

Voltage Controlled Oscillator

ROS-5776-119+

Frequency Doubling 5726 to 5826 MHz



Features

- Frequency based on multiplication of Carrier Frequency
- Low Phase Noise
- Low Pushing
- Low Pulling
- 5V Tuning Voltage range
- Aqueous washable

Applications

- Wireless communications
- Uniband cable program

CASE STYLE: CK1113
PRICE: \$ 29.95 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

| 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) | SENSITIVITY (MHz/V) | PORT CAP (pF) | | 3 dB MODULATION BANDWIDTH (MHz) | Max. | F0.5 | | | F1.5 | F2 | Vcc |
| ROS-5776-119+ | 5726 | 5826 | +1.5 | -75 | -102 | -122 | -142 | 0.5 | 5 | 59 - 78 | 18 | 130 | -90 | -19 | -21 | -16 | 0.5 | 3 | 5 | 33 |

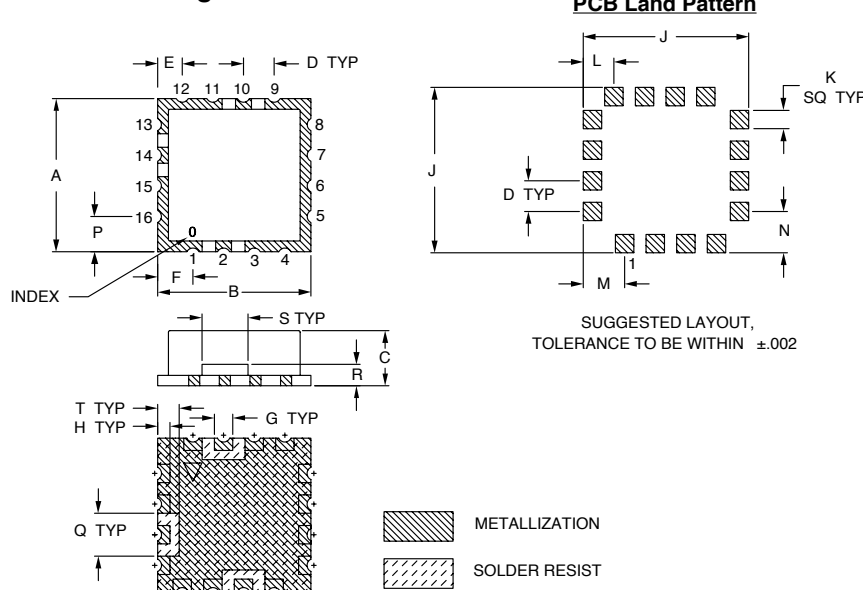
Pin Connections

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

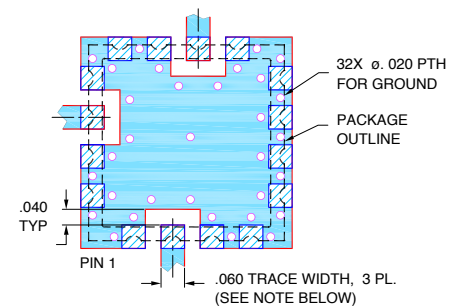
Maximum Ratings

| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 7V |
| Absolute Max. Tuning Voltage (Vtune) | 7V |
| All specifications | 50 ohm system |

Outline Drawing



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



- NOTES:
1. TRACE WIDTH IS SHOWN FOR RF4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB 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 | .220 | .100 | .080 | .115 | .060 | .040 | .540 | .060 | .100 | .135 | .135 | .115 | .140 | .070 | .150 | .070 | grams |
| 12.70 | 12.70 | 5.59 | 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 | 1.2 |



