

Voltage Controlled Oscillator

ROS-3200C-719+

Low Noise 3060 to 3200 MHz



CASE STYLE: CK1113
PRICE: \$ 25.95 ea. QTY (5-49)

Features

- low phase noise
- low pushing
- low pulling
- aqueous washable

Applications

- wireless communications
- test equipment

+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. | Typ. | Typ. | Vcc (volts) | Current (mA) |
| | | | | | | | | | Min. | Max. | | | | | | | | | | | | |
| ROS-3200C-719+ | 3060 | 3200 | +4.7 | -85 | -113 | -133 | -152 | 0.5 | 18 | 8-13 | 30 | 65 | -90 | -15 | - | 1 | 1 | 8 | 36 | | | |

Pin Connections

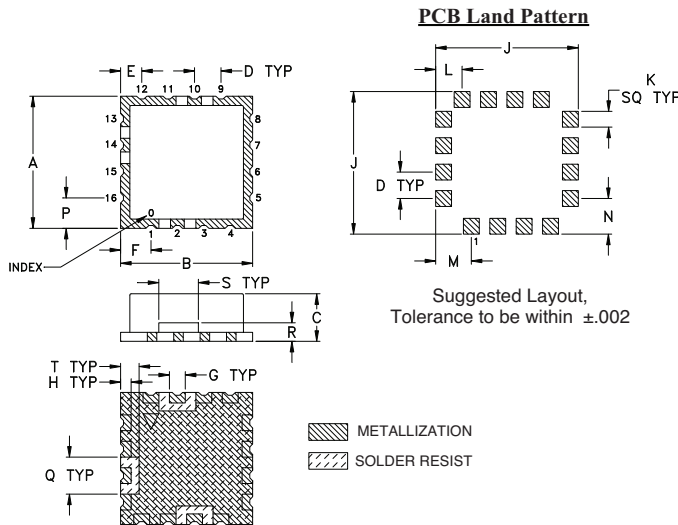
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

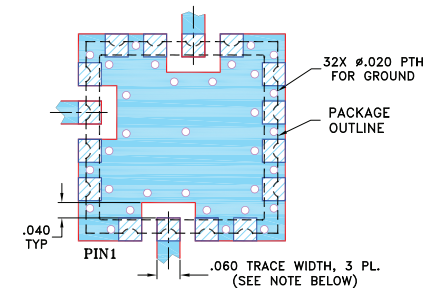
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 10V |
| Absolute Max. Tuning Voltage (Vtune) | 20V |
| All specifications | 50 ohm system |

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:

1. 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.
 2. BOTTOM SIDE OF THE BOARD 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 |



