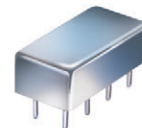


Plug-In

# Voltage Controlled Oscillator

## POS-1000W+

### Wideband 500 to 1000 MHz



#### Features

- octave linear tuning
- 3 dB modulation bandwidth, 0.1 MHz typ.
- low phase noise
- excellent harmonic suppression, -26 dBc typ.
- output suitable for LO drive to 7 dBm mixers
- hermetically sealed

#### Applications

- test instruments-signal generators
- wideband frequency synthesizers
- agile communications systems
- CATV distribution and set-top converters
- cellular up and down converters
- HDTV

CASE STYLE: A06  
PRICE: \$14.95 ea. QTY (5-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

*The +Suffix has been added in order to identify 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)            |      |       |        | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) |       | 3 dB MODULATION BANDWIDTH (MHz) | DC OPERATING POWER |      |             |                   |
|-----------------|--------------------|--------------------|---------------------------------|------|-------|--------|-----------------------------|-----------------|----------------------------|-----------------|-------|---------------------------------|--------------------|------|-------------|-------------------|
|                 |                    |                    | SSB at offset frequencies: Typ. |      |       |        |                             |                 |                            | Typ.            | Typ.  |                                 | Typ.               | Max. | Vcc (volts) | Current (mA) Max. |
| Min.            | Max.               | Typ.               | Min.                            | Max. | 1 kHz | 10 kHz | 100 kHz                     | 1 MHz           | Typ.                       | Typ.            | Typ.  | Typ.                            |                    |      |             |                   |
| 500             | 1000               | +7.0               | 1                               | 16   | -73   | -93    | -113                        | -133            | 6.0                        | 1.5             | 30-42 | -26                             | -20                | 0.1  | 12          | 20                |

#### Pin Connections

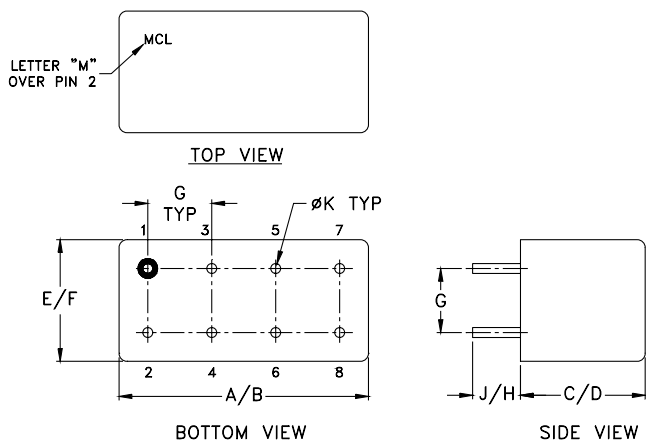
|             |           |
|-------------|-----------|
| RF OUT      | 2         |
| VCC         | 1         |
| V-TUNE      | 8         |
| GROUND      | 3,4,5,6,7 |
| CASE GROUND | 3,4,5,6,7 |

#### 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   |



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

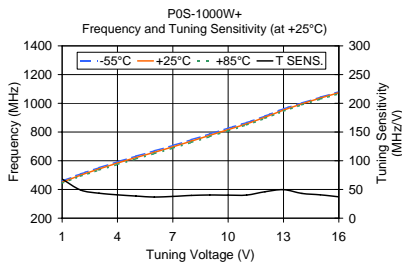
For detailed performance specs & shipping online see web site

**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).

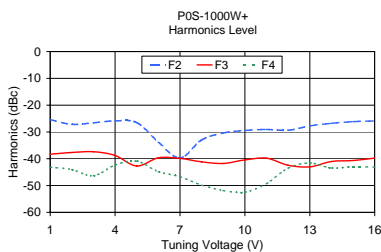
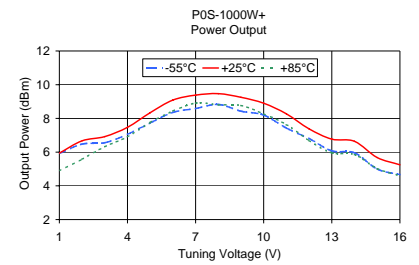
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ED-5634A  
POS-1000W+  
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091223  
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# Performance Data & Curves

