

Surface Mount

Voltage Controlled Oscillator

MOS-114+

Wide Band 57 to 114 MHz

Features

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

Applications

- television
- radio FM
- mobile radio services
- safety warning systems



CASE STYLE: CZ682
PRICE: \$ 24.95 ea. QTY (5-49)

+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) | SENSITIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | | Typ. | Max. | | | Typ. | Max. |
| MOS-114+ | 57 | 114 | +7 | -85 | -110 | -131 | -152 | 0.5 | 14 | 6 | - | 0.055 | -90 | -12 | - | 0.3 | 0.1 | 15 | 22 |

Pin Connections

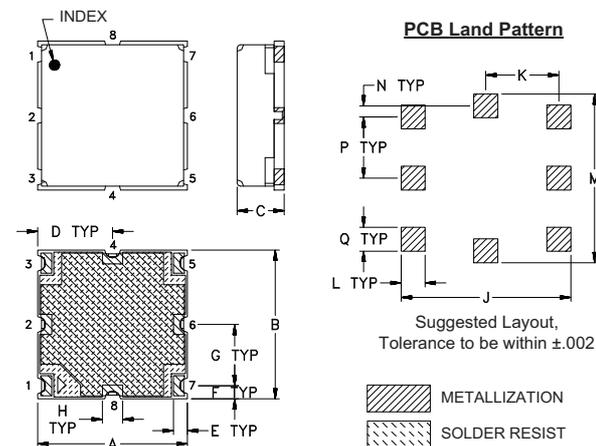
| | |
|--------|-----------|
| RF OUT | 5 |
| VCC | 3 |
| V-TUNE | 1 |
| GROUND | 2,4,6,7,8 |

Maximum Ratings

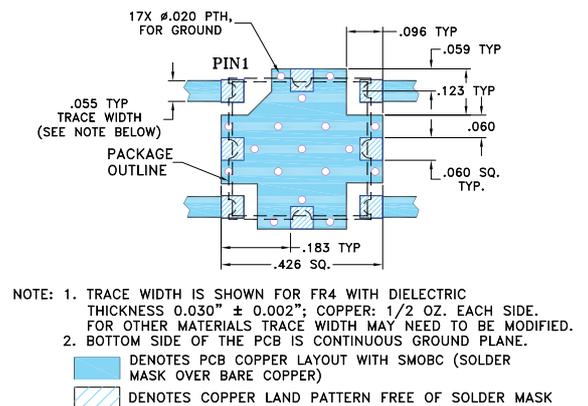
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|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 17V |
| Absolute Max. Tuning Voltage (Vtune) | 16V |
| All specifications | 50 ohm system |

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

Outline Drawing



Demo Board MCL P/N: TB-128 Suggested PCB Layout (PL-023)



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | wt. |
|------|------|------|------|------|------|------|------|-------|------|------|-------|------|------|------|-------|
| .375 | .375 | .131 | .188 | .035 | .033 | .154 | .050 | .425 | .183 | .060 | .425 | .028 | .154 | .060 | grams |
| 9.52 | 9.52 | 3.33 | 4.77 | 0.89 | 0.84 | 3.91 | 1.27 | 10.80 | 4.65 | 1.52 | 10.80 | 0.71 | 3.91 | 1.52 | .60 |