For detailed performance specs & shopping online see web site

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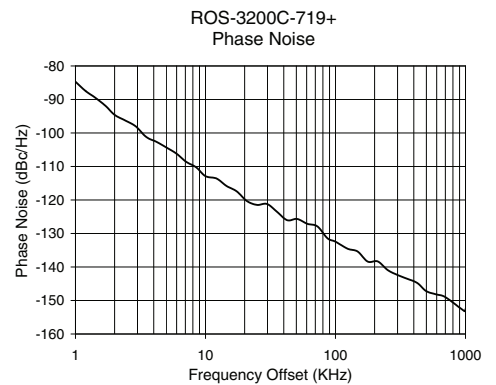
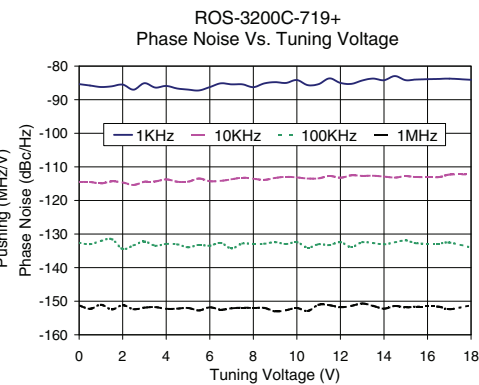
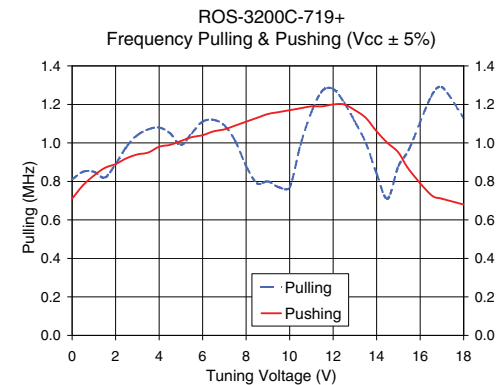
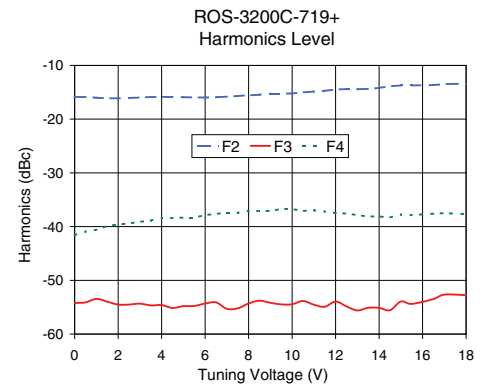
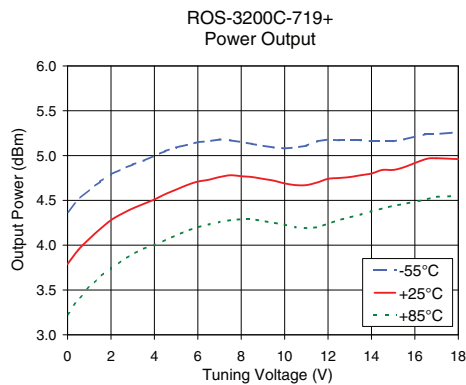
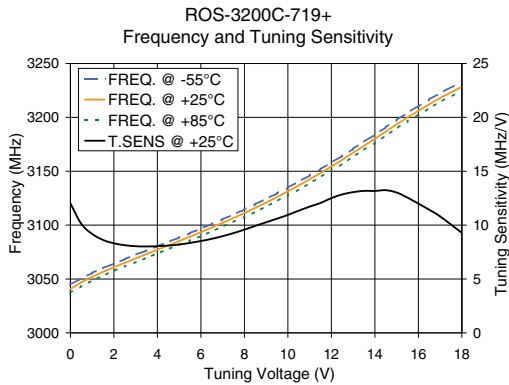
REV. OR
M120142
EDR-9426F1
ROS-3200C-719+
RAV
121002
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Performance Data & Curves*

