

Voltage Controlled Oscillator

ROS-2793-119+

Linear Tuning 2300 to 2760 MHz

Features

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



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

Applications

- wireless communication
- point-to-point communication

+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. |
| ROS-2793-119+ | 2300 | 2760 | +8 | -74 | -100 | -120 | -140 | 0.5 | 13 | 40-55 | 20 | 600 | -90 | -17 | -10 | 9 | 1.5 | 5 | 30 |

Pin Connections

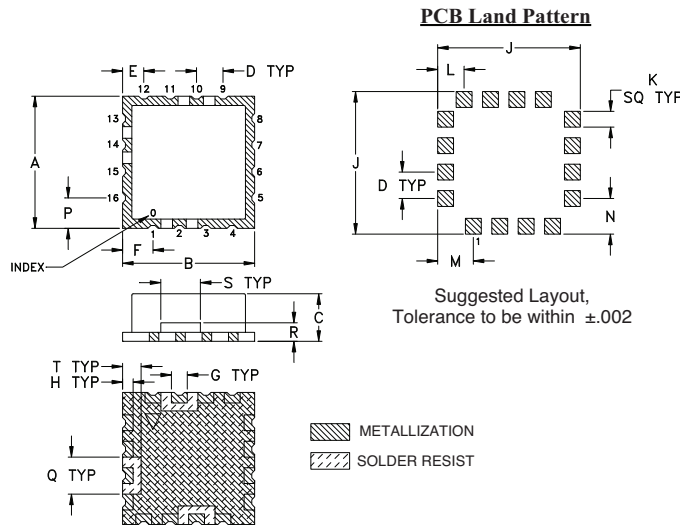
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

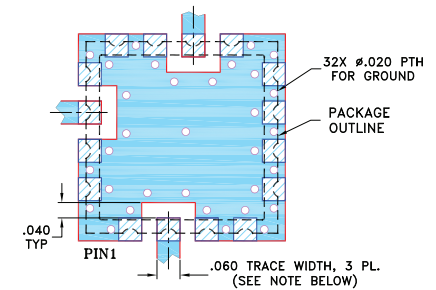
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 7V |
| Absolute Max. Tuning Voltage (Vtune) | 15V |
| All specifications | 50 ohm system |

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 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

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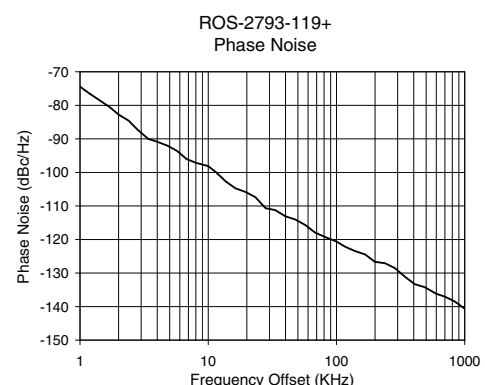
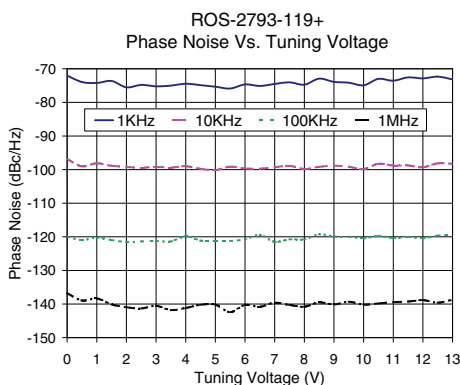
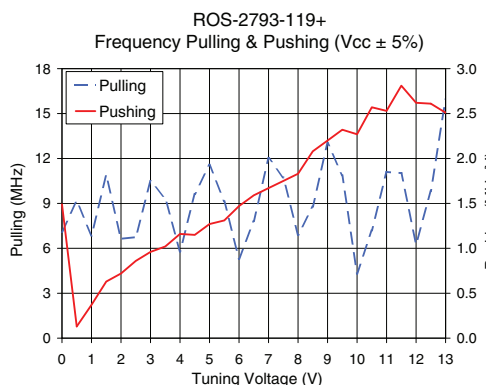
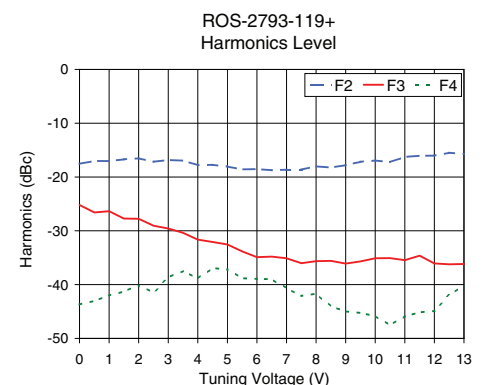
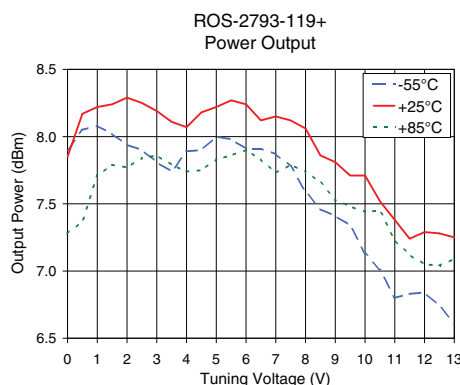
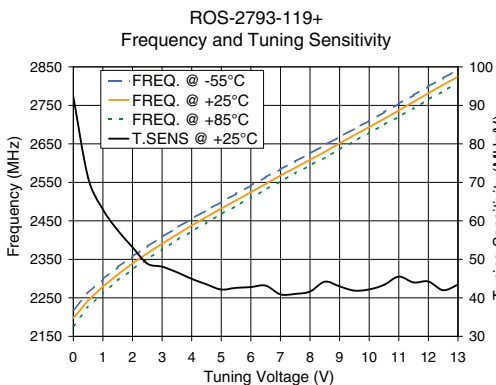
REV. OR
M108350
EDR-6673
ROS-2793-119+
RAV
121002
Page 1 of 2