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



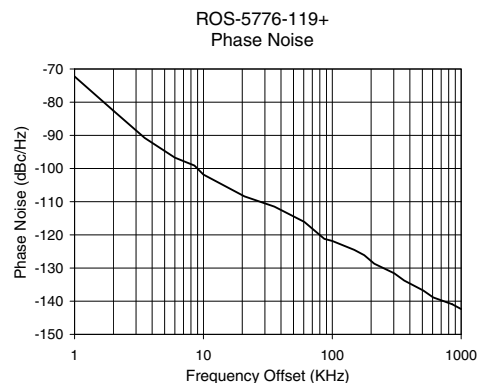
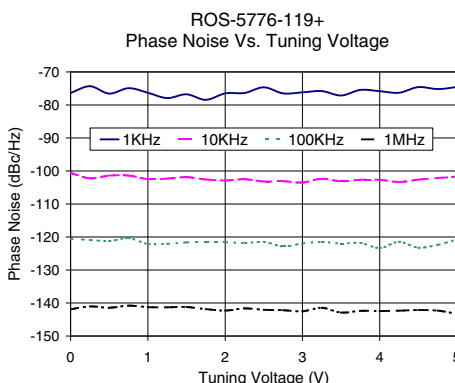
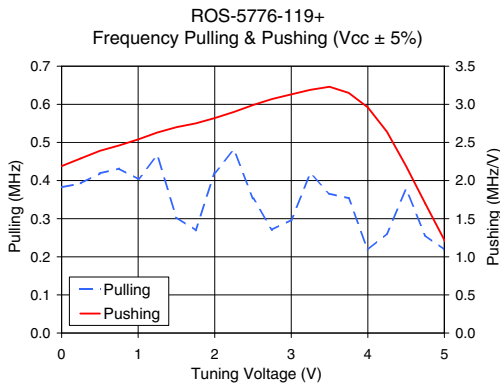
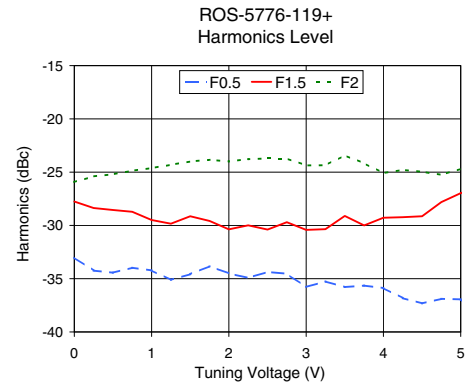
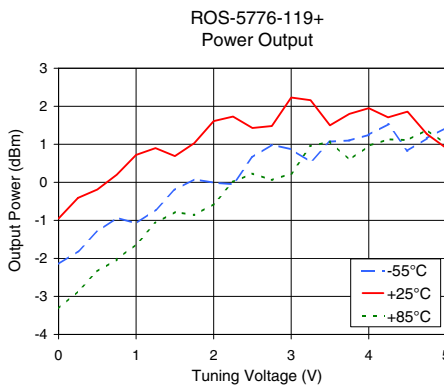
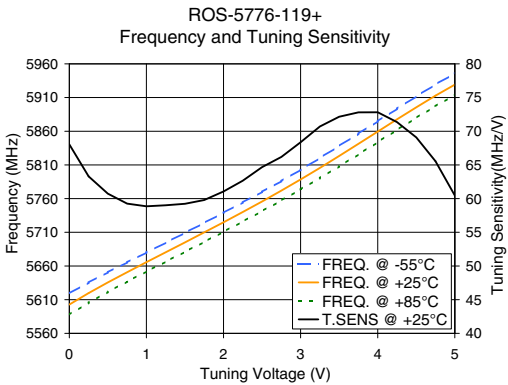
REV. OR
M110878
EDR-7906F1
ROS-5776-119+
RAV
080501
Page 1 of 2