For detailed performance specs & shopping online see web site

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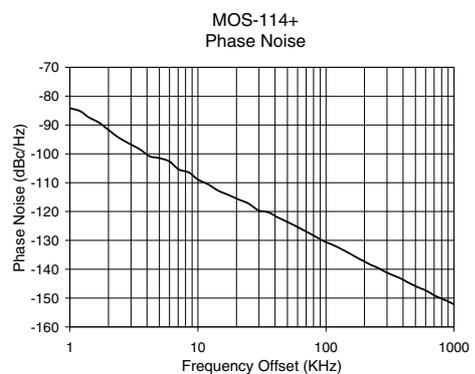
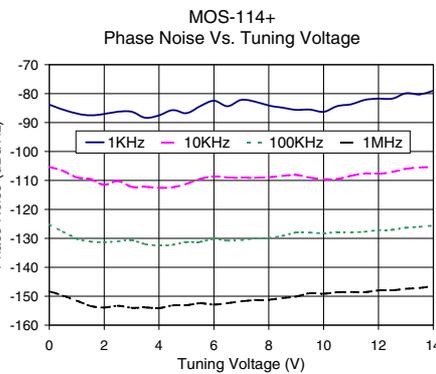
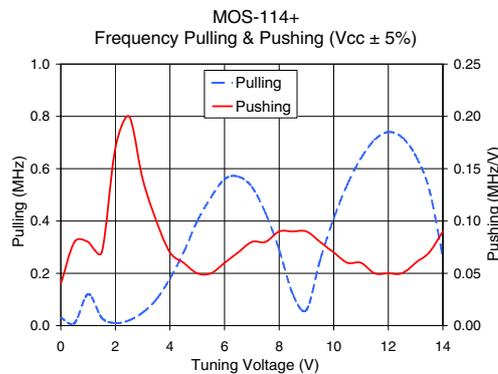
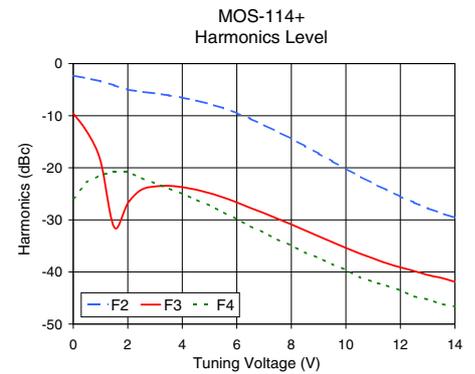
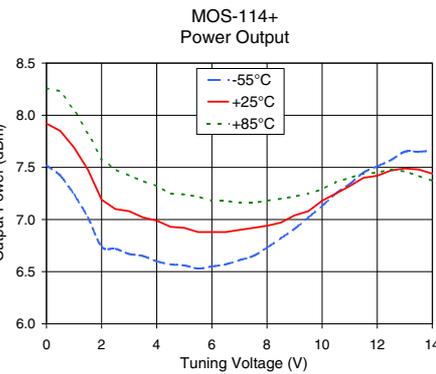
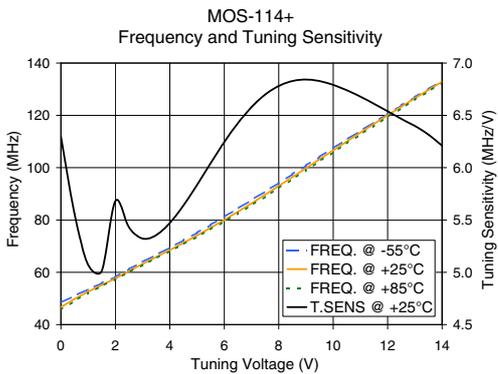
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EDR-7913
MOS-114+
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121028
Page 1 of 2

