

Voltage Controlled Oscillator

ROS-850-719+

Linear Tuning 750 to 850 MHz



CASE STYLE: CK605
PRICE: \$15.95 ea. QTY (5-49)

Features

- linear tuning characteristics
- low phase noise
- low pushing
- aqueous washable

Applications

- wireless broadband access

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

| MODEL NO. | FREQ. (MHz) | | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies, kHz | | | | TUNING | | | | | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | DC OPERATING POWER | | | | | |
|--------------|-------------|------|--------------------|---|------|------|------|--------|-------------------|-------|-----------------------|---------------|-----------------------------|---------------------------------|------|-----------------------------|-----------------|--------------------|------|------|------|-----|--------------|
| | Min. | Max. | | Typ. | 1 | 10 | 100 | 1000 | VOLTAGE RANGE (V) | | SENSI- TIVITY (MHz/V) | PORT CAP (pF) | | 3 dB MODULATION BANDWIDTH (MHz) | Typ. | | | Typ. | Max. | Typ. | Typ. | Vcc | Current (mA) |
| | | | | | | | | | Min. | Max. | | | | | | | | | | | | | |
| ROS-850-719+ | 750 | 850 | +5 | -86 | -110 | -130 | -150 | 0 | 10 | 18-21 | 50 | 100 | -90 | -25 | -15 | 1 | 0.5 | 5 | 30 | | | | |

Pin Connections

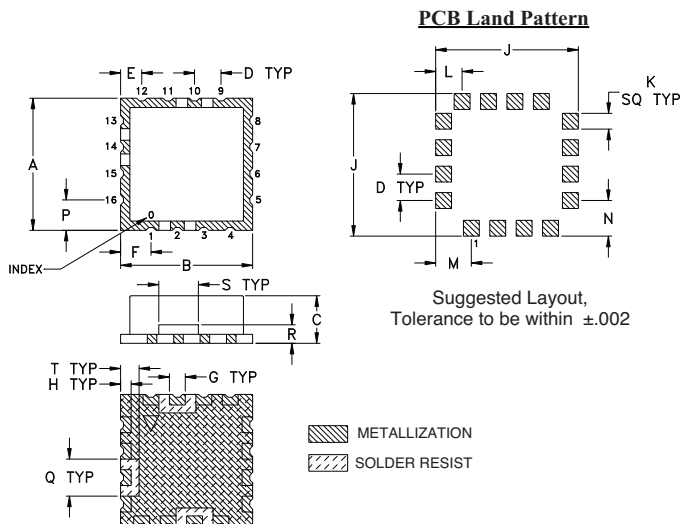
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

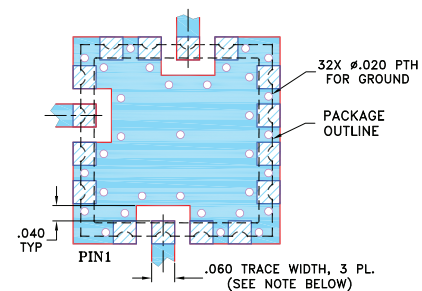
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 6V |
| Absolute Max. Tuning Voltage (Vtune) | 12V |
| All specifications | 50 ohm system |

Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Demo Board MCL P/N: TB-10 Suggested PCB Layout (PL-012)



NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE BOTTOM IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch/mm)

| | | | | | | | | | | | | | | | | | | |
|-------|-------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|
| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt. |
| .500 | .500 | .180 | .100 | .080 | .115 | .060 | .040 | .540 | .060 | .100 | .135 | .135 | .115 | .140 | .070 | .150 | .070 | grams |
| 12.70 | 12.70 | 4.57 | 2.54 | 2.03 | 2.92 | 1.52 | 1.02 | 13.72 | 1.52 | 2.54 | 3.43 | 3.43 | 2.92 | 3.56 | 1.78 | 3.81 | 1.78 | 1.0 |



For detailed performance specs & shopping online see web site

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

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.

