839.00	768.00	6.85	36.85	29.69	1.55	1.73	31.18
842.50	770.50	6.84	36.93	29.68	1.55	1.78	30.90
846.00	773.00	6.86	36.95	29.56	1.55	1.79	30.66
849.50	775.50	6.86	36.98	29.50	1.54	1.81	30.54
853.00	778.00	6.86	36.96	29.39	1.54	1.84	30.69

### Electrical Schematic



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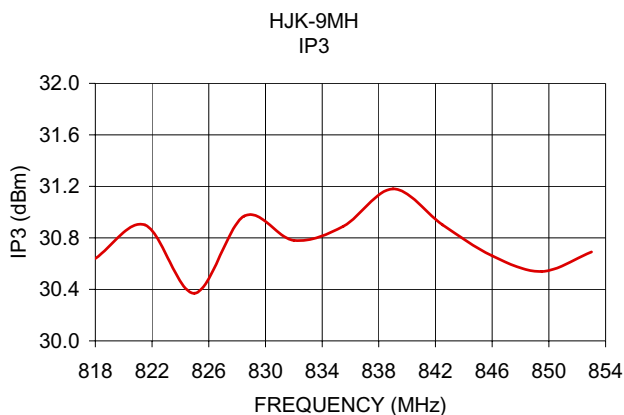
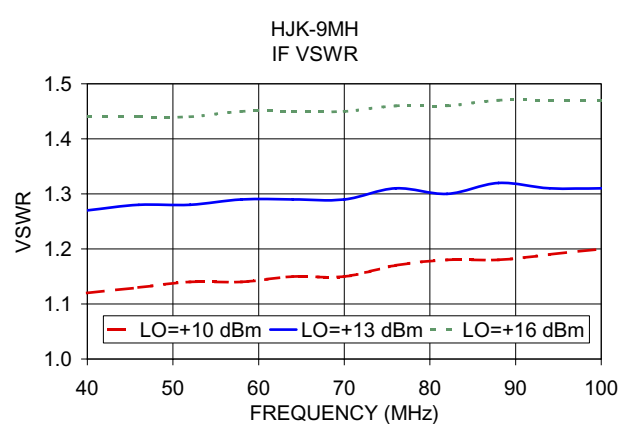
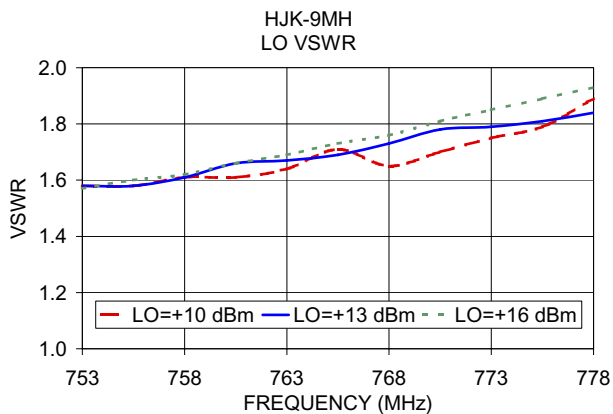
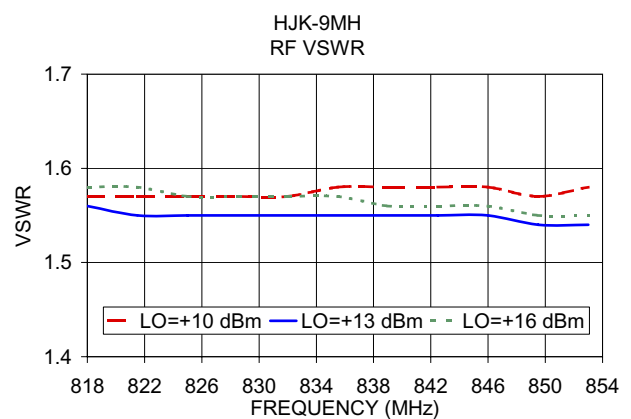
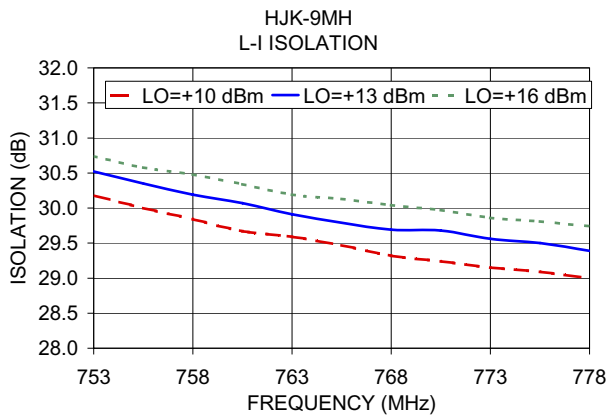
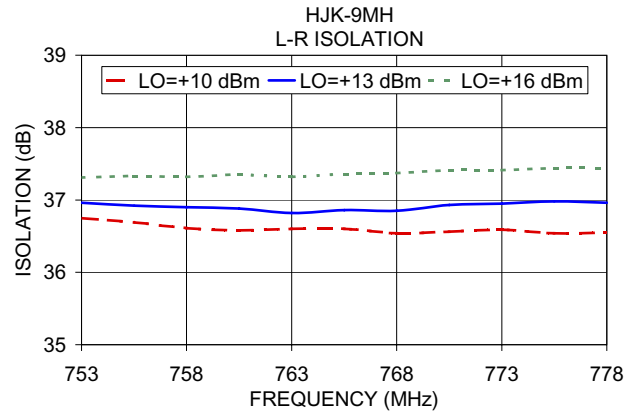
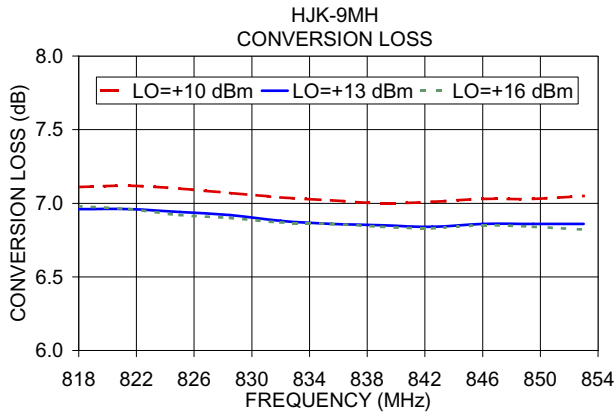
For detailed performance specs & shipping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

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# Performance Charts

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For detailed performance specs & shopping online see web site

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