# POS-1000W+



| 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   | 68.09                | 459.29          | 450.47  | 443.70  | 5.92               | 5.94  | 4.89  |
| 2.00   | 48.97                | 508.38          | 499.44  | 492.29  | 6.48               | 6.67  | 5.58  |
| 3.00   | 43.41                | 551.74          | 542.85  | 534.72  | 6.56               | 6.92  | 6.32  |
| 4.00   | 40.67                | 593.09          | 583.52  | 574.39  | 7.06               | 7.47  | 6.91  |
| 5.00   | 38.57                | 632.14          | 622.09  | 612.62  | 7.73               | 8.34  | 7.76  |
| 6.00   | 36.83                | 669.03          | 658.92  | 649.90  | 8.36               | 9.09  | 8.44  |
| 7.00   | 37.89                | 706.90          | 696.80  | 687.98  | 8.59               | 9.38  | 8.91  |
| 8.00   | 39.57                | 746.75          | 736.37  | 727.51  | 8.83               | 9.47  | 8.81  |
| 9.00   | 40.34                | 787.31          | 776.71  | 767.87  | 8.43               | 9.25  | 8.77  |
| 10.00  | 40.13                | 827.22          | 816.84  | 808.33  | 8.20               | 8.90  | 8.27  |
| 11.00  | 40.19                | 865.84          | 857.03  | 849.39  | 7.43               | 8.27  | 7.63  |
| 12.00  | 46.09                | 911.52          | 903.12  | 895.20  | 6.81               | 7.38  | 6.69  |
| 13.00  | 49.66                | 961.39          | 952.78  | 944.98  | 6.08               | 6.77  | 5.96  |
| 14.00  | 43.13                | 1002.59         | 995.90  | 988.97  | 5.96               | 6.64  | 5.86  |
| 15.00  | 40.58                | 1042.71         | 1036.48 | 1029.46 | 5.00               | 5.68  | 5.03  |
| 16.00  | 37.19                | 1080.96         | 1073.67 | 1066.10 | 4.67               | 5.25  | 4.60  |



| V TUNE | HARMONICS (dBc) |        |        | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
|        | F2              | F3     | F4     |                       |
| 1.00   | -25.42          | -38.30 | -43.11 | 0.17                  |
| 2.00   | -27.14          | -37.65 | -44.04 | 0.05                  |
| 3.00   | -26.57          | -37.38 | -46.32 | 0.14                  |
| 4.00   | -25.87          | -38.77 | -42.35 | 0.29                  |
| 5.00   | -26.49          | -42.71 | -40.87 | 0.67                  |
| 6.00   | -33.79          | -39.65 | -44.79 | 0.83                  |
| 7.00   | -39.71          | -39.86 | -46.69 | 0.91                  |
| 8.00   | -32.97          | -41.14 | -49.83 | 1.00                  |
| 9.00   | -30.38          | -41.74 | -51.82 | 1.08                  |
| 10.00  | -29.44          | -40.43 | -52.47 | 1.06                  |
| 11.00  | -29.06          | -39.80 | -49.26 | 0.88                  |
| 12.00  | -29.35          | -42.42 | -43.52 | 1.00                  |
| 13.00  | -27.72          | -43.02 | -41.58 | 1.02                  |
| 14.00  | -26.78          | -41.02 | -43.47 | 1.03                  |
| 15.00  | -26.13          | -40.64 | -42.95 | 1.15                  |
| 16.00  | -25.89          | -39.76 | -43.10 | 1.34                  |

