

Ultra Low Noise 1000 MHz

Features

- Ultra low Phase Noise
- Linear Tuning characteristics
- Very low Pushing
- Very low Pulling
- 5V Tuning Voltage range
- Aqueous washable

Applications

- Military & Avionics



CASE STYLE: CK1113
PRICE: \$ 26.95 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) | SENSI- TIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | | Typ. | Typ. | | | Typ. | Max. |
| ROS-1000C-319+ | 1000 | | +1 | -96 | -126 | -146 | -162 | 0.5 | 5 | 5 | 20 | 150 | -90 | -22 | -14 | 0.1 | 0.04 | 6 | 35 |

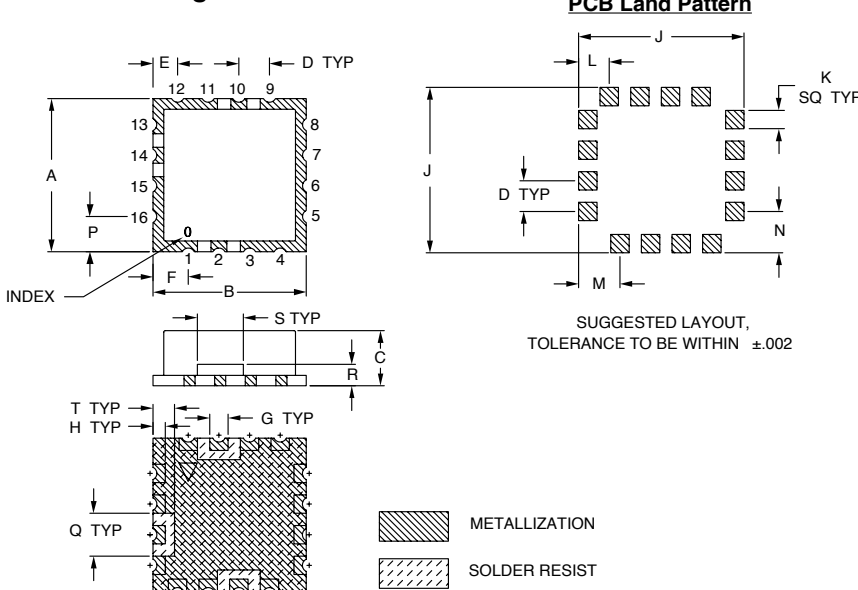
Pin Connections

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

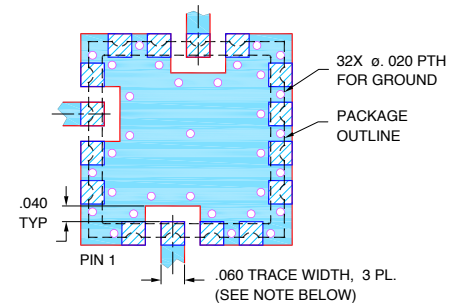
Maximum Ratings

| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 8V |
| 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 |