ROS-3200C-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 3130 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 12.02 | 3044.8 | 3040.9 | 3037.2 | 4.37 | 3.79 | 3.23 | 30.61 | -15.9 | -54.2 | -41.6 | 0.71 | 0.81 | -85.4 | -114.5 | -132.6 | -151.3 | 1.0 | -84.72 |
| 0.50 | 10.12 | 3050.6 | 3046.9 | 3043.5 | 4.51 | 3.95 | 3.40 | 30.72 | -15.9 | -54.1 | -40.9 | 0.78 | 0.85 | -85.8 | -114.5 | -133.0 | -152.3 | 2.0 | -94.59 |
| 1.00 | 9.18 | 3055.5 | 3052.0 | 3048.6 | 4.62 | 4.07 | 3.53 | 30.80 | -16.0 | -53.5 | -40.6 | 0.83 | 0.85 | -86.2 | -114.9 | -132.1 | -151.1 | 3.5 | -101.19 |
| 2.00 | 8.31 | 3064.3 | 3060.9 | 3057.5 | 4.79 | 4.28 | 3.74 | 30.92 | -16.1 | -54.5 | -39.6 | 0.89 | 0.89 | -85.5 | -114.6 | -134.4 | -151.2 | 6.0 | -106.19 |
| 3.00 | 8.04 | 3072.5 | 3069.1 | 3065.7 | 4.90 | 4.41 | 3.90 | 31.01 | -16.0 | -54.3 | -39.1 | 0.94 | 1.04 | -85.1 | -114.4 | -132.2 | -151.9 | 8.5 | -110.29 |
| 4.00 | 8.05 | 3080.5 | 3077.1 | 3073.7 | 5.00 | 4.51 | 4.00 | 31.07 | -15.9 | -54.6 | -38.4 | 0.98 | 1.08 | -85.9 | -113.7 | -133.0 | -152.3 | 10.0 | -112.90 |
| 5.00 | 8.20 | 3088.5 | 3085.2 | 3081.7 | 5.09 | 4.62 | 4.11 | 31.12 | -15.9 | -54.8 | -38.3 | 1.01 | 0.99 | -87.0 | -114.4 | -133.9 | -152.0 | 20.8 | -120.31 |
| 6.00 | 8.52 | 3096.8 | 3093.5 | 3089.9 | 5.15 | 4.71 | 4.20 | 31.16 | -16.0 | -54.3 | -37.9 | 1.04 | 1.11 | -86.2 | -114.3 | -133.5 | -151.8 | 35.5 | -123.54 |
| 7.00 | 8.97 | 3105.4 | 3102.1 | 3098.5 | 5.18 | 4.76 | 4.26 | 31.18 | -15.8 | -55.3 | -37.4 | 1.07 | 1.09 | -85.4 | -113.7 | -134.3 | -152.1 | 60.7 | -127.12 |
| 8.00 | 9.58 | 3114.6 | 3111.2 | 3107.6 | 5.15 | 4.77 | 4.29 | 31.17 | -15.6 | -54.3 | -37.1 | 1.11 | 0.88 | -86.3 | -113.5 | -133.0 | -152.0 | 86.7 | -131.43 |
| 9.00 | 10.26 | 3124.4 | 3121.0 | 3117.3 | 5.11 | 4.74 | 4.27 | 31.18 | -15.3 | -54.2 | -37.1 | 1.15 | 0.80 | -84.8 | -113.3 | -132.4 | -153.0 | 100.0 | -132.44 |
| 10.00 | 10.95 | 3134.9 | 3131.4 | 3127.7 | 5.08 | 4.69 | 4.23 | 31.20 | -15.2 | -54.5 | -36.7 | 1.17 | 0.77 | -84.2 | -113.1 | -132.4 | -152.0 | 148.1 | -135.38 |
| 10.50 | 11.34 | 3140.4 | 3136.9 | 3133.2 | 5.09 | 4.67 | 4.20 | 31.21 | -15.0 | -53.8 | -37.1 | 1.18 | 0.99 | -85.7 | -113.5 | -134.1 | -152.9 | 177.0 | -138.38 |
| 11.00 | 11.71 | 3146.1 | 3142.6 | 3138.8 | 5.11 | 4.67 | 4.19 | 31.21 | -14.9 | -54.5 | -37.0 | 1.19 | 1.16 | -85.4 | -113.4 | -133.0 | -151.1 | 211.6 | -138.34 |
| 12.00 | 12.51 | 3158.0 | 3154.4 | 3150.7 | 5.18 | 4.74 | 4.24 | 31.22 | -14.5 | -54.0 | -37.5 | 1.20 | 1.28 | -85.0 | -113.3 | -132.4 | -151.8 | 302.4 | -142.45 |
| 13.00 | 13.06 | 3170.8 | 3167.1 | 3163.4 | 5.17 | 4.76 | 4.31 | 31.16 | -14.4 | -55.6 | -37.9 | 1.17 | 1.11 | -84.3 | -112.7 | -132.4 | -150.7 | 355.1 | -143.49 |
| 14.00 | 13.17 | 3184.1 | 3180.2 | 3176.5 | 5.16 | 4.80 | 4.38 | 31.08 | -14.2 | -55.1 | -38.1 | 1.06 | 0.84 | -84.2 | -112.9 | -133.1 | -152.2 | 498.5 | -147.20 |
| 15.00 | 13.03 | 3197.6 | 3193.4 | 3189.7 | 5.16 | 4.84 | 4.44 | 30.99 | -13.7 | -53.9 | -37.8 | 0.95 | 0.88 | -84.2 | -112.7 | -131.9 | -151.8 | 595.9 | -148.19 |
| 17.00 | 10.80 | 3222.5 | 3217.9 | 3214.3 | 5.24 | 4.97 | 4.54 | 30.90 | -13.5 | -52.7 | -37.5 | 0.71 | 1.29 | -83.7 | -112.3 | -132.5 | -152.4 | 982.3 | -153.16 |
| 18.00 | 9.29 | 3233.0 | 3228.4 | 3224.7 | 5.26 | 4.96 | 4.55 | 30.86 | -13.4 | -52.8 | -37.7 | 0.68 | 1.13 | -84.1 | -112.3 | -134.0 | -151.2 | 1000.0 | -152.51 |

*at 25°C unless mentioned otherwise



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