

Plug-In

# Voltage Controlled Oscillator

**POS-765+**  
**POS-765**

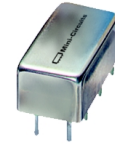
Linear Tuning 485 to 765 MHz

## Features

- low phase noise, -129 dBc/Hz at 1 MHz offset, typ.
- excellent harmonic suppression, -21 dBc typ.
- hermetically sealed

## Applications

- VHF/UHF receivers/transmitters
- test instruments
- catv distribution
- wideband frequency synthesizer



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

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

See our web site for RoHS Compliance methodologies and qualifications.

## Electrical Specifications

| MODEL NO.  | FREQ. (MHz) |      | POWER OUTPUT (dBm) | TUNING VOLTAGE (V) |      | PHASE NOISE dBc/Hz SSB at offset frequencies: Typ. |        |         |       | PULLING pk-pk @ 12 dBr (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. |
| POS-765(+) | 485         | 765  | +9.5               | 1                  | 16   | -61  | -85    | -108    | -129  | 5.0                          | 0.4             | 18-27                      | -21             | -17  | 0.1                             | 12                 | 22                |

## Pin Connections

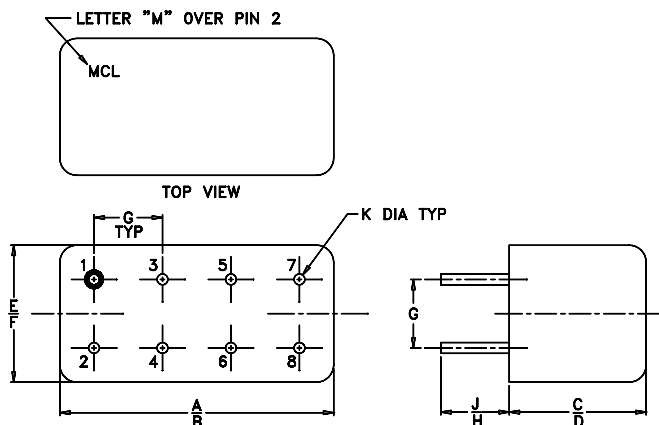
|             |           |
|-------------|-----------|
| RFOUT       | 2         |
| VCC         | 1         |
| V-TUNE      | 8         |
| GROUND      | 3,4,5,6,7 |
| CASE GROUND | 3,4,5,6,7 |

## 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) | +18V           |

all specifications: 50 ohm system

## Outline Drawing



NOTE: BLUE BEAD INDICATES PIN 1.  
PIN NUMBERS DO NOT APPEAR ON UNIT,  
FOR REFERENCE ONLY.

## 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 |
| 19.56 | 20.32 | 7.24 | 7.87 | 9.40 | 10.16 | 5.08 | 5.08 | 3.56 | .79  | 5.2   |



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

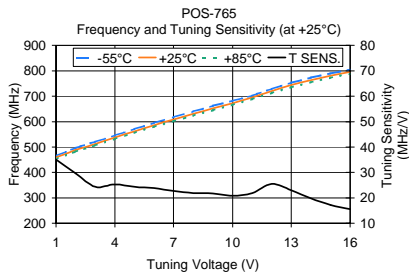
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

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

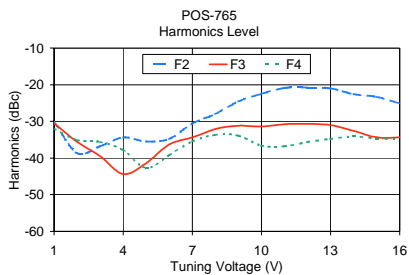
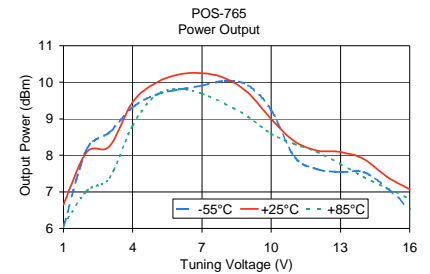
Mini-Circuits ISO 9001 & ISO 14001 Certified

