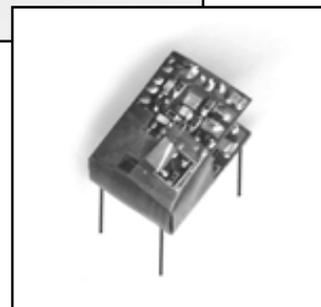
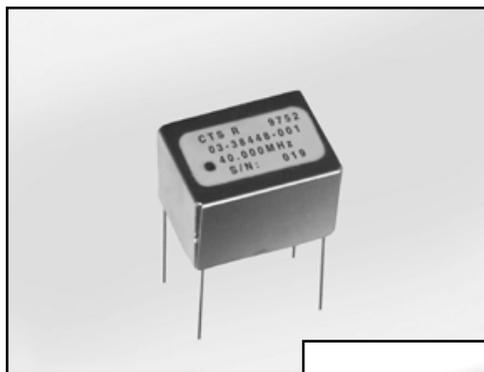


**Features:**

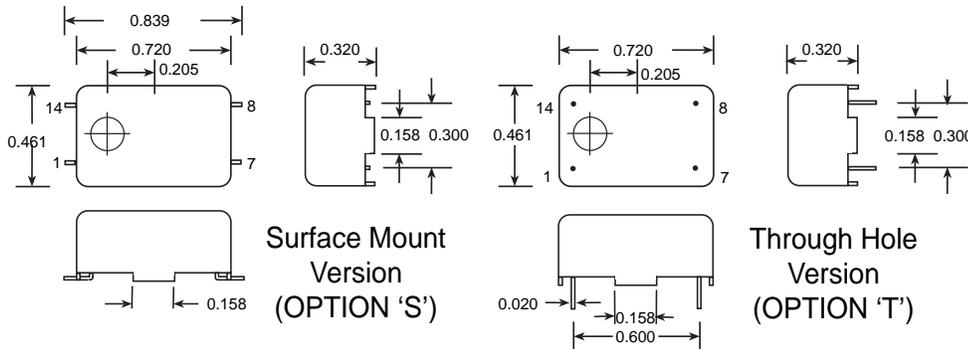
- Frequency Range up to 120 MHz
- Stratum 3 Performance
- Surface Mount or Thru Hole Option
- Miniature Package
- Wide Operating Temperature Range

The Model 111 is a DIP Packaged OCXO that is available over a wide range of stabilities and temperatures. It is ideal for communications as a Stratum 3 reference or as a local oscillator for higher frequency multiplication. The Model 111 is made possible by adjustments made in packaging high precision crystals into smaller foot prints.



**Electrical Characteristics:**

NOMINAL FREQUENCY:	10.0 MHz to 120.0 MHz
CALIBRATION TOLERANCE:	Set to nominal via EFC
<b>STABILITY</b>	
FREQUENCY vs. AMBIENT:	See chart
FREQUENCY vs. INPUT VOLTAGE:	$\pm 5 \times 10^{-8}$ for 5% change
FREQUENCY vs. LOAD:	$\pm 5 \times 10^{-8}$ for 5% change
FREQUENCY vs. TIME:	See chart
WARM-UP:	3 min. to within $\pm 1 \times 10^{-7}$ of 60 min. freq.
<b>POWER INPUT</b>	
OSCILLATOR VOLTAGE/OVEN VOLTAGE:	See chart +5V to +15V
INPUT POWER:	TURN-ON - 4.0 max; IDLE @ +25C - 1.5W max
<b>WAVE FORM</b>	
OUTPUT TYPE:	See chart Sine or HCMOS
LOAD:	Sine - 50 Ohms; Squarewave - up to 50pF
<b>FREQUENCY DEVIATION</b>	
CONTROL VOLTAGE:	0V to +5V; Center Freq @ +2.5V $\pm 0.5V$
FREQUENCY ADJUSTABILITY:	Sufficient for 10 yrs.
TUNING SLOPE:	Positive
<b>MECHANICAL</b>	
PIN CONNECTIONS:	See outline
FINISH:	Nickel-Silver
<b>ENVIRONMENTAL</b>	
OPERATING TEMP:	See chart
STORAGE TEMP:	-40° TO +85°C



**Pin Connections**

PIN	FUNCTION
1	VCXO
7	GND.
8	OUTPUT
14	SUPPLY V

**Mechanical Specifications:**

**Case:**

CRS, Hot Tin Dipped

**Leads:**

Nickel plated with solder coating

**Seal:**

Solder seal

**Leak Test:**

Leak rate less than  $5 \times 10^{-5}$   
atmosphere-cc/sec of helium

**Solderability:**

95% solder coverage, using RMA flux 63  
SN / 37 Pb solder at  $+245^{\circ}\text{C} \pm 5^{\circ}\text{C}$

**Temperature:**

Operating: See chart

Storage:  $-55^{\circ}$  to  $85^{\circ}\text{C}$

Reflow:  $240^{\circ}\text{C}$ , 10 Sec

**Vibration:**

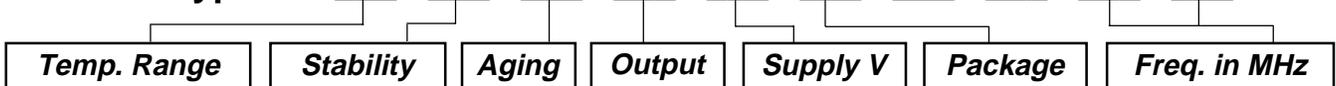
10 G's rms, 20 to 500 Hz

**Mechanical Shock:**

100 G's 5ms pulse (3 shock/plane)

**Ordering Information:**

**Model Type 111**



Temp Stability		$\pm 5 \times 10^{-9}$	$\pm 1 \times 10^{-8}$	$\pm 2 \times 10^{-8}$	$\pm 5 \times 10^{-8}$	$\pm 1 \times 10^{-7}$	1 <sup>st</sup> Year Aging Code		Output	Code
Temp Range	Code	A	B	C	D	E	$\pm 0.5$ ppm	A	HCMOS	H
$0^{\circ}$ to $50^{\circ}\text{C}$	A	X	X	X	X	X	$\pm 0.3$ ppm	B	Sinewave	S
$0^{\circ}$ to $70^{\circ}\text{C}$	B		X	X	X	X	$\pm 0.1$ ppm	C		
$-30^{\circ}$ to $70^{\circ}\text{C}$	C			X	X	X				
$-40^{\circ}$ to $+85^{\circ}\text{C}$	D					X				

Supply Volt		Code
+12V		A
+5V		B
+15V		C

Pkg. Type	
T	Thru Hole
S	SMT

Note: Not all Options are Available at all Frequencies.  
Consult Factory for Details.