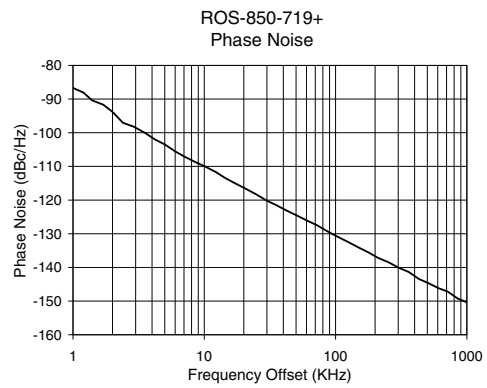
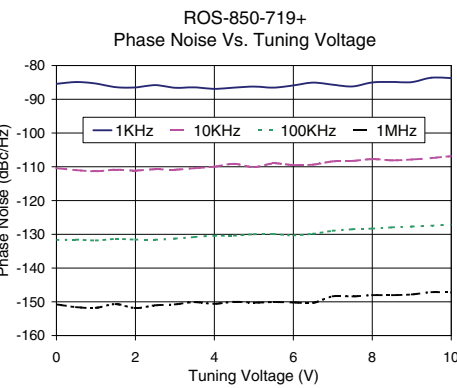
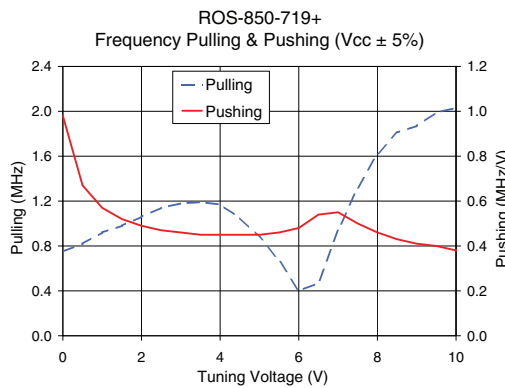
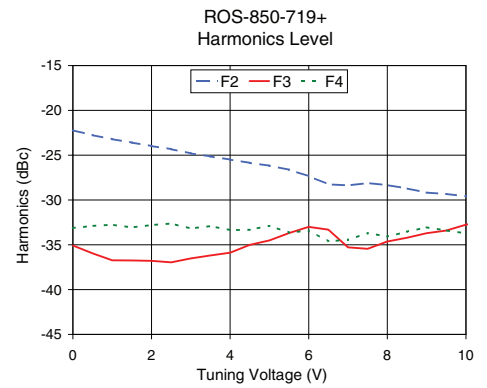
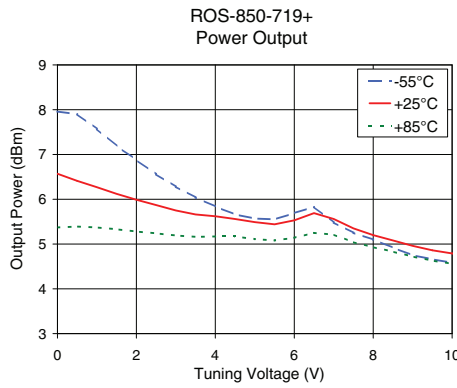
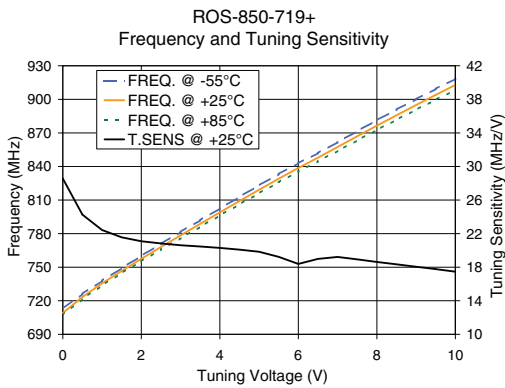
REV. OR
M111586
EDR-8481F1
ROS-850-719+
RAV
120911
Page 1 of 2

