

Plug-In

# Frequency Mixer

VAY-1

Level 27 (LO Power +27 dBm) 0.5 to 500 MHz



CASE STYLE: A01  
PRICE: \$89.45 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.

## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	500mW
IF Current	40mA

## Pin Connections

LO	8
RF	1
IF	3
GROUND	2,5,6,7
CASE GROUND	2,5,6,7
NOT USED	4

## Features

- good conversion loss, 5.79 dB typ.
- high L-R & L-I isolation, 46 dB typ.
- rugged welded construction
- hermetically sealed

## Applications

- VHF/UHF
- FM radio
- defense & federal communications

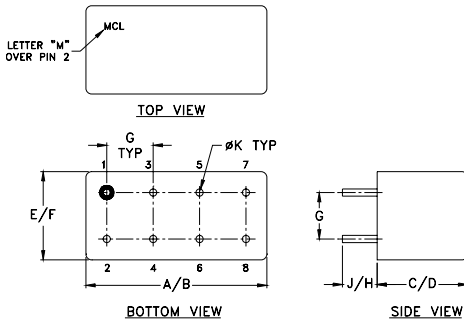
## Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF $f_L-f_U$	IF	Mid-Band m		Total Range Max.	Total Range Max.	L		M		U		L		M		U	
		$\bar{X}$	$\sigma$			Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
0.5-500	0.02-500	5.79	0.15	7.5	8.5	47	40	46	35	35	25	35	28	46	35	35	25

1 dB COMP: +24 dBm typ.

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 [ $2 f_L$  to  $f_U/2$ ]

## Outline Drawing



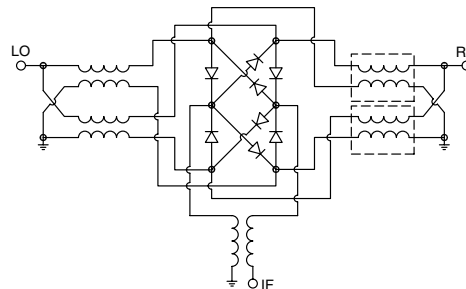
## Outline Dimensions (inch/mm)

A	B	C	D	E	F
.770	.800	.385	.400	.370	.400
19.56	20.32	9.78	10.16	9.40	10.16
G	H	J	K	wt	
.200	.20	.14	.031	grams	
5.08	5.08	3.56	0.79	5.2	

## 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 +27dBm	LO +27dBm	LO +27dBm	LO +27dBm	LO +27dBm
0.05	30.05	6.73	45.06	44.77	1.46	1.14
0.10	30.10	5.90	46.53	46.31	1.46	1.14
0.20	30.20	5.71	46.84	46.41	1.47	1.11
0.50	30.50	5.47	46.89	46.31	1.47	1.19
1.00	31.00	5.47	46.31	45.50	1.48	1.23
17.91	47.91	5.34	45.35	44.81	1.49	1.22
35.76	65.76	5.35	44.40	44.31	1.51	1.18
53.62	83.62	5.37	43.31	43.11	1.54	1.20
125.04	95.04	6.02	42.44	41.42	1.59	1.23
142.89	112.89	6.06	40.80	39.25	1.65	1.18
196.46	166.46	6.19	39.78	38.66	1.68	1.25
232.17	202.17	6.31	40.08	38.07	1.75	1.22
250.02	220.02	6.42	40.67	37.72	1.77	1.21
285.73	255.73	6.42	40.68	36.54	1.86	1.25
321.44	291.44	6.30	41.05	34.78	1.92	1.29
357.15	327.15	6.37	41.32	34.37	2.02	1.47
392.86	362.86	6.31	38.74	35.82	2.09	1.52
446.43	416.43	6.72	35.92	36.76	2.17	1.70
464.28	434.28	6.85	34.39	38.34	2.27	1.96
500.00	470.00	7.04	33.75	35.90	2.27	1.95

## Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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VAY-1  
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071016  
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