

High IP3 Frequency Mixer

HJK-212H+

Level 17 (LO Power +17 dBm) 1800 to 2100 MHz



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 & 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

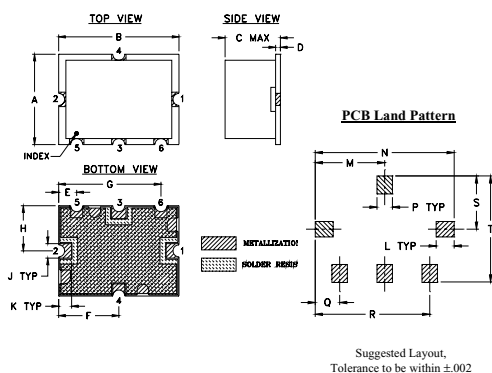
Features

- high IP2, 63 dBm typ.
- very high IP3, 32 dBm typ.
- good L-R isolation, 42 dB typ.
- compression, 3 dB higher than LO power
- protected by US Patent 6,807,407

Applications

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

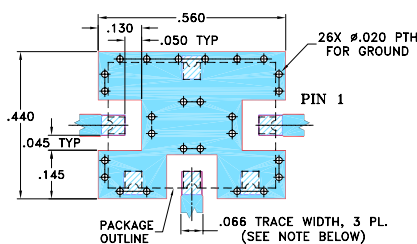
Outline Drawing



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)



NOTE:

1. 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.
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 SOLDER MASK.

Notes

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 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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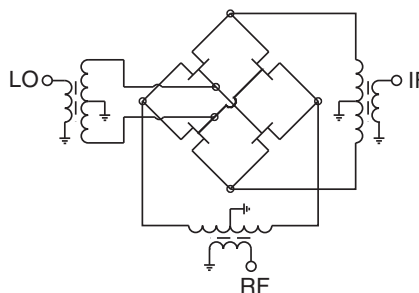
Electrical Specifications