REV. H  
M98898  
POS-765  
SK/TD/CP  
051206  
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## Performance Curves



| V TUNE | TUNING SENS. (MHz/V) | FREQUENCY (MHz) |       |       | POWER OUTPUT (dBm) |       |       |
|--------|----------------------|-----------------|-------|-------|--------------------|-------|-------|
|        |                      | -55°C           | +25°C | +85°C | -55°C              | +25°C | +85°C |
| 1.0    | 35.0                 | 465.2           | 458.5 | 452.6 | 6.0                | 6.6   | 6.0   |
| 2.0    | 29.6                 | 495.9           | 488.1 | 481.7 | 8.1                | 8.0   | 7.0   |
| 3.0    | 24.3                 | 520.3           | 512.4 | 506.5 | 8.6                | 8.2   | 7.3   |
| 4.0    | 25.3                 | 545.9           | 537.7 | 531.9 | 9.3                | 9.4   | 8.8   |
| 5.0    | 24.3                 | 570.7           | 562.0 | 556.0 | 9.6                | 9.9   | 9.6   |
| 6.0    | 23.8                 | 594.8           | 585.8 | 579.3 | 9.8                | 10.2  | 9.8   |
| 7.0    | 22.7                 | 617.6           | 608.5 | 601.5 | 9.9                | 10.2  | 9.6   |
| 8.0    | 21.9                 | 640.0           | 630.4 | 623.1 | 10.0               | 10.1  | 9.4   |
| 9.0    | 21.7                 | 661.9           | 652.1 | 644.6 | 9.9                | 9.7   | 9.0   |
| 10.0   | 20.8                 | 681.9           | 672.9 | 665.6 | 9.2                | 9.0   | 8.5   |
| 11.0   | 21.9                 | 702.2           | 694.8 | 688.3 | 7.9                | 8.3   | 8.3   |
| 12.0   | 25.5                 | 728.4           | 720.3 | 712.6 | 7.6                | 8.1   | 8.0   |
| 13.0   | 23.0                 | 752.5           | 743.4 | 734.8 | 7.5                | 8.0   | 7.7   |
| 14.0   | 19.8                 | 772.6           | 763.2 | 754.7 | 7.5                | 7.9   | 7.4   |
| 15.0   | 17.2                 | 789.4           | 780.4 | 772.2 | 7.1                | 7.4   | 7.1   |
| 16.0   | 15.5                 | 804.7           | 795.9 | 787.9 | 6.5                | 7.0   | 6.8   |



| V TUNE | HARMONICS (dBc) |       |       | FREQ. PUSHING (MHz/V) |
|--------|-----------------|-------|-------|-----------------------|
|        | F2              | F3    | F4    |                       |
| 1.0    | -30.2           | -30.5 | -32.0 | 0.88                  |
| 2.0    | -38.7           | -35.6 | -35.1 | 0.21                  |
| 3.0    | -36.8           | -39.5 | -35.6 | 0.29                  |
| 4.0    | -34.4           | -44.4 | -37.8 | 0.54                  |
| 5.0    | -35.5           | -41.4 | -42.7 | 0.44                  |
| 6.0    | -34.8           | -36.3 | -39.2 | 0.32                  |
| 7.0    | -30.6           | -34.4 | -35.5 | -0.02                 |
| 8.0    | -28.0           | -32.1 | -33.7 | -0.24                 |
| 9.0    | -24.6           | -31.2 | -33.9 | -0.27                 |
| 10.0   | -22.5           | -31.4 | -36.6 | -0.28                 |
| 11.0   | -20.9           | -30.8 | -36.8 | 0.36                  |
| 12.0   | -20.8           | -30.7 | -35.6 | 0.62                  |
| 13.0   | -21.0           | -31.0 | -34.8 | 0.36                  |
| 14.0   | -22.6           | -32.6 | -34.1 | 0.22                  |
| 15.0   | -23.3           | -34.4 | -34.7 | 0.08                  |
| 16.0   | -25.1           | -34.4 | -34.8 | -0.01                 |

