



Specification for a CMOS 9x14mm 80MHz SMD VCXO MtronPTI P/N: XO7013-009R

| Parameter | Symbol | Min. | Тур. | Max. | Units | Conditions | |
|------------------------------------|-------------------|--------------|-----------------|-----------|-----------------|--|--|
| Nominal Frequency | Fo | | 80.000000 | | MHz | | |
| | | F | requency Stat | oilities | | | |
| Absolute Pull Range (APR) | | ±10 | | | ppm | APR = (Pull range) - (degradations due to temperature+aging+power supply+load+ initial tolerance+shock+ vibration) | |
| Aging (1 st Year) | | | | 3 | ppm | | |
| Aging (after 1 st year) | | | | 1 | ppm/yr | | |
| | | | RF Output | t | | | |
| Output Type | | | CMOS | | | | |
| Output Load | | | 1//15 | | kΩ//pF | | |
| Symmetry | | 45 | 50 | 55 | | @50% Vdd | |
| Rise/Fall time | | | 3 | | nsec | @ 20% to 80% Vdd | |
| Logic Level "low" | | | | 10% Vdd | | | |
| Logic Level "High" | | 90% Vdd | | | | | |
| | | Fr | requency Adjust | stment | | | |
| Adjustment Method | | | External | Voltage | | | |
| Adjustment Voltage | V _{TUNE} | 0 | 1.65 | 3.3 | V _{DC} | | |
| Tuning Range | | ±30 | | | ppm | | |
| Linearity | | | | 5% | | | |
| Modulation Bandwidth | | 10 | KHz | | | | |
| Input Impedance | | | 50 | | Kohm | | |
| Adjustment Slope | | | Posit | tive | | | |
| | | Α | dditional Parar | neters | | | |
| Phase Noise | | | -140 | | dBc/Hz | 1kHz Offset | |
| | | | -160 | | dBc/Hz | 10kHz Offset | |
| | | | -168 | | dBc/Hz | 100kHz Offset | |
| | | | -170 | | dBc/Hz | 1MHz Offset | |
| g-sensitivity | | | | 0.5 | ppb/g | Worst case axis | |
| Integrated Jitter | | | 40 | | fsec | 12kHz to 20MHz | |
| Sub-harmonics | | | None | | | | |
| | | | | | | | |
| | Tem | perature, Su | pply Voltage & | Power Con | sumption | | |
| Operating Temperature | OTR | -40 | | +85 | °C | Full Specification Compliance | |
| Storage Temperature | STR | -55 | | +125 | °C | | |
| Operating Voltage | V _{dd} | 3.0 | 3.3 | 3.6 | VDC | | |
| Input Current | | | | 35 | mA | | |





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Mechanical and Environmental Conditions:

| Seal | Non-Hermetic and Washable unit. Recommend a vacuum bake at 125 °C for 1 hour after wash. Components inside the VCXO will withstand a Parylene coating 0.25 – 0.75 mil thickness. |
|------------------------------|--|
| RoHS | Full RoHS Compliance |
| Shock | MIL-STD-202, Method 213 Test Condition D, 5 shocks in each axis |
| Solderability | MIL-STD-883, Method 2003 |
| Vibration | MIL-STD-883, Method 2007.3 Test Condition A (survival only) |
| Solvent Resistance | MIL-STD-202, Method 215 |
| Resistance to Soldering Heat | MIL-STD-202, Method 210, Condition I or J |
| Thermal Shock | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance | MIL-STD-883, Method 1004 |

Outline Marking and Pin-out:







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Recommended Reflow Profile:



Tape and Reel:



| Tape and Reel Specifications | | | | | | | | | | | |
|------------------------------|-------|-----|------|------|---|----|----|-----|-----|---|-----|
| A | В | С | D | E | F | G | Н | J | K | L | М |
| 9.65 | 15.24 | 1.5 | 11.5 | 6.73 | 4 | 16 | 24 | 330 | 6.5 | | 100 |

Data Sheet Revision Table:

| Date | Rev. | Orig. | Details of Revision |
|----------|------|-------|---------------------|
| 06-24-19 | А | BRR | Preliminary Release |
| | | | |