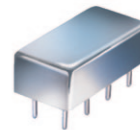


Plug-In

# Voltage Controlled Oscillator

POS-50+

Linear Tuning 25 to 50 MHz



## Features

- low phase noise
- low load pull, 0.03 MHz typ.
- hermetically sealed

## Applications

- frequency synthesizers
- signal generators

CASE STYLE: A06  
PRICE: \$11.95 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)<br>SSB at offset frequencies:<br>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. |
| 25              | 50   | +8.5               | 1                  | 16   | -85  | -105   | -125    | -145  | 0.03                        | 0.04            | 2.0-2.6                    | -19             | -12  | 0.1                             | 12                 | 20                |

## Pin Connections

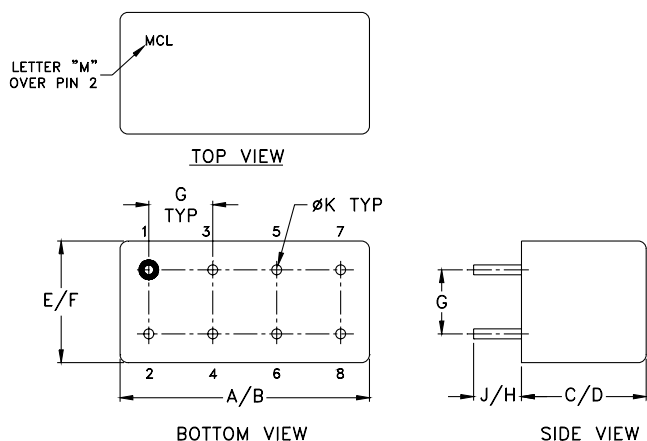
|             |           |
|-------------|-----------|
| RF OUT      | 2         |
| VCC         | 1         |
| V-TUNE      | 8         |
| GROUND      | 3,4,5,6,7 |
| CASE GROUND | 3,4,5,6,7 |

## Maximum Ratings

|                                      |                |
|--------------------------------------|----------------|
| Operating Temperature                | -55°C to 85°C  |
| Storage Temperature                  | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc)   | +16V           |
| Absolute Max. Tuning Voltage (Vtune) | +17V           |

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   |



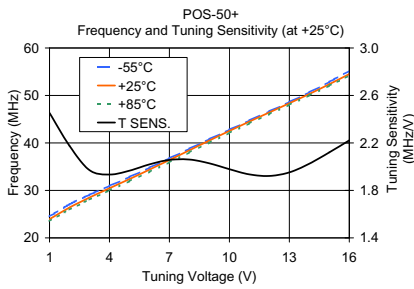
For detailed performance specs & shopping online see web site

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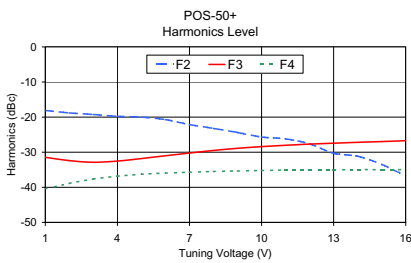
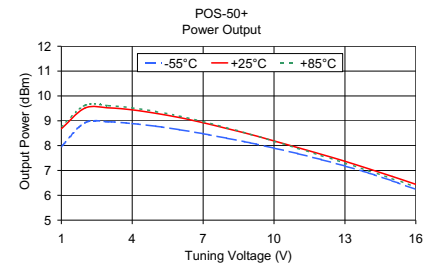
Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established 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).

# Performance Data & Curves

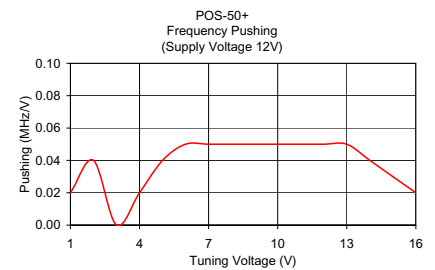
# POS-50+



| 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   | 2.45                 | 24.5            | 23.9  | 23.6  | 7.96               | 8.68  | 8.76  |
| 2.00   | 2.18                 | 27.1            | 26.4  | 26.0  | 8.92               | 9.51  | 9.62  |
| 3.00   | 1.97                 | 29.1            | 28.5  | 28.1  | 8.96               | 9.52  | 9.61  |
| 4.00   | 1.93                 | 31.0            | 30.5  | 30.0  | 8.89               | 9.44  | 9.52  |
| 5.00   | 1.97                 | 32.8            | 32.4  | 31.9  | 8.78               | 9.30  | 9.37  |
| 6.00   | 2.02                 | 34.8            | 34.4  | 33.9  | 8.64               | 9.13  | 9.19  |
| 7.00   | 2.06                 | 36.8            | 36.4  | 35.9  | 8.48               | 8.92  | 8.97  |
| 8.00   | 2.06                 | 38.8            | 38.5  | 38.0  | 8.30               | 8.69  | 8.72  |
| 9.00   | 2.03                 | 40.8            | 40.5  | 40.1  | 8.11               | 8.45  | 8.46  |
| 10.00  | 1.98                 | 42.8            | 42.5  | 42.1  | 7.90               | 8.19  | 8.18  |
| 11.00  | 1.93                 | 44.7            | 44.5  | 44.1  | 7.68               | 7.92  | 7.89  |
| 12.00  | 1.92                 | 46.7            | 46.4  | 46.1  | 7.44               | 7.65  | 7.60  |
| 13.00  | 1.95                 | 48.6            | 48.4  | 48.0  | 7.18               | 7.37  | 7.30  |
| 14.00  | 2.02                 | 50.7            | 50.3  | 50.0  | 6.90               | 7.07  | 6.99  |
| 15.00  | 2.12                 | 52.9            | 52.4  | 52.1  | 6.58               | 6.76  | 6.67  |
| 16.00  | 2.22                 | 55.2            | 54.5  | 54.2  | 6.24               | 6.44  | 6.34  |



| V TUNE | HARMONICS (dBc) |       |       | FREQ. PUSHING (MHz/V) |
|--------|-----------------|-------|-------|-----------------------|
|        | F2              | F3    | F4    |                       |
| 1.00   | -18.1           | -31.5 | -40.4 | 0.02                  |
| 2.00   | -18.8           | -32.4 | -38.9 | 0.04                  |
| 3.00   | -19.2           | -32.9 | -37.6 | 0.00                  |
| 4.00   | -19.8           | -32.5 | -36.8 | 0.02                  |
| 5.00   | -20.0           | -31.8 | -36.3 | 0.04                  |
| 6.00   | -20.7           | -31.0 | -35.9 | 0.05                  |
| 7.00   | -22.1           | -30.2 | -35.7 | 0.05                  |
| 8.00   | -23.2           | -29.5 | -35.5 | 0.05                  |
| 9.00   | -24.4           | -28.9 | -35.3 | 0.05                  |
| 10.00  | -25.7           | -28.4 | -35.2 | 0.05                  |
| 11.00  | -26.2           | -28.0 | -35.1 | 0.05                  |
| 12.00  | -27.6           | -27.7 | -35.1 | 0.05                  |
| 13.00  | -30.3           | -27.4 | -35.0 | 0.05                  |
| 14.00  | -31.1           | -27.2 | -34.9 | 0.04                  |
| 15.00  | -33.5           | -27.0 | -35.0 | 0.03                  |
| 16.00  | -36.8           | -26.7 | -35.0 | 0.02                  |



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