Performance Data & Curves*

MOS-114+

| 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 86 MHz (dBc/Hz) |
|--------|-------------------|-----------------|-------|-------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|--------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 6.30 | 48.4 | 46.7 | 45.6 | 7.52 | 7.92 | 8.26 | 18.29 | -2.3 | -9.6 | -25.9 | 0.04 | 0.03 | -83.8 | -105.3 | -125.2 | -148.3 | 1.0 | -84.21 |
| 0.50 | 5.56 | 51.0 | 49.8 | 49.1 | 7.42 | 7.85 | 8.23 | 18.23 | -2.8 | -13.1 | -22.8 | 0.08 | 0.01 | -85.5 | -106.7 | -127.7 | -149.8 | 2.0 | -91.74 |
| 1.00 | 5.07 | 53.5 | 52.6 | 52.1 | 7.24 | 7.69 | 8.05 | 18.14 | -3.4 | -18.7 | -21.4 | 0.08 | 0.12 | -86.8 | -109.0 | -130.1 | -151.5 | 3.5 | -98.39 |
| 2.00 | 5.68 | 58.3 | 57.6 | 57.3 | 6.74 | 7.19 | 7.58 | 17.84 | -5.0 | -26.8 | -20.8 | 0.17 | 0.01 | -87.1 | -111.5 | -131.4 | -153.9 | 6.0 | -102.69 |
| 3.00 | 5.32 | 64.0 | 63.2 | 62.8 | 6.67 | 7.08 | 7.42 | 17.60 | -5.7 | -23.6 | -23.0 | 0.14 | 0.05 | -86.3 | -112.2 | -130.6 | -154.0 | 8.5 | -106.46 |
| 4.00 | 5.47 | 69.4 | 68.5 | 68.1 | 6.60 | 6.99 | 7.32 | 17.42 | -6.5 | -23.7 | -25.0 | 0.07 | 0.18 | -87.5 | -112.5 | -132.5 | -154.1 | 10.0 | -108.92 |
| 5.00 | 5.84 | 75.1 | 74.1 | 73.6 | 6.56 | 6.92 | 7.24 | 17.27 | -7.7 | -24.9 | -27.3 | 0.05 | 0.40 | -86.8 | -111.2 | -131.3 | -153.1 | 20.8 | -115.85 |
| 6.00 | 6.25 | 81.2 | 80.0 | 79.4 | 6.55 | 6.88 | 7.18 | 17.14 | -9.5 | -26.7 | -29.9 | 0.06 | 0.56 | -82.5 | -108.6 | -130.2 | -152.9 | 35.5 | -120.28 |
| 6.50 | 6.43 | 84.4 | 83.2 | 82.5 | 6.57 | 6.88 | 7.18 | 17.08 | -10.6 | -27.7 | -31.2 | 0.07 | 0.57 | -84.4 | -109.0 | -130.8 | -152.4 | 60.7 | -125.39 |
| 7.00 | 6.58 | 87.6 | 86.4 | 85.7 | 6.61 | 6.90 | 7.16 | 17.03 | -11.8 | -28.7 | -32.5 | 0.08 | 0.53 | -82.2 | -109.1 | -130.6 | -151.8 | 86.7 | -129.23 |
| 8.00 | 6.78 | 94.2 | 93.0 | 92.2 | 6.73 | 6.94 | 7.18 | 16.97 | -14.4 | -30.9 | -34.9 | 0.09 | 0.29 | -84.1 | -108.9 | -129.9 | -151.2 | 100.0 | -130.62 |
| 9.00 | 6.84 | 100.8 | 99.8 | 99.0 | 6.91 | 7.04 | 7.22 | 16.92 | -17.3 | -33.1 | -37.3 | 0.09 | 0.06 | -85.6 | -108.1 | -128.0 | -150.1 | 148.1 | -134.31 |
| 10.00 | 6.79 | 107.5 | 106.6 | 105.9 | 7.13 | 7.18 | 7.29 | 16.90 | -20.2 | -35.4 | -39.6 | 0.07 | 0.41 | -86.3 | -109.6 | -128.3 | -149.2 | 177.0 | -136.12 |
| 11.00 | 6.68 | 114.1 | 113.4 | 112.7 | 7.34 | 7.32 | 7.40 | 16.89 | -23.0 | -37.4 | -41.9 | 0.06 | 0.64 | -83.7 | -108.4 | -127.9 | -148.5 | 211.6 | -137.89 |
| 11.50 | 6.61 | 117.4 | 116.7 | 116.0 | 7.45 | 7.40 | 7.44 | 16.89 | -24.3 | -38.3 | -42.6 | 0.05 | 0.71 | -82.2 | -107.6 | -127.7 | -148.6 | 302.4 | -141.30 |
| 12.00 | 6.54 | 120.6 | 120.1 | 119.4 | 7.51 | 7.42 | 7.45 | 16.88 | -25.5 | -39.1 | -43.5 | 0.05 | 0.74 | -81.7 | -107.7 | -127.2 | -148.0 | 361.5 | -142.68 |
| 12.50 | 6.46 | 123.8 | 123.3 | 122.7 | 7.57 | 7.47 | 7.48 | 16.89 | -26.7 | -39.8 | -44.7 | 0.05 | 0.72 | -81.8 | -107.1 | -127.0 | -148.0 | 507.5 | -145.98 |
| 13.00 | 6.40 | 127.0 | 126.6 | 126.0 | 7.65 | 7.49 | 7.46 | 16.89 | -27.8 | -40.6 | -45.3 | 0.06 | 0.65 | -79.9 | -106.0 | -126.3 | -147.4 | 606.7 | -147.42 |
| 13.50 | 6.32 | 130.1 | 129.8 | 129.2 | 7.65 | 7.48 | 7.42 | 16.88 | -28.7 | -41.1 | -46.1 | 0.07 | 0.52 | -80.3 | -105.5 | -126.0 | -147.1 | 851.6 | -150.69 |
| 14.00 | 6.21 | 133.2 | 132.9 | 132.4 | 7.66 | 7.44 | 7.37 | 16.88 | -29.6 | -41.9 | -46.7 | 0.09 | 0.26 | -79.0 | -105.4 | -125.6 | -146.5 | 1000.0 | -152.17 |

*at 25°C unless mentioned otherwise



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