Performance Data & Curves*

ROS-5776-119+

| 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 5776 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F0.5 | F1.5 | F2 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 68.04 | 5619.2 | 5602.8 | 5587.7 | -2.15 | -0.95 | -3.32 | 21.27 | -33.0 | -27.8 | -25.9 | 2.19 | 0.38 | -76.4 | -100.6 | -120.6 | -141.9 | 1.0 | -72.27 |
| 0.25 | 63.29 | 5635.4 | 5619.8 | 5605.4 | -1.81 | -0.41 | -2.86 | 21.42 | -34.2 | -28.4 | -25.4 | 2.29 | 0.39 | -74.3 | -102.2 | -120.9 | -141.0 | 2.0 | -82.58 |
| 0.50 | 60.74 | 5650.7 | 5635.6 | 5621.5 | -1.30 | -0.19 | -2.34 | 21.56 | -34.4 | -28.6 | -25.2 | 2.39 | 0.42 | -76.6 | -101.4 | -121.2 | -141.5 | 3.5 | -90.80 |
| 0.75 | 59.26 | 5665.4 | 5650.8 | 5636.9 | -0.93 | 0.20 | -2.03 | 21.70 | -34.0 | -28.7 | -24.9 | 2.46 | 0.43 | -74.9 | -101.4 | -120.3 | -140.8 | 6.0 | -96.72 |
| 1.00 | 58.86 | 5680.0 | 5665.6 | 5651.8 | -1.08 | 0.72 | -1.63 | 21.83 | -34.2 | -29.5 | -24.6 | 2.54 | 0.40 | -76.3 | -102.5 | -122.1 | -141.3 | 8.5 | -99.09 |
| 1.25 | 59.01 | 5694.6 | 5680.3 | 5666.4 | -0.72 | 0.90 | -1.07 | 21.97 | -35.1 | -29.8 | -24.3 | 2.63 | 0.47 | -77.9 | -102.3 | -122.1 | -141.3 | 10.0 | -101.83 |
| 1.50 | 59.23 | 5709.2 | 5695.1 | 5681.0 | -0.20 | 0.69 | -0.78 | 22.12 | -34.6 | -29.1 | -24.0 | 2.70 | 0.30 | -76.8 | -101.9 | -121.6 | -141.2 | 20.8 | -108.40 |
| 1.75 | 59.79 | 5723.9 | 5709.9 | 5695.7 | 0.08 | 1.03 | -0.86 | 22.28 | -33.8 | -29.6 | -23.8 | 2.75 | 0.27 | -78.4 | -102.6 | -121.5 | -141.8 | 35.5 | -111.49 |
| 2.00 | 61.06 | 5738.9 | 5724.8 | 5710.7 | -0.01 | 1.61 | -0.57 | 22.43 | -34.5 | -30.4 | -24.0 | 2.82 | 0.42 | -76.5 | -102.9 | -121.6 | -142.3 | 60.7 | -116.09 |
| 2.25 | 62.66 | 5754.3 | 5740.1 | 5725.9 | -0.05 | 1.73 | 0.01 | 22.59 | -34.9 | -30.0 | -23.8 | 2.90 | 0.48 | -76.4 | -102.5 | -121.8 | -141.6 | 86.7 | -121.21 |
| 2.50 | 64.67 | 5770.0 | 5755.7 | 5741.3 | 0.66 | 1.43 | 0.23 | 22.74 | -34.4 | -30.4 | -23.7 | 2.99 | 0.35 | -74.7 | -103.2 | -121.5 | -142.1 | 100.0 | -121.84 |
| 2.75 | 66.19 | 5786.1 | 5771.9 | 5757.2 | 0.99 | 1.48 | 0.06 | 22.90 | -34.5 | -29.7 | -23.7 | 3.07 | 0.27 | -76.5 | -103.1 | -122.8 | -142.2 | 148.1 | -124.53 |
| 3.00 | 68.36 | 5802.9 | 5788.5 | 5773.7 | 0.87 | 2.23 | 0.23 | 23.05 | -35.8 | -30.4 | -24.4 | 3.13 | 0.30 | -76.2 | -103.5 | -121.9 | -142.5 | 177.0 | -126.12 |
| 3.25 | 70.71 | 5820.2 | 5805.6 | 5790.5 | 0.54 | 2.16 | 0.95 | 23.20 | -35.3 | -30.4 | -24.4 | 3.19 | 0.42 | -75.8 | -102.3 | -121.5 | -141.4 | 211.6 | -128.69 |
| 3.50 | 72.15 | 5838.1 | 5823.2 | 5807.9 | 1.07 | 1.50 | 1.07 | 23.35 | -35.8 | -29.1 | -23.4 | 3.23 | 0.37 | -77.1 | -103.1 | -122.0 | -142.9 | 302.4 | -131.59 |
| 3.75 | 72.81 | 5856.3 | 5841.3 | 5825.7 | 1.10 | 1.80 | 0.59 | 23.51 | -35.7 | -30.0 | -24.2 | 3.15 | 0.35 | -75.4 | -102.7 | -121.8 | -142.4 | 361.5 | -133.77 |
| 4.00 | 72.81 | 5874.9 | 5859.5 | 5843.9 | 1.25 | 1.95 | 0.96 | 23.65 | -35.9 | -29.3 | -25.1 | 2.96 | 0.22 | -75.8 | -102.7 | -123.4 | -142.4 | 507.5 | -136.78 |
| 4.50 | 69.08 | 5911.7 | 5895.5 | 5879.9 | 0.83 | 1.86 | 1.11 | 23.89 | -37.3 | -29.1 | -25.0 | 2.19 | 0.38 | -74.6 | -102.6 | -123.3 | -142.1 | 606.7 | -138.86 |
| 4.75 | 65.55 | 5929.3 | 5912.8 | 5897.2 | 1.16 | 1.27 | 1.38 | 23.98 | -36.9 | -27.8 | -25.3 | 1.70 | 0.26 | -75.2 | -102.1 | -122.4 | -142.3 | 851.6 | -140.91 |
| 5.00 | 60.47 | 5945.8 | 5929.2 | 5913.7 | 1.44 | 0.90 | 1.00 | 24.07 | -36.9 | -27.0 | -24.7 | 1.22 | 0.22 | -74.5 | -101.6 | -120.9 | -143.1 | 1000.0 | -142.38 |

*at 25°C unless mentioned otherwise



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS