

Plug-In

# NON-CATALOG

## Voltage Controlled Oscillator

### POS-500W

Wideband 250 to 500 MHz



CASE STYLE: A06  
PRICE: Contact Sales Dept.

#### Features

- octave linear tuning
- low pulling, 1.5 MHz typ.
- flat power output
- low phase noise, -140 typ. dBc at 1 MHz offset, typ.
- hermetically sealed

#### Applications

- VHF/UHF receivers/transmitters
- test instruments
- wideband frequency synthesizers

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

#### Electrical Specifications

FREQUENCY (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ.				PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Vcc (volts)	Current (mA) Max.
250	500	+10.0	1	16	-79	-100	-120	-140	1.5	0.2	17-23	-25	-18	0.1	12	25

#### Pin Connections

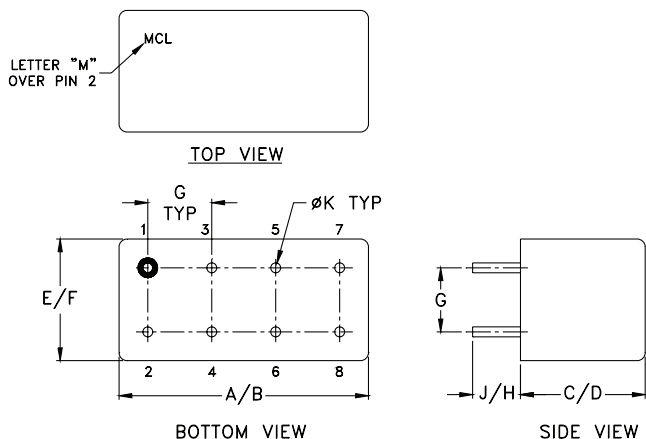
RF OUT	2
VCC	1
V-TUNE	8
GROUND	3,4,5,6,7
CASE GROUND	3,4,5,6,7

#### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+20V

all specifications: 50 ohm system  
Permanent damage may occur if any of these limits are exceeded.

#### Outline Drawing



#### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	wt
.770	.800	.285	.310	.370	.400	.200	.20	.14	.031	grams
19.558	20.32	7.239	7.874	9.398	10.16	5.08	5.08	3.556	0.7874	5.2



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

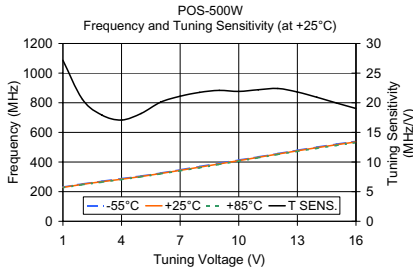
IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

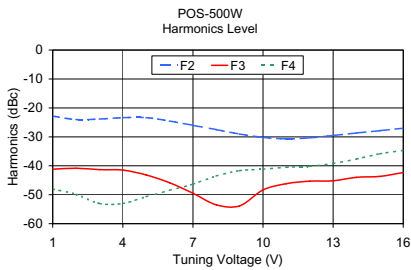
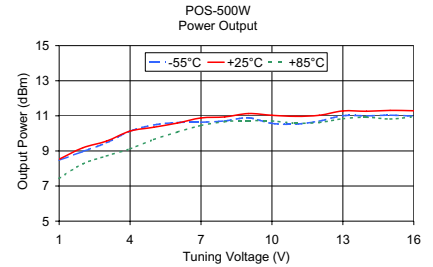
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## Performance Data & Curves

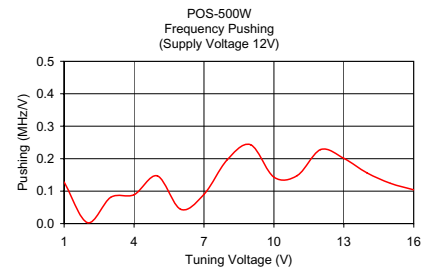
## POS-500W



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	27.16	231.00	228.57	227.38	8.47	8.53	7.43
2.00	20.57	252.12	249.14	247.00	8.97	9.18	8.26
3.00	17.91	270.62	267.05	264.42	9.46	9.56	8.71
4.00	17.09	288.34	284.14	281.98	10.13	10.13	9.12
5.00	18.18	305.68	302.31	300.44	10.48	10.35	9.65
6.00	20.10	325.68	322.41	319.82	10.62	10.59	10.08
7.00	21.10	347.55	343.50	340.20	10.64	10.88	10.45
8.00	21.75	369.92	365.25	361.49	10.71	10.94	10.67
9.00	22.09	392.29	387.34	383.57	10.89	11.13	10.73
10.00	21.91	414.01	409.25	406.00	10.57	11.03	10.71
11.00	22.20	435.15	431.45	428.52	10.53	10.97	10.58
12.00	22.41	457.29	453.86	450.64	10.70	11.03	10.62
13.00	21.81	479.42	475.67	471.98	11.01	11.28	10.84
14.00	20.92	500.67	496.59	492.48	11.00	11.26	10.92
15.00	19.96	520.94	516.55	512.04	11.04	11.31	10.82
16.00	19.04	540.24	535.59	530.74	10.99	11.29	10.95



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-22.83	-41.17	-48.00	0.13
2.00	-24.00	-40.84	-49.84	0.00
3.00	-23.83	-41.33	-53.00	0.08
4.00	-23.34	-41.50	-53.00	0.09
5.00	-23.34	-43.17	-50.67	0.15
6.00	-24.50	-45.84	-48.50	0.04
7.00	-26.00	-49.50	-46.33	0.09
8.00	-27.50	-53.50	-43.50	0.20
9.00	-29.00	-53.84	-41.67	0.24
10.00	-30.16	-48.33	-41.16	0.14
11.00	-30.67	-46.17	-40.50	0.15
12.00	-30.33	-45.33	-40.16	0.23
13.00	-29.50	-45.17	-39.17	0.20
14.00	-28.66	-44.00	-37.66	0.16
15.00	-27.84	-43.67	-35.84	0.12
16.00	-27.00	-42.33	-34.66	0.10



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