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RF/IF MICROWAVE COMPONENTS



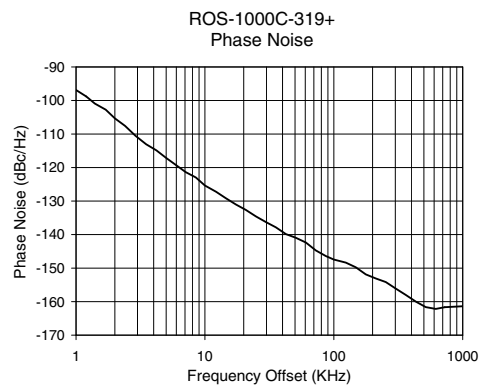
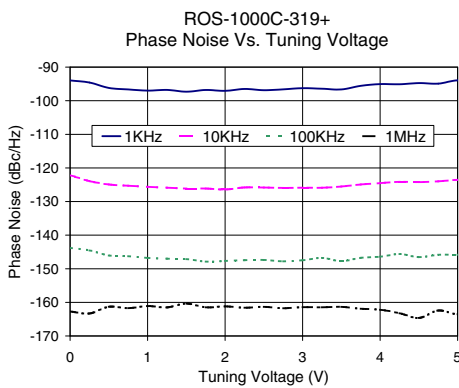
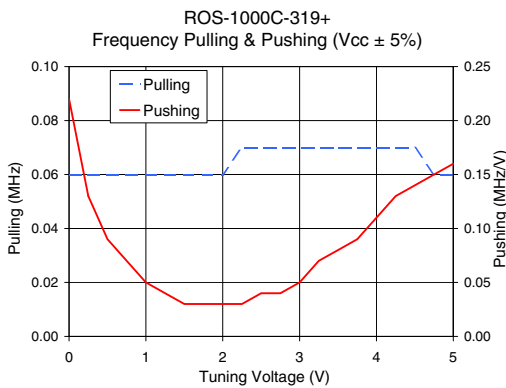
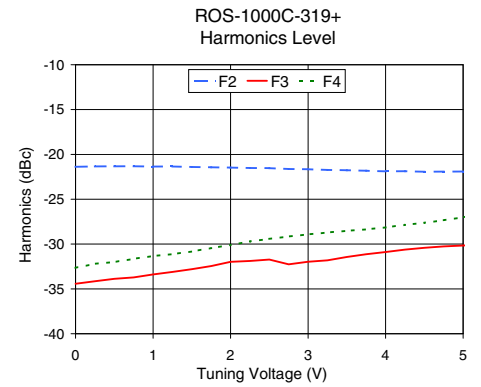
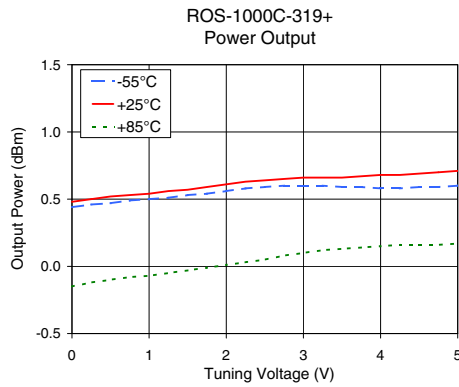
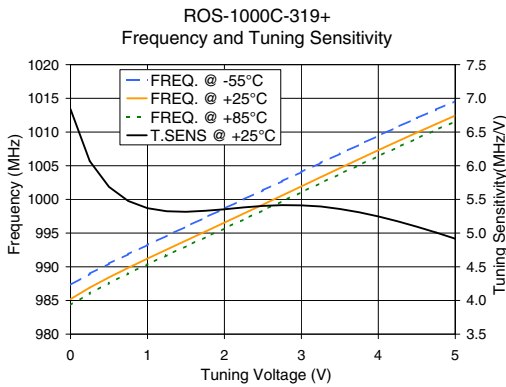
REV. OR
M109469
EDR-8277F1
ROS-1000C-319+
RAV
071216
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Performance Data & Curves*

