

## **OCXO 127-19**

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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
-		TST	TST	07-19-95
A	Removed the > sign on 1.3. Removed note on 2.3.b. and reversed order of 2.3.b. and 2.3.a	TST	JAC	12-28-95
В	6.6.3. Outline drawing 125-489 was 125-353	TST	DAG	08-12-99

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## **OCXO 127-19**

1.	OUTPUT	
	1.1. Frequency	3.000 MHz (At time of shipment set to $\pm 1\times10^{-8}$ @ +25°C) (Cpk > 1.5) ( < $\pm 3.3\times10^{-8}$ when tested by the customer, within 30 days of the date code, after on power for 30 minutes.) Sine wave
	1.3. Level	$+15.5 \text{ dBm} \pm 2.5 \text{ dB} (Cpk > 1.5)$
	1.4. Load	50 Ω ±5%
	1.5. Harmonics	< -20 dBc
	1.6. Spurious	< -80 dBc
2.	FREQUENCY STABILITY	
	2.1. Total	< ±2x10 <sup>-7</sup> /year for Ambient, Aging, Voltage, and Load.
	2.2. Ambient	< ±2.5x10 <sup>-8</sup> from -30°C to +70°C (referenced to +25°C)
	2.3. Aging	10
	a. At time of shipment	< ±6.5x10 <sup>-10</sup> /day
	b. After storage of up to 6	months $(+7)$ Full-10 of the 120 hours
	I. Dally ii Veerly	$< \pm 7.5 \times 10^{-8}$
	iii. 10 years	$< \pm 3 \times 10^{-7}$
	2.4. Voltage	
	a. Oscillator	< $\pm 1 \times 10^{-9} / \pm 4$ % change
	b. Oven	< ±3x10 <sup>-9</sup> /voltage range
	2.5. Load	< $\pm 1 \times 10^{-9} / \pm 5$ % change
	2.6. Phase noise	< -140 dBc @ 60 kHz
	2.7. Retrace	<pre>&lt; ±1x10 after 5 minutes &lt; ±3.3x10<sup>-8</sup> after 30 minutes (at +25°C, referenced to turn-off frequency after specified aging is met_and_following a maximum off</pre>
		time of 30 days.)

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3.

4.

5.

6.

## **OCXO 127-19**

2.8. Shock, Vibration, & Retrace The retrace is included in the steps: Set units to frequency enviroment, Remove units from p Warm-up units for 30 minutes as vibration (off power), warm-up frequency. The recorded freque value from 3 MHz. The shock as SHOCK: 1/2 SINE pulse 50 g's for six times (18 times tota) VIBRATION: 10 - 60 Hz 0.06" double a is less. 1/2 hour per pla	<pre>&lt; ±3.3x10<sup>-8</sup> from 3 MHz SHOCK and VIBRATION. Procedure as they would be done in production power for a minimum of 6 hours, ecord frequency, shock (off power), nd record frequency, perform units for 30 minutes and record encies must be within the specified nd vibration levels are: r 6 ms three directions: ±X, ±Y, ±Z 1) amplitude sine or 15 g's whichever ane ±X, ±Y, ±Z.</pre>
MECHANICAL FREQUENCY ADJUSTMENT	
3.1. Range	> ±1 PPM
3.2. Resolution	< ±lx10 <sup>-°</sup> Multi-turn trimmer
5.5. concror	
INPUT POWER	
a. Voltage	+15 VDC ±4%
b. Current	< 50 mA
4.2. Oven a. Voltage	+27 VDC +3 VDC, -6 VDC
b. Current	< 400 mA
ENVIRONMENTAL	
5.1. Humidity	MIL-STD-202F, Method 103B, Test Condition A, except at +50°C (95% R.H. @ +50°C, non-condensing, 240 hours)
5.2. Storage temperature	$-40^{\circ}$ C to $+85^{\circ}$ C
5.3. Vibration (non-operating)	See section 2.
S.I. BROCK (non operating)	
MECHANICAL	OCXO 127 series
6.2. Model number	OCX0 127-19
6.3. Outline drawing	125-489

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