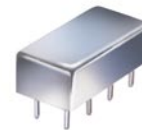


# Plug-In Voltage Controlled Oscillator

## POS-50+ POS-50

Linear Tuning 25 to 50 MHz



### Features

- low phase noise
- low load pull, 0.06 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 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) |        |         |       | 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. |                    | Min.               | Max. | 1 kHz                | 10 kHz | 100 kHz | 1 MHz |                             |                 |                            | Typ.            | Typ. |                                 | Typ.               | Max. |
| 25              | 50   | +8.5               | 1                  | 16   | -88                  | -110   | -130    | -150  | 0.06                        | 0.04            | 2.0-2.6                    | -19             | -12  | 0.1                             | 12                 | 20   |

### Pin Connections

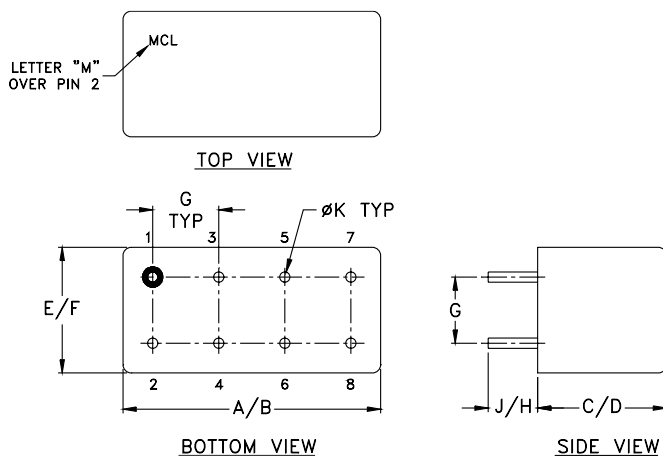
|             |           |
|-------------|-----------|
| RF OUT      | 2         |
| VCC         | 1         |
| V-TUNE      | 8         |
| GROUND      | 3,4,5,6,7 |
| CASE GROUND | 3,4,5,6,7 |

### 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

### Outline Drawing



### Outline Dimensions (inch/mm)

|       |       |      |      |       |       |
|-------|-------|------|------|-------|-------|
| A     | B     | C    | D    | E     | F     |
| .770  | .800  | .285 | .310 | .370  | .400  |
| 19.56 | 20.32 | 7.24 | 7.87 | 9.40  | 10.16 |
| G     | H     | J    | K    | wt    |       |
| .200  | .20   | .14  | .031 | grams |       |
| 5.08  | 5.08  | 3.56 | 0.79 | 5.2   |       |



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

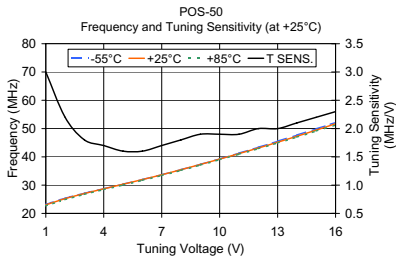
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

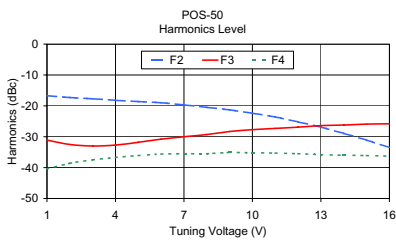
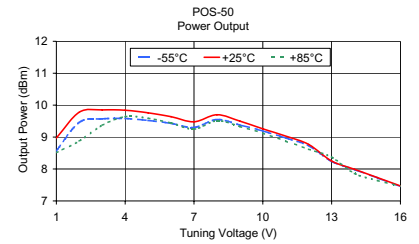
REV. H  
M98898  
POS-50  
SK/TD/CP  
061130  
Page 1 of 2

# Performance Data & Curves

# POS-50+ 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   | 3.00                 | 23.19           | 23.04 | 22.69 | 8.57               | 8.97  | 8.51  |
| 2.00   | 2.20                 | 25.37           | 25.21 | 24.87 | 9.46               | 9.78  | 8.88  |
| 3.00   | 1.80                 | 27.13           | 27.04 | 26.74 | 9.57               | 9.85  | 9.37  |
| 4.00   | 1.70                 | 28.75           | 28.70 | 28.42 | 9.58               | 9.84  | 9.64  |
| 5.00   | 1.60                 | 30.35           | 30.31 | 30.05 | 9.52               | 9.76  | 9.59  |
| 6.00   | 1.60                 | 31.99           | 31.96 | 31.70 | 9.43               | 9.64  | 9.44  |
| 7.00   | 1.70                 | 33.70           | 33.67 | 33.42 | 9.30               | 9.48  | 9.25  |
| 8.00   | 1.80                 | 35.49           | 35.45 | 35.22 | 9.55               | 9.70  | 9.51  |
| 9.00   | 1.90                 | 37.35           | 37.30 | 37.08 | 9.38               | 9.50  | 9.33  |
| 10.00  | 1.90                 | 39.29           | 39.21 | 39.00 | 9.19               | 9.26  | 9.12  |
| 11.00  | 1.90                 | 41.31           | 41.15 | 40.94 | 8.97               | 9.03  | 8.87  |
| 12.00  | 2.00                 | 43.39           | 43.12 | 42.90 | 8.73               | 8.77  | 8.62  |
| 13.00  | 2.00                 | 45.52           | 45.16 | 44.91 | 8.24               | 8.25  | 8.37  |
| 14.00  | 2.10                 | 47.69           | 47.29 | 46.99 | 7.98               | 7.99  | 7.86  |
| 15.00  | 2.20                 | 49.91           | 49.47 | 49.13 | 7.72               | 7.73  | 7.64  |
| 16.00  | 2.30                 | 52.17           | 51.72 | 51.27 | 7.45               | 7.47  | 7.46  |



| V TUNE | HARMONICS (dBc) |        |        | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
|        | F2              | F3     | F4     |                       |
| 1.00   | -16.70          | -31.10 | -40.40 | 0.00                  |
| 2.00   | -17.30          | -32.50 | -38.60 | 0.02                  |
| 3.00   | -17.70          | -33.00 | -37.50 | 0.01                  |
| 4.00   | -18.20          | -32.70 | -36.70 | 0.02                  |
| 5.00   | -18.60          | -31.80 | -36.10 | 0.03                  |
| 6.00   | -19.00          | -30.80 | -35.60 | 0.03                  |
| 7.00   | -19.70          | -30.00 | -35.50 | 0.03                  |
| 8.00   | -20.50          | -29.30 | -35.50 | 0.02                  |
| 9.00   | -21.30          | -28.30 | -35.10 | 0.00                  |
| 10.00  | -22.40          | -27.70 | -35.20 | 0.01                  |
| 11.00  | -23.60          | -27.30 | -35.30 | 0.03                  |
| 12.00  | -25.20          | -26.90 | -35.50 | 0.03                  |
| 13.00  | -26.90          | -26.40 | -35.80 | 0.09                  |
| 14.00  | -28.90          | -26.20 | -36.00 | 0.13                  |
| 15.00  | -31.10          | -25.90 | -36.10 | 0.17                  |
| 16.00  | -33.50          | -25.80 | -36.30 | 0.20                  |