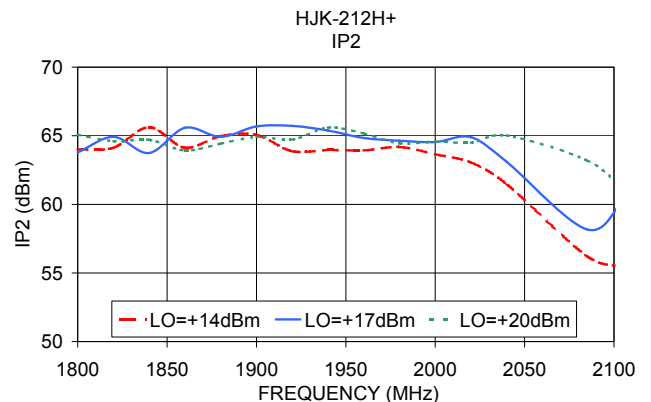
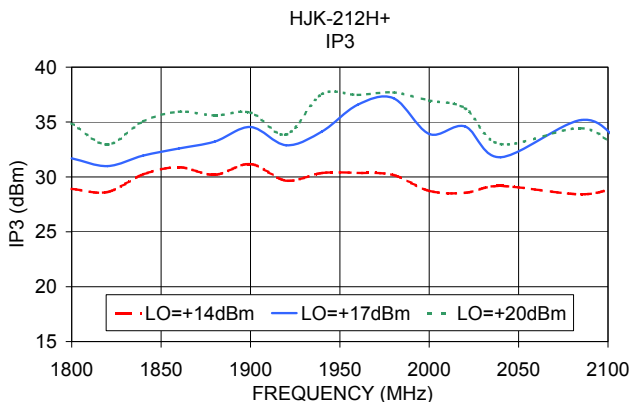
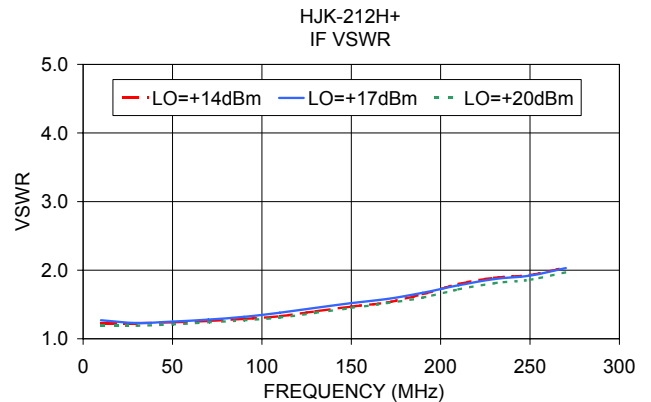
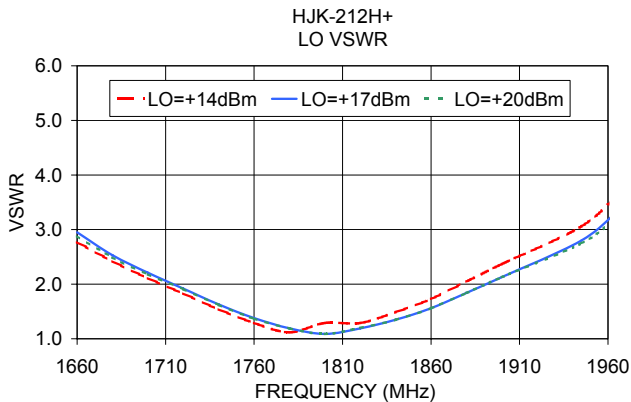
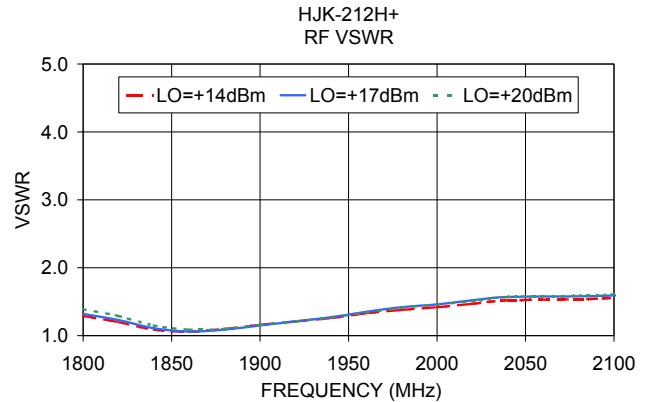
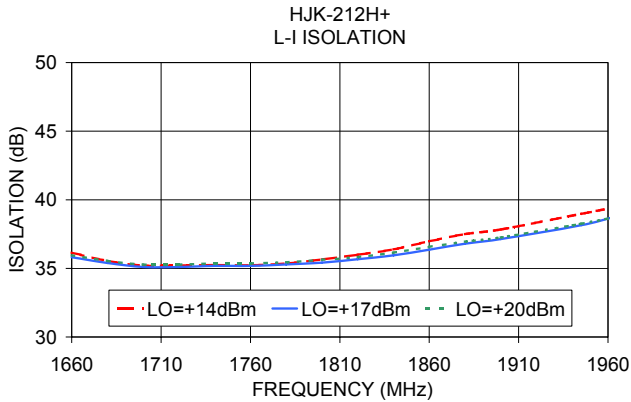
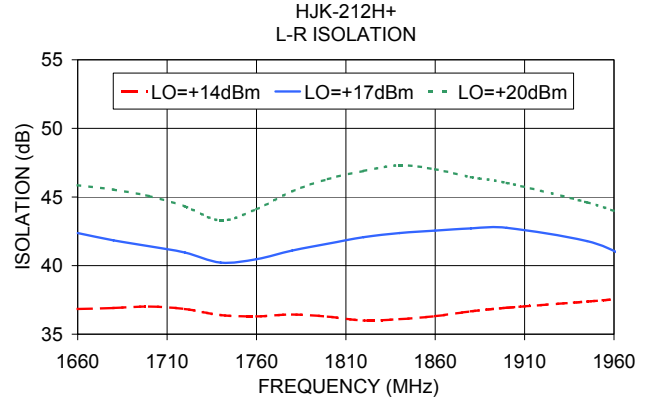
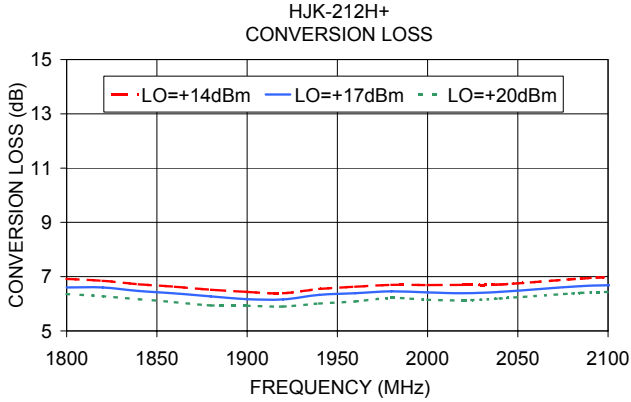
FREQUENCY (MHz)			CONVERSION LOSS (dB)			RF in at 1dB Compr. (dBm)	IP3 (dBm)	IP2 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Typ.	Min.	Typ.	Min.
1800-2100	1660-1960	10-270	6.5	0.15	8.6	+20	32	63	42	30	35	25

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)	IP2 (dBm)
RF	LO	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
1800.00	1660.00	6.60	42.37	35.81	1.32	2.95	31.69	63.78
1820.00	1680.00	6.60	41.84	35.39	1.23	2.53	30.99	64.92
1840.00	1700.00	6.47	41.41	35.10	1.11	2.21	31.95	63.74
1860.00	1720.00	6.38	40.95	35.10	1.06	1.92	32.59	65.58
1880.00	1740.00	6.27	40.22	35.18	1.09	1.63	33.22	64.92
1900.00	1760.00	6.17	40.47	35.18	1.15	1.38	34.55	65.68
1920.00	1780.00	6.16	41.10	35.29	1.21	1.19	32.88	65.72
1940.00	1800.00	6.33	41.60	35.42	1.27	1.09	34.14	65.38
1960.00	1820.00	6.39	42.07	35.67	1.35	1.19	36.58	64.84
1980.00	1840.00	6.46	42.37	35.95	1.42	1.35	37.17	64.64
2000.00	1860.00	6.42	42.55	36.36	1.46	1.56	33.91	64.54
2020.00	1880.00	6.39	42.71	36.80	1.52	1.84	34.60	64.90
2040.00	1900.00	6.44	42.75	37.14	1.57	2.13	31.79	63.10
2085.00	1945.00	6.65	41.78	38.15	1.58	2.80	35.19	58.17
2107.50	1967.50	6.69	40.61	38.90	1.60	3.40	33.18	60.70

Electrical Schematic





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