Performance Data & Curves*

ROS-2793-119+

| 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 2530 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| | | | | | | | | | | | | | | | | | | | |
| 0.00 | 92.23 | 2219.7 | 2197.6 | 2177.6 | 7.90 | 7.85 | 7.28 | 23.08 | -17.6 | -25.2 | -43.7 | 1.49 | 7.10 | -72.0 | -96.9 | -120.0 | -136.8 | 1.0 | -74.45 |
| 0.50 | 71.17 | 2262.9 | 2243.7 | 2225.5 | 8.05 | 8.17 | 7.37 | 23.24 | -17.0 | -26.6 | -43.0 | 0.13 | 9.15 | -73.9 | -99.0 | -121.0 | -139.0 | 2.0 | -82.75 |
| 1.00 | 62.96 | 2298.3 | 2279.3 | 2262.9 | 8.08 | 8.22 | 7.71 | 23.25 | -17.0 | -26.4 | -42.0 | 0.37 | 6.86 | -74.2 | -98.1 | -120.2 | -138.4 | 3.4 | -90.00 |
| 1.50 | 57.55 | 2329.8 | 2310.8 | 2295.1 | 8.02 | 8.24 | 7.79 | 23.28 | -16.7 | -27.7 | -41.3 | 0.63 | 10.88 | -73.6 | -98.9 | -120.9 | -140.1 | 5.7 | -93.56 |
| 2.00 | 53.15 | 2357.2 | 2339.6 | 2324.3 | 7.94 | 8.29 | 7.77 | 23.37 | -16.5 | -27.8 | -40.2 | 0.72 | 6.64 | -75.5 | -99.2 | -121.6 | -141.0 | 8.1 | -97.20 |
| 2.50 | 48.91 | 2383.5 | 2366.1 | 2350.7 | 7.90 | 8.25 | 7.84 | 23.43 | -17.2 | -29.1 | -41.5 | 0.86 | 6.75 | -74.8 | -99.5 | -121.4 | -141.3 | 10.0 | -98.13 |
| 3.00 | 48.10 | 2408.5 | 2390.6 | 2375.9 | 7.81 | 8.19 | 7.86 | 23.45 | -16.9 | -29.6 | -38.7 | 0.96 | 10.49 | -75.2 | -99.2 | -121.3 | -140.5 | 19.6 | -105.85 |
| 3.50 | 46.66 | 2432.1 | 2414.7 | 2399.8 | 7.74 | 8.11 | 7.79 | 23.47 | -17.0 | -30.4 | -37.5 | 1.02 | 9.34 | -75.0 | -99.4 | -121.4 | -141.8 | 33.3 | -111.24 |
| 4.00 | 44.95 | 2455.5 | 2438.0 | 2423.0 | 7.89 | 8.07 | 7.74 | 23.49 | -17.8 | -31.6 | -38.9 | 1.16 | 5.79 | -74.5 | -99.0 | -119.8 | -141.2 | 57.2 | -115.71 |
| 5.00 | 42.18 | 2499.1 | 2482.2 | 2467.5 | 8.00 | 8.22 | 7.83 | 23.60 | -18.1 | -32.5 | -37.2 | 1.27 | 11.57 | -75.3 | -100.2 | -121.2 | -140.2 | 81.8 | -119.29 |
