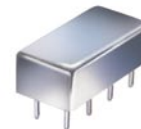


Plug-In

# Frequency Mixer

## TAK-5

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



CASE STYLE: A04

### Maximum Ratings

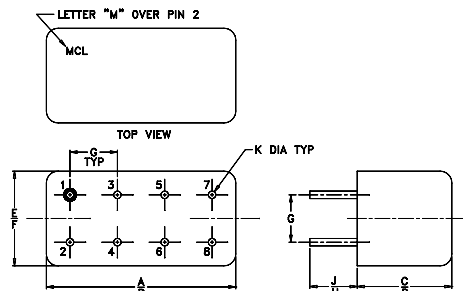
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

### Pin Connections

LO	8
RF	1
IF	3,4 <sup>^</sup>
GROUND	2,5,6,7
CASE GROUND	2

<sup>^</sup> pins must be connected together externally

### Outline Drawing



NOTE: BLUE BEAD INDICATES PIN 1. PIN NUMBERS DO NOT APPEAR ON UNIT, FOR REFERENCE ONLY.

### 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	

### 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

### Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS* (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						
	LO/RF	IF			L		M		U		L		M		U		
$f_L$ - $f_U$	$\bar{X}$	$\sigma$	Max.	Total Range 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

