Plug-In

Frequency Mixer

TAK-5+

Level 7 (LO Power +7 dBm) 0.01 to 250 MHz

CASE STYLE: A04
PRICE: $26.20 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	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

Pin Connections

LO	8
RF	1
IF	3,4^
GROUND	2,5,6,7
CASE GROUND	2

^ pins must be connected together externally

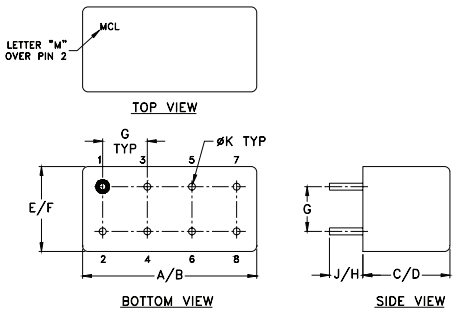
Features

- low conversion loss, 4.65 dB typ.
- high isolation, 50 dB typ. L-R, 45 dB typ. L-I
- rugged welded construction
- hermetically sealed

Applications

- VHF
- FM radio
- instrumentation

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.770	.800	.200	.210	.370	.400
19.56	20.32	5.08	5.33	9.40	10.16

G	H	J	K	wt
.200	.20	.14	.031	grams
5.08	5.08	3.56	0.79	3.7

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS* (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
		Mid-Band m			Total Range	L		M		U		L		M		U	
LO/RF f_L-f_U	IF	$\overline{X}$	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
0.01-250	DC-250	4.65	0.02	7.0	8.5	60	50	50	35	40	35	55	45	45	30	35	25

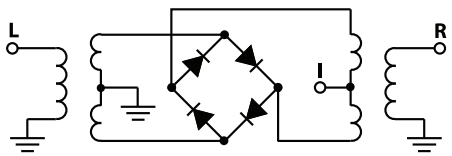
1 dB COMP.: +1 dBm typ.
* Conversion loss, 9.5 dB max. from 0.01 to 0.015 MHz

L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]
m= mid band [2f_L to f_U/2]

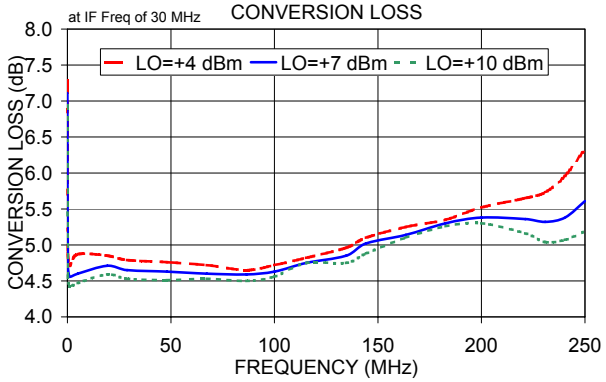
Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
0.01	30.01	7.11	58.08	53.36	1.07	2.97
0.20	30.20	4.71	59.34	52.17	1.07	2.78
1.00	31.00	4.56	59.46	51.84	1.07	2.59
5.00	35.00	4.60	59.26	51.76	1.07	2.67
19.24	49.24	4.71	56.47	52.25	1.05	2.72
28.86	58.86	4.65	54.43	52.12	1.04	2.71
48.09	78.09	4.63	50.19	50.36	1.03	2.56
67.32	97.32	4.60	47.74	48.07	1.04	2.55
86.55	56.55	4.59	44.68	45.40	1.06	2.50
100.00	70.00	4.63	43.92	43.20	1.07	2.51
115.39	85.39	4.75	43.05	42.22	1.09	2.56
134.62	104.62	4.85	38.26	40.16	1.15	2.60
144.24	114.24	5.02	37.90	39.27	1.21	2.62
163.47	133.47	5.14	38.05	37.81	1.27	2.64
182.70	152.70	5.30	38.71	34.70	1.29	2.67
200.00	170.00	5.38	39.71	33.53	1.30	2.72
221.16	191.16	5.36	40.42	32.38	1.29	2.78
230.77	200.77	5.32	40.93	31.70	1.27	2.90
240.39	210.39	5.38	40.98	31.63	1.22	3.00
250.00	220.00	5.61	40.47	31.55	1.20	3.02

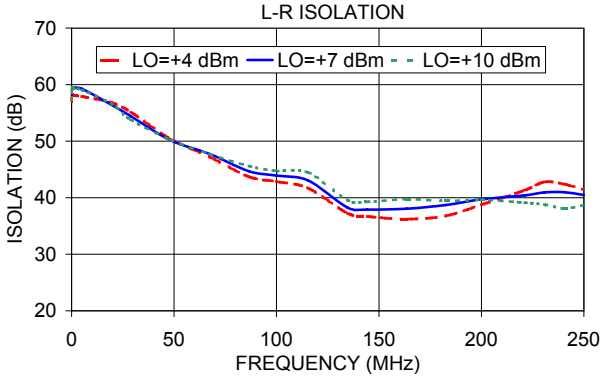
Electrical Schematic



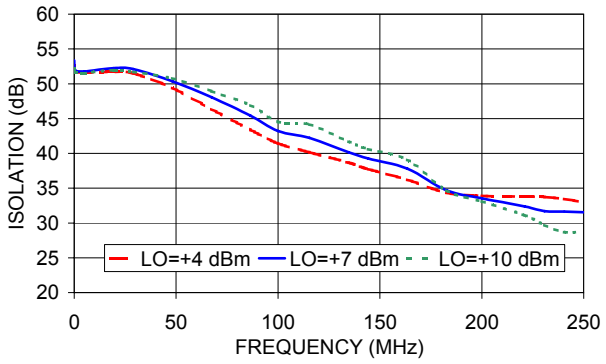
TAK-5
at IF Freq of 30 MHz
CONVERSION LOSS



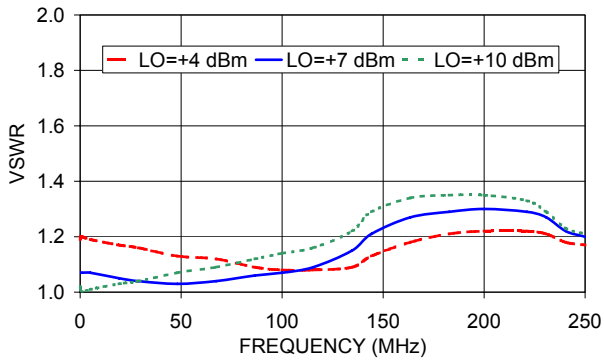
TAK-5
L-R ISOLATION



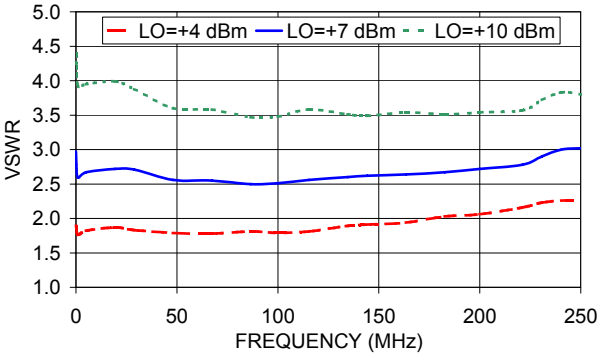
TAK-5
L-I ISOLATION



TAK-5
RF VSWR



TAK-5
LO VSWR



TAK-5
IF VSWR