| 5.50 | 42.60 | 2520.4 | 2503.3 | 2489.0 | 7.98 | 8.27 | 7.86 | 23.63 | -18.6 | -33.8 | -38.8 | 1.31 | 9.14 | -75.9 | -99.1 | -121.2 | -142.4 | 100.0 | -120.61 |
| 6.00 | 42.80 | 2541.7 | 2524.6 | 2509.8 | 7.91 | 8.24 | 7.90 | 23.62 | -18.5 | -34.9 | -39.0 | 1.47 | 5.29 | -74.7 | -99.7 | -120.8 | -140.2 | 139.3 | -123.43 |
| 6.50 | 43.20 | 2563.4 | 2546.0 | 2531.2 | 7.91 | 8.12 | 7.83 | 23.64 | -18.7 | -34.8 | -39.0 | 1.59 | 7.82 | -75.1 | -99.7 | -119.4 | -140.8 | 167.3 | -124.45 |
| 7.00 | 40.91 | 2583.7 | 2567.6 | 2552.5 | 7.87 | 8.15 | 7.73 | 23.70 | -18.6 | -35.1 | -40.7 | 1.67 | 12.03 | -74.5 | -99.3 | -121.5 | -139.6 | 199.2 | -126.64 |
| 8.00 | 41.64 | 2624.9 | 2608.6 | 2593.9 | 7.59 | 8.06 | 7.74 | 23.77 | -18.0 | -35.7 | -41.7 | 1.83 | 6.89 | -74.7 | -99.8 | -120.8 | -140.8 | 284.8 | -128.52 |
| 9.00 | 42.98 | 2668.1 | 2651.5 | 2635.7 | 7.41 | 7.81 | 7.53 | 23.78 | -17.8 | -36.1 | -45.0 | 2.20 | 13.04 | -73.9 | -98.8 | -119.9 | -140.1 | 342.1 | -131.12 |
| 10.00 | 42.19 | 2710.0 | 2693.9 | 2678.8 | 7.13 | 7.71 | 7.44 | 23.91 | -16.9 | -35.1 | -45.8 | 2.27 | 4.31 | -74.9 | -99.9 | -120.4 | -140.2 | 489.1 | -134.23 |
| 11.00 | 45.51 | 2754.4 | 2736.7 | 2720.8 | 6.80 | 7.38 | 7.23 | 23.91 | -16.3 | -35.5 | -45.9 | 2.53 | 11.10 | -73.5 | -98.8 | -120.3 | -139.4 | 600.0 | -136.20 |
| 12.00 | 44.25 | 2799.1 | 2781.5 | 2765.2 | 6.84 | 7.29 | 7.05 | 23.98 | -16.0 | -36.1 | -44.9 | 2.62 | 6.29 | -72.9 | -99.3 | -120.4 | -138.8 | 832.6 | -138.43 |
| 13.00 | 43.40 | 2843.1 | 2824.6 | 2808.4 | 6.61 | 7.25 | 7.09 | 24.04 | -15.7 | -36.2 | -40.2 | 2.51 | 15.94 | -73.2 | -98.3 | -119.4 | -138.8 | 1000.0 | -140.63 |

*at 25°C unless mentioned otherwise



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