ROS-1000C-319+

| 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 1000 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 6.84 | 987.3 | 985.2 | 984.3 | 0.44 | 0.48 | -0.15 | 28.62 | -21.4 | -34.4 | -32.7 | 0.22 | 0.06 | -94.0 | -122.2 | -143.8 | -162.7 | 1.0 | -96.87 |
| 0.50 | 5.69 | 990.5 | 988.4 | 987.6 | 0.47 | 0.52 | -0.10 | 28.78 | -21.3 | -33.9 | -32.0 | 0.09 | 0.06 | -96.2 | -124.9 | -146.1 | -161.3 | 2.0 | -105.34 |
| 0.75 | 5.48 | 991.9 | 989.8 | 989.0 | 0.49 | 0.53 | -0.08 | 28.84 | -21.3 | -33.7 | -31.7 | 0.07 | 0.06 | -96.7 | -125.3 | -146.3 | -161.7 | 3.5 | -113.07 |
| 1.00 | 5.37 | 993.2 | 991.2 | 990.4 | 0.50 | 0.54 | -0.07 | 28.89 | -21.4 | -33.4 | -31.3 | 0.05 | 0.06 | -97.0 | -125.6 | -146.8 | -161.1 | 6.0 | -119.34 |
| 1.25 | 5.32 | 994.6 | 992.6 | 991.7 | 0.51 | 0.56 | -0.05 | 28.95 | -21.4 | -33.1 | -31.1 | 0.04 | 0.06 | -96.8 | -125.9 | -147.0 | -161.5 | 8.5 | -122.97 |
| 1.50 | 5.32 | 995.9 | 993.9 | 993.0 | 0.53 | 0.57 | -0.03 | 29.00 | -21.4 | -32.8 | -30.8 | 0.03 | 0.06 | -97.3 | -126.1 | -147.1 | -160.4 | 10.0 | -125.37 |
| 1.75 | 5.33 | 997.3 | 995.2 | 994.4 | 0.54 | 0.59 | -0.01 | 29.06 | -21.4 | -32.5 | -30.4 | 0.03 | 0.06 | -96.8 | -126.1 | -147.9 | -161.5 | 20.8 | -132.65 |
| 2.00 | 5.35 | 998.6 | 996.6 | 995.7 | 0.56 | 0.61 | 0.01 | 29.11 | -21.5 | -32.0 | -30.1 | 0.03 | 0.06 | -97.1 | -126.4 | -147.7 | -161.2 | 35.5 | -137.83 |
| 2.25 | 5.38 | 1000.0 | 997.9 | 997.0 | 0.58 | 0.63 | 0.03 | 29.15 | -21.5 | -31.9 | -29.7 | 0.03 | 0.07 | -96.5 | -125.8 | -147.4 | -161.6 | 60.7 | -142.38 |
| 2.50 | 5.40 | 1001.4 | 999.2 | 998.4 | 0.59 | 0.64 | 0.05 | 29.20 | -21.5 | -31.7 | -29.4 | 0.04 | 0.07 | -96.9 | -125.8 | -147.4 | -161.3 | 86.7 | -146.39 |
| 2.75 | 5.42 | 1002.7 | 1000.6 | 999.7 | 0.60 | 0.65 | 0.08 | 29.24 | -21.6 | -32.3 | -29.2 | 0.04 | 0.07 | -96.6 | -125.9 | -147.8 | -161.8 | 100.0 | -147.45 |
| 3.00 | 5.41 | 1004.1 | 1001.9 | 1001.1 | 0.60 | 0.66 | 0.10 | 29.28 | -21.7 | -32.0 | -28.9 | 0.05 | 0.07 | -96.3 | -125.9 | -147.5 | -161.4 | 148.1 | -149.76 |
| 3.25 | 5.39 | 1005.4 | 1003.3 | 1002.4 | 0.60 | 0.66 | 0.12 | 29.32 | -21.7 | -31.8 | -28.7 | 0.07 | 0.07 | -96.4 | -125.9 | -146.8 | -161.5 | 177.0 | -151.87 |
| 3.50 | 5.36 | 1006.8 | 1004.6 | 1003.8 | 0.59 | 0.66 | 0.13 | 29.37 | -21.8 | -31.4 | -28.5 | 0.08 | 0.07 | -96.6 | -125.5 | -147.7 | -161.3 | 211.6 | -153.08 |
| 3.75 | 5.31 | 1008.1 | 1006.0 | 1005.1 | 0.59 | 0.67 | 0.14 | 29.41 | -21.8 | -31.1 | -28.4 | 0.09 | 0.07 | -95.6 | -124.9 | -146.7 | -161.9 | 302.4 | -156.12 |
| 4.00 | 5.25 | 1009.4 | 1007.3 | 1006.4 | 0.58 | 0.68 | 0.15 | 29.46 | -21.9 | -30.9 | -28.1 | 0.11 | 0.07 | -95.1 | -124.5 | -146.4 | -162.2 | 361.5 | -158.01 |
| 4.25 | 5.17 | 1010.8 | 1008.6 | 1007.7 | 0.58 | 0.68 | 0.16 | 29.50 | -21.9 | -30.6 | -27.9 | 0.13 | 0.07 | -95.1 | -124.1 | -145.6 | -163.2 | 516.6 | -161.63 |
| 4.50 | 5.09 | 1012.1 | 1009.9 | 1009.0 | 0.59 | 0.69 | 0.16 | 29.55 | -21.9 | -30.4 | -27.6 | 0.14 | 0.07 | -94.8 | -124.2 | -146.5 | -164.6 | 617.6 | -162.17 |
| 4.75 | 5.01 | 1013.3 | 1011.2 | 1010.3 | 0.59 | 0.70 | 0.16 | 29.60 | -21.9 | -30.3 | -27.3 | 0.15 | 0.06 | -94.9 | -124.0 | -145.8 | -162.4 | 725.2 | -161.65 |
| 5.00 | 4.92 | 1014.6 | 1012.4 | 1011.6 | 0.60 | 0.71 | 0.17 | 29.64 | -21.9 | -30.2 | -27.0 | 0.16 | 0.06 | -93.9 | -123.5 | -145.8 | -163.5 | 1000.0 | -161.37 |

*at 25°C unless mentioned otherwise



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