

# Surface Mount Frequency Mixer

## HJK-19MH+ HJK-19MH

### Level 13 (LO Power +13dBm) 1850 to 1910 MHz

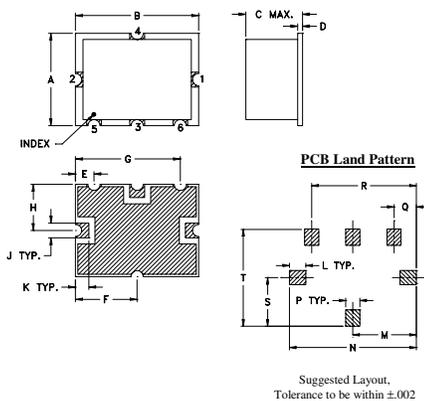
#### Maximum Ratings

Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
LO & RF Power	16 dBm

#### Pin Connections

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

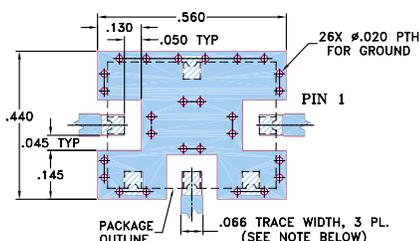
#### Outline Drawing



#### Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	
.375	.500	.23	.020	.075	.250	.425	.187	.050	
9.53	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	
K	L	M	N	P	Q	R	S	T	wt.
.050	.070	.270	.540	.060	.095	.445	.208	.415	grams
1.27	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. GROUND PAD SHALL BE FREE OF SOLDER MASK IF REQUIRED FOR SOLDERING.
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

#### Features

- high IP3, 30 dBm typ.
- compression, 3 dB higher than LO power

#### Applications

- base stations
- communication systems
- cellular



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

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

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

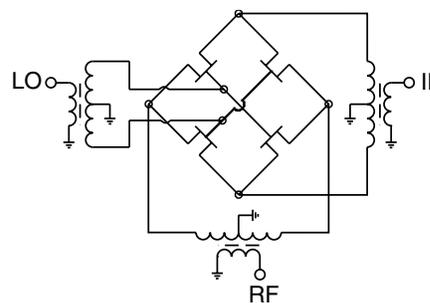
#### Electrical Specifications

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
1850-1910	1780-1840	70-130	7.4	0.2	8.9	+16	30	30	20	23	15

#### 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
1850.00	1780.00	7.40	29.76	25.59	1.82	2.25	28.61
1856.00	1786.00	7.40	30.13	25.91	1.82	2.20	29.11
1862.00	1792.00	7.42	30.13	25.93	1.81	2.12	29.29
1868.00	1798.00	7.44	29.83	25.68	1.80	2.02	28.91
1874.00	1804.00	7.43	30.22	25.74	1.80	1.94	28.54
1880.00	1810.00	7.40	29.39	25.21	1.79	1.84	28.33
1886.00	1816.00	7.39	29.10	25.27	1.78	1.78	28.46
1892.00	1822.00	7.44	29.44	25.79	1.77	1.75	29.52
1898.00	1828.00	7.46	29.30	25.70	1.77	1.75	29.16
1904.00	1834.00	7.47	28.80	25.76	1.76	1.74	30.02
1910.00	1840.00	7.47	28.78	25.35	1.75	1.70	29.14

