



OCXO 118-12

P.O. BOX 3389
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CRYSTAL OSCILLATOR SPECIFICATION

This specification defines the operating characteristics of an ovenized crystal oscillator. Long term stability is assured through use of premium components.

| REV. | DESCRIPTION OF REVISION | REQ. BY | DWN. BY | DATE |
|------|--|------------|------------|----------|
| NONE | | TST | LMH | 12-88 |
| D | Redrawn to standards. | TST | WCB | 09-29-92 |
| E | 8.3. WAS 125-298 | ADB | TST | 03-09-93 |
| F | Correction, 6.2. spec. reference was 3.1 | TST | DWR | 05-23-95 |

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| | 31785 | OCXO 118-12 | 1 | 3 | 114-322 | F |

- 1. OUTPUT
 - 1.1. Frequency 10.000 MHz
 - 1.2. Waveform Sine wave
 - 1.3. Level .99 Vp-p ±20%
 - 1.4. Load 50 Ω ±5%
 - 1.5. Harmonics < -30 dBc

- 2. FREQUENCY STABILITY
 - 2.1. Ambient < ±5x10⁻⁹ from -30°C to +60°C
(referenced to +25°C)
(with V ref at constant current)
 - 2.2. Aging < ±1x10⁻⁹/day averaged over 3 days
< ±1.5x10⁻⁷/year
 - 2.3. Voltage < ±2x10⁻¹⁰/2% change
 - 2.4. Short term < 1x10⁻¹⁰/ 10 seconds
Root Allan variance
 - 2.5. Load < ±5x10⁻¹⁰/5%
 - 2.6. Warm-up < ±5x10⁻⁸ in 30 minutes @ -20°C
referenced to 2 hours

- 3. MECHANICAL FREQUENCY ADJUSTMENT
 - 3.1. Range > ±0.5 PPM
 - 3.2. Resolution < ±3x10⁻⁹
 - 3.3. Control Multi-turn trimmer

- 4. ELECTRICAL FREQUENCY ADJUSTMENT
 - 4.1. Range > 1.0 PPM
< 1.4 PPM
> ±0.3 PPM (referenced to V ref/2)
 - 4.2. Control 0 VDC to V ref
 - 4.3. Slope Negative

- 5. INPUT POWER
 - 5.1. Voltage 14.2 VDC ±6%
 - 5.2. Regulation ±2%
 - 5.3. Current < 700 mA

- 6. REFERENCE VOLTAGE
 - 6.1. Voltage 8.3 VDC ±10%
 - 6.2. Ambient stability < ±3.0 mV for ambient range
specified in 2.1
 - 6.3. Current < 4 mA

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| | 31785 | OCXO 118-12 | 2 | 3 | 114-322 | F |



OCXO 118-12

7. OVEN MONITOR

Output voltage will be 800 mV \pm 100 mV when oven is at temperature. Voltage will be below 600 mV when oven is not at temperature.

8. MECHANICAL

- 8.1. Applicable series OCXO 118 series
- 8.2. Model number OCXO 118-12
- 8.3. Outline drawing 125-415

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| | 31785 | OCXO 118-12 | 3 | 3 | 114-322 | F |