Performance Data & Curves*

ROS-850-719+

| V TUNE | TUNE SENS (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | | Icc (mA) | HARMONICS (dBc) | | | FREQ. PUSH (MHz/V) | FREQ. PULL (MHz) | PHASE NOISE (dBc/Hz) at offsets | | | | FREQ OFFSET (KHz) | PHASE NOISE at 800 MHz (dBc/Hz) |
|--------|-------------------|-----------------|-------|-------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|---------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 28.56 | 712.9 | 709.1 | 707.3 | 7.96 | 6.57 | 5.37 | 24.59 | -22.2 | -35.1 | -33.1 | 0.98 | 0.75 | -85.4 | -110.4 | -131.7 | -150.8 | 1.0 | -86.70 |
| 0.50 | 24.26 | 726.2 | 723.4 | 721.7 | 7.90 | 6.41 | 5.39 | 24.61 | -22.8 | -36.0 | -32.9 | 0.67 | 0.82 | -84.9 | -111.0 | -131.6 | -151.6 | 2.0 | -93.81 |
| 1.00 | 22.43 | 737.8 | 735.5 | 733.7 | 7.57 | 6.27 | 5.37 | 24.62 | -23.2 | -36.7 | -32.8 | 0.57 | 0.92 | -85.3 | -111.3 | -131.8 | -151.8 | 3.5 | -99.94 |
| 1.50 | 21.56 | 749.1 | 746.7 | 744.8 | 7.19 | 6.12 | 5.33 | 24.63 | -23.6 | -36.8 | -33.1 | 0.52 | 0.98 | -86.4 | -110.9 | -131.4 | -150.7 | 6.0 | -105.54 |
| 2.00 | 21.09 | 760.1 | 757.5 | 755.4 | 6.88 | 5.99 | 5.28 | 24.64 | -24.0 | -36.8 | -32.8 | 0.49 | 1.06 | -86.5 | -111.1 | -131.6 | -151.9 | 8.5 | -108.67 |
| 2.50 | 20.83 | 770.9 | 768.0 | 765.8 | 6.56 | 5.87 | 5.24 | 24.65 | -24.3 | -37.0 | -32.6 | 0.47 | 1.14 | -85.8 | -110.7 | -131.6 | -151.0 | 10.0 | -109.93 |
| 3.00 | 20.62 | 781.5 | 778.4 | 776.0 | 6.28 | 5.75 | 5.19 | 24.66 | -24.8 | -36.5 | -33.2 | 0.46 | 1.18 | -86.6 | -110.9 | -131.3 | -150.8 | 20.8 | -116.69 |
| 3.50 | 20.46 | 792.1 | 788.7 | 786.2 | 6.04 | 5.66 | 5.16 | 24.67 | -25.1 | -36.2 | -32.9 | 0.45 | 1.19 | -86.5 | -110.4 | -130.8 | -150.1 | 35.5 | -121.54 |
| 4.00 | 20.30 | 802.5 | 799.0 | 796.2 | 5.84 | 5.62 | 5.17 | 24.68 | -25.5 | -35.9 | -33.4 | 0.45 | 1.17 | -86.9 | -110.0 | -130.4 | -150.6 | 60.7 | -126.11 |
| 4.50 | 20.09 | 812.9 | 809.1 | 806.2 | 5.66 | 5.56 | 5.17 | 24.70 | -25.9 | -35.0 | -33.3 | 0.45 | 1.05 | -86.5 | -109.1 | -130.4 | -150.0 | 86.7 | -129.29 |
| 5.00 | 19.84 | 823.1 | 819.2 | 816.1 | 5.57 | 5.49 | 5.11 | 24.71 | -26.2 | -34.5 | -32.9 | 0.45 | 0.88 | -86.2 | -110.1 | -130.0 | -150.3 | 100.0 | -130.60 |
| 5.50 | 19.23 | 833.2 | 829.1 | 825.9 | 5.55 | 5.44 | 5.08 | 24.73 | -26.6 | -33.7 | -33.6 | 0.46 | 0.67 | -86.5 | -109.0 | -129.9 | -150.1 | 148.1 | -134.00 |
| 6.00 | 18.38 | 842.9 | 838.7 | 835.4 | 5.69 | 5.53 | 5.14 | 24.74 | -27.3 | -33.0 | -33.4 | 0.48 | 0.40 | -85.9 | -109.5 | -130.3 | -150.2 | 177.0 | -135.51 |
| 6.50 | 18.99 | 851.9 | 847.9 | 844.6 | 5.83 | 5.69 | 5.25 | 24.74 | -28.3 | -33.3 | -34.6 | 0.54 | 0.47 | -85.1 | -109.4 | -129.8 | -150.3 | 211.6 | -137.19 |
| 7.00 | 19.22 | 861.7 | 857.4 | 853.9 | 5.48 | 5.56 | 5.21 | 24.74 | -28.4 | -35.3 | -34.5 | 0.55 | 0.94 | -85.7 | -108.4 | -129.0 | -148.4 | 302.4 | -140.09 |
| 7.50 | 18.93 | 871.7 | 867.0 | 863.3 | 5.25 | 5.35 | 5.04 | 24.76 | -28.1 | -35.5 | -33.7 | 0.50 | 1.32 | -86.2 | -108.3 | -128.5 | -148.4 | 361.5 | -141.37 |
| 8.00 | 18.62 | 881.3 | 876.5 | 872.6 | 5.10 | 5.20 | 4.93 | 24.77 | -28.3 | -34.6 | -34.1 | 0.46 | 1.62 | -85.0 | -107.7 | -128.3 | -148.0 | 507.5 | -144.64 |
| 8.50 | 18.34 | 890.8 | 885.8 | 881.7 | 4.92 | 5.08 | 4.83 | 24.79 | -28.7 | -34.2 | -33.5 | 0.43 | 1.81 | -84.9 | -108.1 | -128.0 | -148.0 | 606.7 | -146.16 |
| 9.00 | 18.05 | 900.1 | 894.9 | 890.7 | 4.75 | 4.96 | 4.72 | 24.82 | -29.2 | -33.7 | -33.1 | 0.41 | 1.87 | -84.9 | -107.8 | -127.7 | -147.8 | 851.6 | -149.23 |
| 10.00 | 17.46 | 918.3 | 912.9 | 908.3 | 4.58 | 4.79 | 4.56 | 24.86 | -29.6 | -32.8 | -33.7 | 0.38 | 2.03 | -83.7 | -106.9 | -127.1 | -147.3 | 1000.0 | -150.38 |

*at 25°C unless mentioned otherwise



For detailed performance specs & shopping online see web site

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

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.