#### electrical schematic



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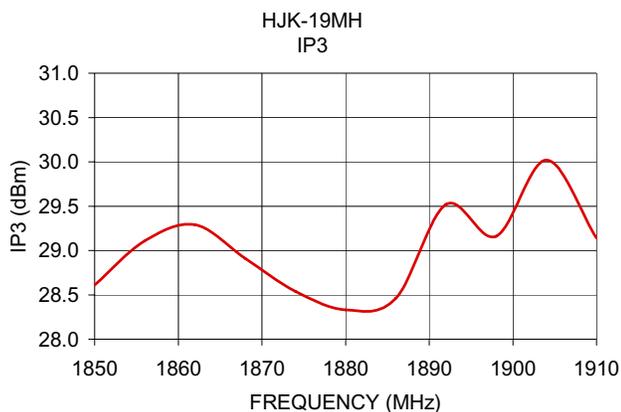
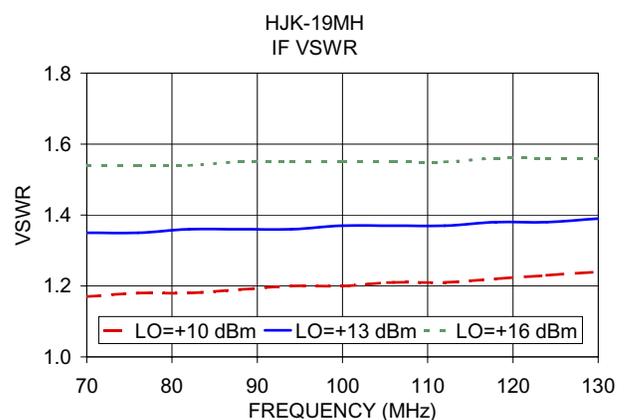
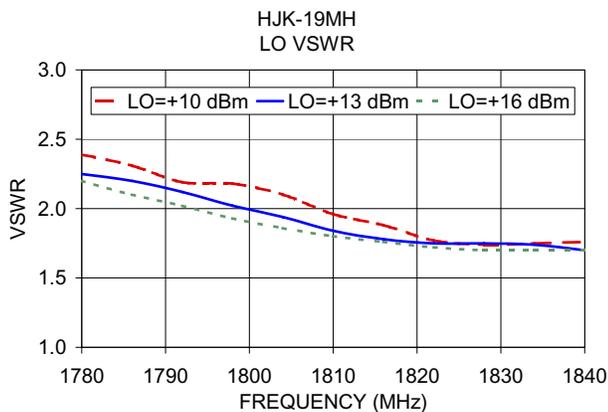
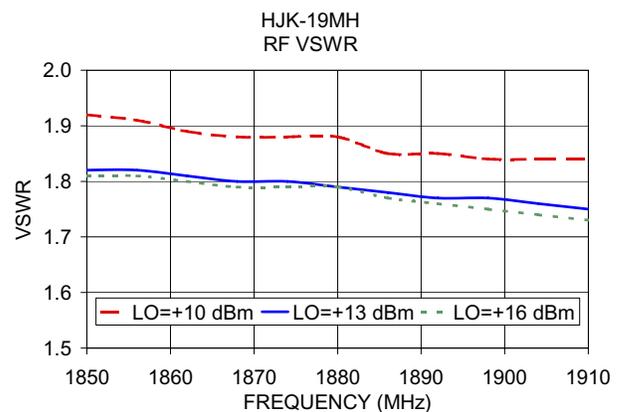
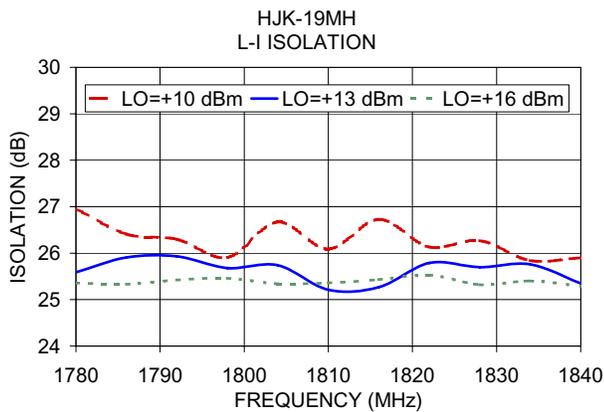
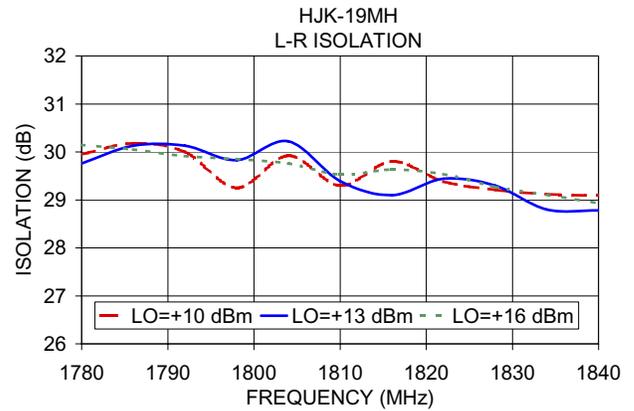
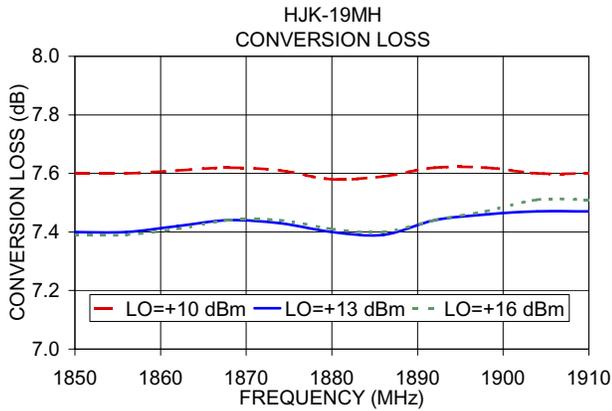
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RF/IF MICROWAVE COMPONENTS

REV. E  
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Page 1 of 2

# Performance Charts

# HJK-19MH+ HJK-19MH



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