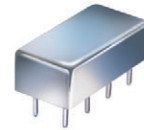


# Plug-In Voltage Controlled Oscillator

## POS-100P+ POS-100P

5V Tuning for PLL IC's 48 to 59 MHz



CASE STYLE: A06  
PRICE: \$12.95 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.*

### Features

- 5V tuning voltage range
- low phase noise
- hermetically sealed

### Applications

- PLL circuitry
- measurement instrumentation
- synthesizers

### Electrical Specifications

| FREQUENCY (MHz) |      | POWER OUTPUT (dBm) | TUNING VOLTAGE (V) |      | PHASE NOISE (dBc/Hz)<br>SSB at offset frequencies:<br>Typ. |           |            |          | PULLING<br>pk-pk<br>@ 12 dB<br>(MHz) | PUSHING<br>(MHz/V) | TUNING<br>SENSITIVITY<br>(MHz/V) | HARMONICS (dBc) |      | 3 dB<br>MODULATION<br>BANDWIDTH<br>(MHz) | DC<br>OPERATING<br>POWER   |                         |
|-----------------|------|--------------------|--------------------|------|--|-----------|------------|----------|--------------------------------------|--------------------|----------------------------------|-----------------|------|--|----------------------------|-------------------------|
| Min.            | Max. | Typ.               | Min.               | Max. | 1<br>kHz   | 10<br>kHz | 100<br>kHz | 1<br>MHz | Typ.                                 | Typ.               | Typ.                             | Typ.            | Max. | Typ.                                     | V <sub>cc</sub><br>(volts) | Current<br>(mA)<br>Max. |
| 48              | 59   | 9                  | 0.5                | 5.0  | -92  | -112      | -134       | -151     | 0.8                                  | 0.2                | 3.5-5.0                          | -30             | -18  | 0.1                                      | 12                         | 20                      |

### Pin Connections

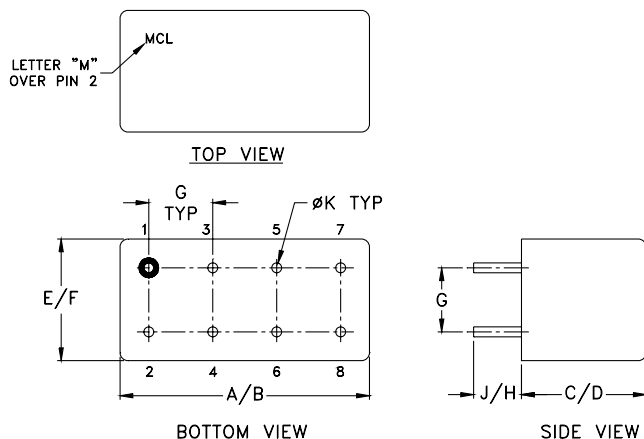
|             |           |
|-------------|-----------|
| RF OUT      | 2         |
| VCC         | 1         |
| V-TUNE      | 8         |
| GROUND      | 3,4,5,6,7 |
| CASE GROUND | 3,4,5,6,7 |

### Maximum Ratings

|   |                |
|---|----------------|
| Operating Temperature                             | -55°C to 85°C  |
| Storage Temperature                               | -55°C to 100°C |
| Absolute Max. Supply Voltage (V <sub>cc</sub> )   | +16V           |
| Absolute Max. Tuning Voltage (V <sub>tune</sub> ) | +7V            |

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

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

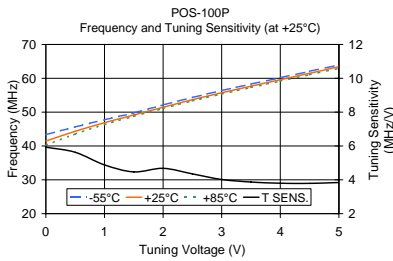
For detailed performance specs  
& shopping online see web site

**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).

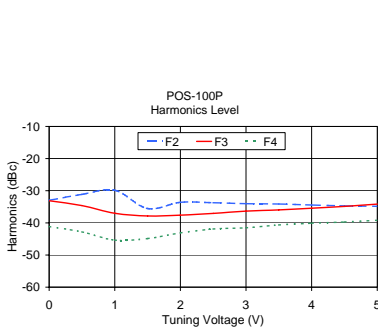
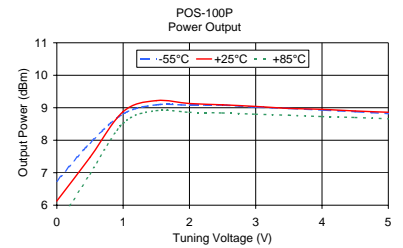
REV. H  
M11708  
POS-100P  
SK/TD/CP/AM  
091223  
Page 1 of 2

# Performance Data & Curves

# POS-100P+ POS-100P



| V TUNE | TUNING SENS. (MHz/V) | FREQUENCY (MHz) |       |       | POWER OUTPUT (dBm) |       |       |
|--------|----------------------|-----------------|-------|-------|--------------------|-------|-------|
|        |                      | -55°C           | +25°C | +85°C | -55°C              | +25°C | +85°C |
| 0.00   | 5.93                 | 43.34           | 41.46 | 40.21 | 6.74               | 6.13  | 5.35  |
| 0.50   | 5.63                 | 45.64           | 44.35 | 43.52 | 7.91               | 7.47  | 6.96  |
| 1.00   | 4.88                 | 47.75           | 46.87 | 46.32 | 8.81               | 8.88  | 8.52  |
| 1.50   | 4.47                 | 49.80           | 49.15 | 48.75 | 9.09               | 9.22  | 8.91  |
| 2.00   | 4.68                 | 52.13           | 51.45 | 51.10 | 9.08               | 9.13  | 8.86  |
| 2.50   | 4.35                 | 54.35           | 53.69 | 53.32 | 9.08               | 9.09  | 8.84  |
| 3.00   | 4.02                 | 56.37           | 55.73 | 55.34 | 9.02               | 9.04  | 8.80  |
| 3.50   | 3.87                 | 58.30           | 57.68 | 57.28 | 8.98               | 8.98  | 8.77  |
| 4.00   | 3.80                 | 60.19           | 59.59 | 59.18 | 8.93               | 8.95  | 8.73  |
| 4.50   | 3.79                 | 62.07           | 61.49 | 61.06 | 8.88               | 8.90  | 8.70  |
| 5.00   | 3.84                 | 63.98           | 63.41 | 62.97 | 8.82               | 8.86  | 8.66  |



| V TUNE | HARMONICS (dBc) |        |        | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
|        | F2              | F3     | F4     |                       |
| 0.00   | -32.96          | -33.12 | -41.12 | 0.06                  |
| 0.50   | -31.13          | -34.63 | -42.80 | 0.13                  |
| 1.00   | -29.85          | -37.02 | -45.35 | 0.19                  |
| 1.50   | -35.52          | -37.86 | -44.86 | 0.26                  |
| 2.00   | -33.60          | -37.60 | -43.10 | 0.26                  |
| 2.50   | -33.73          | -37.06 | -41.89 | 0.26                  |
| 3.00   | -34.02          | -36.35 | -41.52 | 0.19                  |
| 3.50   | -34.13          | -35.96 | -40.63 | 0.19                  |
| 4.00   | -34.43          | -35.43 | -40.10 | 0.19                  |
| 4.50   | -34.71          | -34.88 | -39.71 | 0.13                  |
| 5.00   | -34.84          | -34.17 | -39.17 | 0.06                  |

