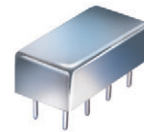


# Plug-In Voltage Controlled Oscillator

## POS-1400A+ POS-1400A

### Linear Tuning 975 to 1400 MHz



CASE STYLE: A06

#### Features

- wide frequency range, 975 to 1400 MHz
- linear tuning characteristics
- low phase noise, -135 dBc/Hz at 1 MHz offset
- hermetically sealed
- protected by US patent 6,549,084

#### Applications

- GPS
- agile communication systems
- test instrument-signal generators
- wideband frequency synthesizers

**+ 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.

#### 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.
975	1400	+13	1	20	-65	-95	-115	-135	14	2.0	25-30	-16	—	4.0	8	30

\* specified to 4th harmonic

#### Pin Connections

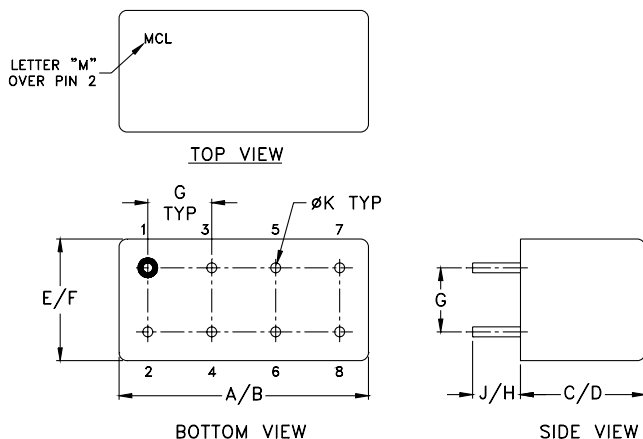
RF OUT	2
VCC	1
V-TUNE	8
GROUND	3,4,5,6,7
CASE GROUND	3,4,5,6,7

#### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+10V
Absolute Max. Tuning Voltage (Vtune)	+25V

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

**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

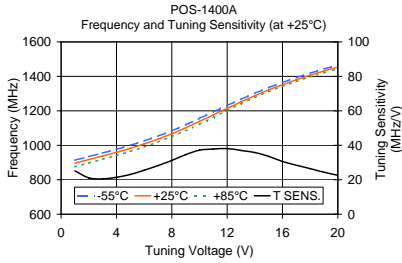
For detailed performance specs & shopping online see web site

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).

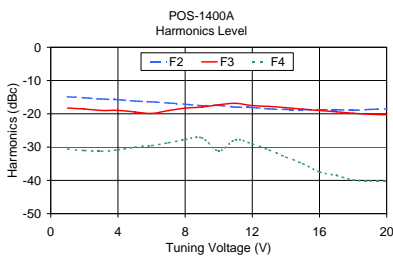
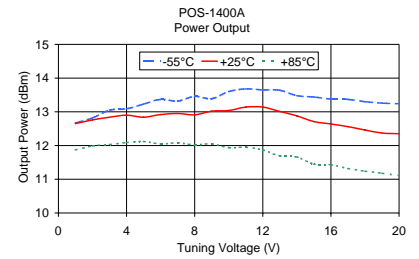
REV. B  
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POS-1400A  
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Page 1 of 2

# Performance Data & Curves

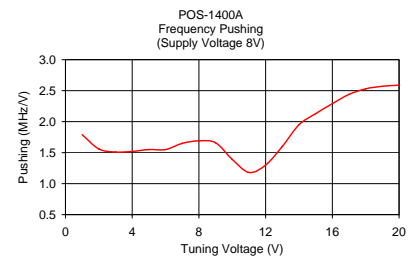
# POS-1400A+ POS-1400A



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	25.17	913.50	896.12	875.39	12.67	12.65	11.87
2.00	21.10	934.51	917.21	897.43	12.82	12.76	11.99
3.00	20.48	955.50	937.69	918.48	13.05	12.84	12.03
4.00	21.46	976.98	959.15	940.40	13.09	12.90	12.09
5.00	23.09	1000.48	982.24	964.03	13.23	12.84	12.12
6.00	25.51	1025.74	1007.75	989.88	13.37	12.92	12.05
7.00	28.23	1053.56	1035.98	1018.53	13.32	12.95	12.08
8.00	31.18	1084.54	1067.16	1050.13	13.46	12.91	12.02
9.00	34.57	1118.95	1101.73	1084.97	13.39	13.02	12.05
10.00	37.18	1156.59	1138.91	1122.47	13.60	13.04	11.94
11.00	37.83	1194.46	1176.74	1161.44	13.68	13.14	11.95
12.00	38.10	1231.23	1214.84	1201.40	13.65	13.14	11.87
13.00	36.98	1267.48	1251.82	1240.25	13.64	13.01	11.69
14.00	35.82	1302.37	1287.64	1276.83	13.48	12.88	11.66
15.00	33.57	1335.12	1321.20	1310.80	13.44	12.71	11.45
16.00	30.63	1365.12	1351.84	1341.78	13.38	12.64	11.43
17.00	28.42	1393.09	1380.26	1370.33	13.37	12.56	11.32
18.00	26.47	1419.09	1406.73	1396.93	13.30	12.46	11.24
19.00	24.37	1443.09	1431.10	1421.00	13.26	12.37	11.18
20.00	22.61	1465.48	1453.71	1444.30	13.24	12.35	11.11



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-14.87	-18.25	-30.58	1.79
2.00	-15.19	-18.54	-31.01	1.56
3.00	-15.55	-18.98	-31.23	1.51
4.00	-15.73	-18.96	-30.82	1.52
5.00	-16.15	-19.45	-30.03	1.55
6.00	-16.39	-19.88	-29.54	1.55
7.00	-16.75	-19.02	-28.71	1.65
8.00	-17.09	-18.30	-27.70	1.69
9.00	-17.55	-17.96	-27.23	1.66
10.00	-17.45	-17.26	-31.17	1.39
11.00	-17.98	-16.85	-27.76	1.18
12.00	-18.08	-17.51	-29.03	1.30
13.00	-18.52	-17.77	-30.84	1.60
14.00	-18.68	-18.15	-32.96	1.95
15.00	-18.69	-18.61	-34.95	2.13
16.00	-18.75	-19.01	-37.46	2.29
17.00	-18.73	-19.38	-38.52	2.44
18.00	-18.94	-19.83	-39.87	2.53
19.00	-18.67	-20.14	-40.15	2.57
20.00	-18.53	-20.30	-40.17	2.59



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