High IP3

Frequency Mixer

HJK-21+
HJK-21

Level 7 (LO Power +7 dBm) 1850 to 1910 MHz

CASE STYLE: TTT167
PRICE: $10.95 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

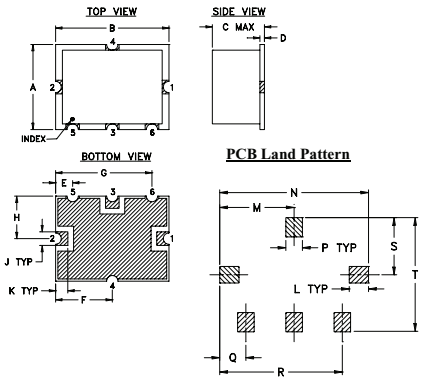
Features

- high IP3, 22 dBm typ.
- compression, 3 dB higher than LO power

Applications

- base stations
- communication systems
- PCS

Outline Drawing



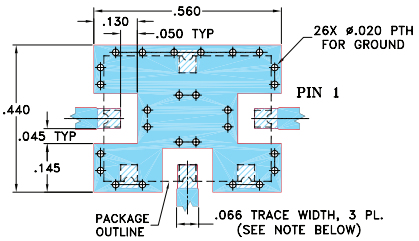
Suggested Layout,
Tolerance to be within ±.002

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:

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. 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.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER

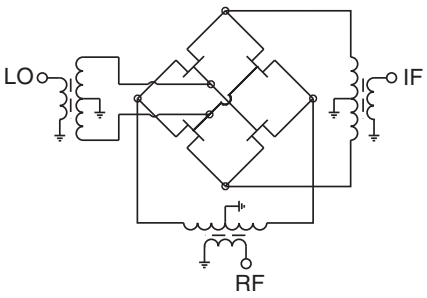
Electrical Specifications

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	2090-2150	180-300	7.5	0.3	9.5	+10	22	28	18	19	13

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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
1850.00	2090.00	7.47	28.31	18.52	1.75	3.30	22.30
1856.00	2096.00	7.48	28.39	18.54	1.77	3.40	22.60
1862.00	2102.00	7.46	28.37	18.60	1.79	3.55	22.62
1868.00	2108.00	7.46	28.39	18.64	1.78	3.66	22.49
1874.00	2114.00	7.48	28.58	18.62	1.76	3.73	22.04
1880.00	2120.00	7.51	28.78	18.54	1.74	3.74	21.48
1886.00	2126.00	7.55	28.94	18.47	1.75	3.74	21.32
1898.00	2138.00	7.64	29.01	18.54	1.77	3.86	21.15
1904.00	2144.00	7.66	29.01	18.64	1.78	3.85	21.33
1910.00	2150.00	7.68	29.21	18.71	1.76	3.86	21.30

Electrical Schematic



Performance Charts

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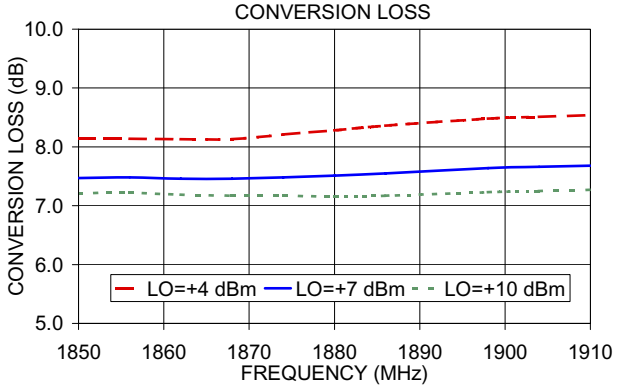
CONVERSION LOSS



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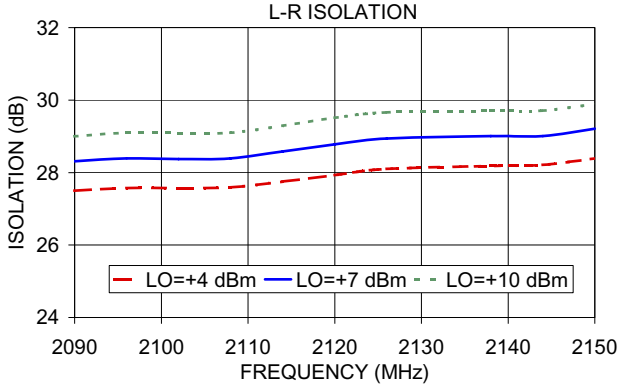
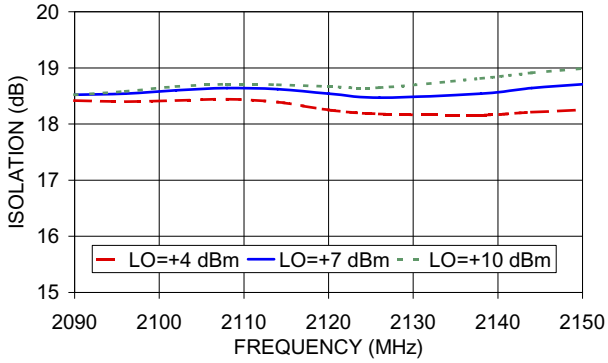
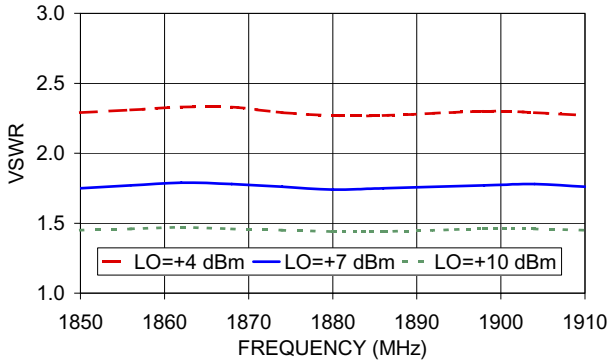
L-R ISOLATION



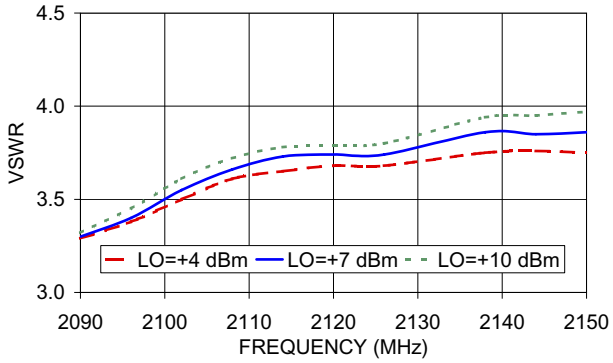
HJK-21
L-I ISOLATION



HJK-21
RF VSWR



HJK-21
LO VSWR



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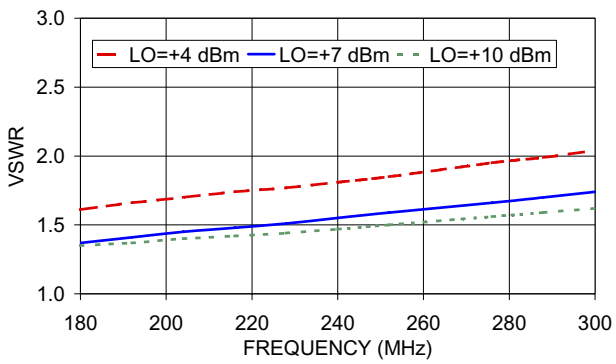
IF VSWR



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