Plug-In

Frequency Mixer

VAY-1+

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

CASE STYLE: A01

+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	500mW
IF Current	40mA

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

Pin Connections

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

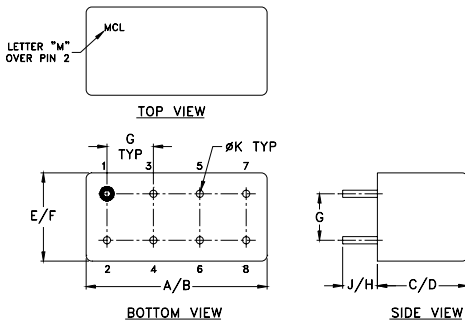
Features

- 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

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

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/RF	IF	Mid-Band m			Total Range	L		M		U		L		M		U	
f_L-f_U		$\overline{X}$	σ	Max.	Max.	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

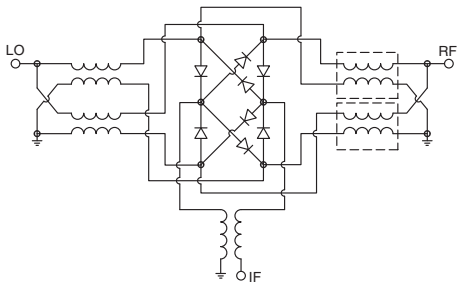
1 dB COMP.: +24 dBm typ.

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 [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 +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

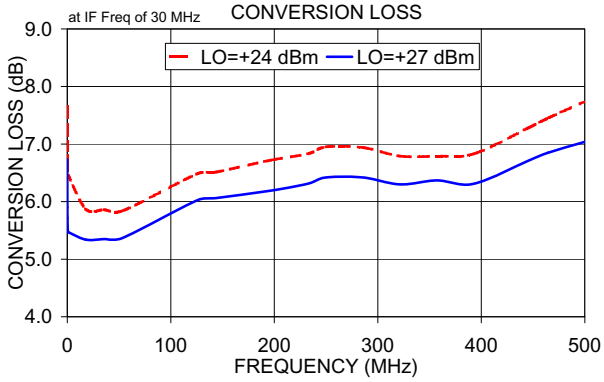
Electrical Schematic



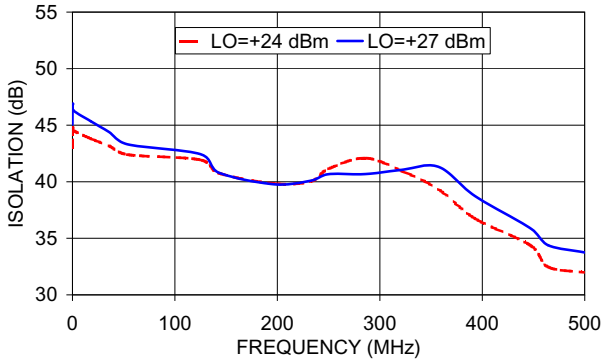
Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

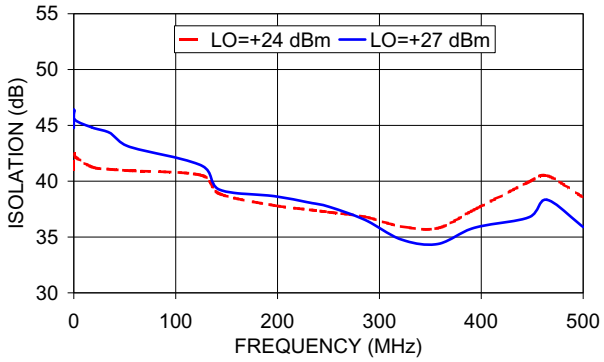
VAY-1+
CONVERSION LOSS
at IF Freq of 30 MHz



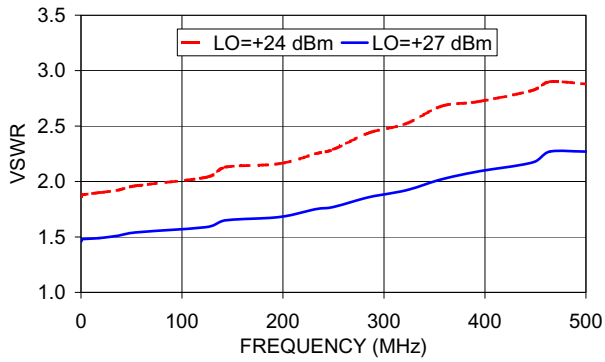
VAY-1+
L-R ISOLATION



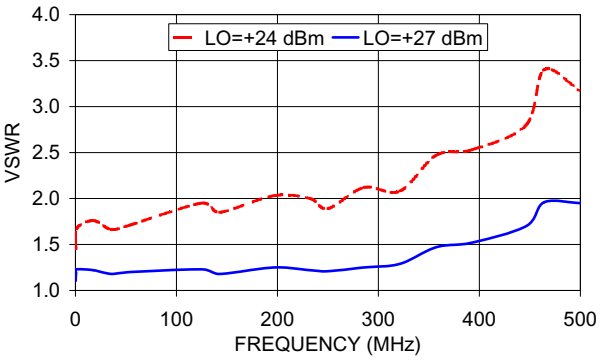
VAY-1+
L-I ISOLATION



VAY-1+
RF VSWR



VAY-1+
LO VSWR



VAY-1+
IF VSWR