

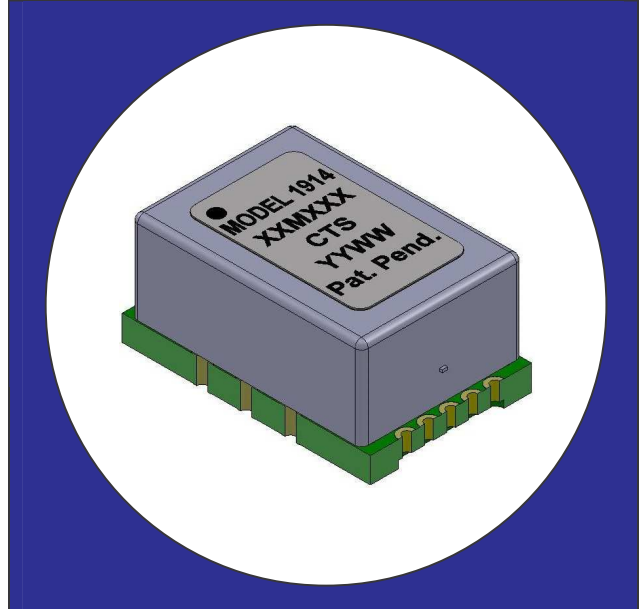
FEATURES

- Industry Standard 9x14mm SMT Footprint
- 3.3V or 5.0V operation
- Commercial or Industrial temperature range
- LVCMOS output
- Frequency Stability and Holdover to Stratum 3 requirements of GR-1244
- Low Phase Noise
- Tape & Reel Packaging
- Electrical Frequency Adjustment Option
- Fully compliant to RoHS Directive 2002/95/EC

DESCRIPTION

The CTS model 1914 is a low cost, small size, high performance SMT OCXO. Patent Pending.

APPLICATIONS: Telecom Switching
Wireless Communication



ELECTRICAL SPECIFICATIONS

Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Operating Conditions					
Operating Temperature Range	T _{OP}	-40	-	+85	°C
Supply Voltage	3.3V – Standard 5.0V – Available Option	3.135 4.75	3.300 5.0	3.465 5.25	Vdc
Supply Power:					
Warm-Up:	P _{max}	-	-	2.4	W
Steady State:	P _{SS} @ +25°C (still air)	-	-	0.7	W
Output Load		5	-	15	pF
Frequency Stability (Specifications noted apply for 3.3V supply and at +25°C (still air) unless otherwise noted)					
Standard Frequencies (Consult factory for different frequencies)	f _{NOM}	-	10, 12.8, 16.384, 19.2, 19.44, 20, 22, 25	-	MHz
Initial Frequency Tolerance	@ 25°C, at time of shipment	-	± 0.100	± 0.200	ppm
Freq. vs Temperature (pk-pk)	0°C to 70°C – Standard -40°C to 85°C – Available Option	-	-	0.100 0.280	ppm
Freq. vs Supply Voltage	V _{CC} ± 5%	-	± 0.030	-	ppm
Freq. vs Load	For ± 5% change	-	± 0.005	-	ppm
Freq. vs Time (Aging)	per day (after 30 days)	-	± 0.005	-	ppm
	15 years	-	± 2.500	-	ppm
Holdover Stability (pk-pk)	Standard: All causes, 24hrs	-	-	0.370	ppm
	Available Option: (@ Constant voltage) +30 to +50°C for 24 hrs +30 to +50°C for 5 days 0 to +70°C for 14 days			0.040 0.100 0.250	ppm



MODEL 1914

Miniature OCXO 9x14mm

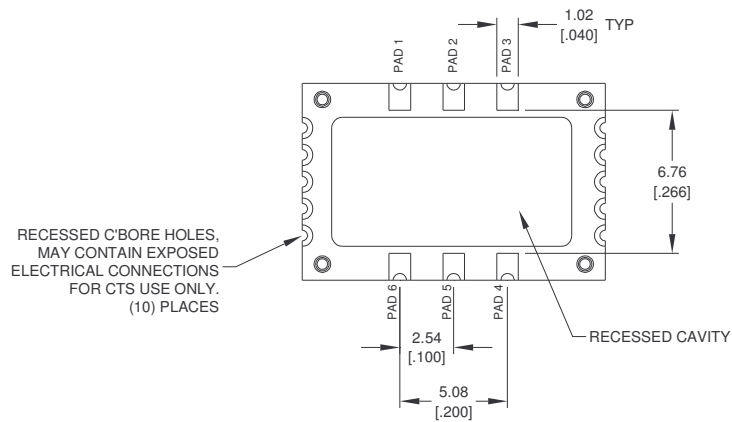
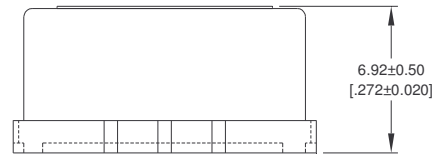
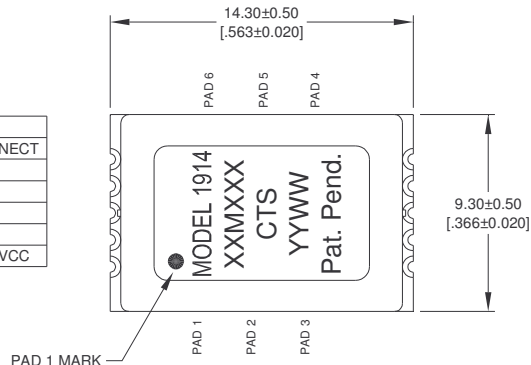
Parameter	Conditions & Remarks		Min	Typical	Max	Unit
Total Free-Running Accuracy	all causes for 15 years ($\Delta f/f_{NOM}$)		-	-	± 4.600	ppm
Short Term Frequency Stability	Allan Deviation	0.1 sec tau 1.0 sec tau		0.1 0.1	0.25 0.25	ppb
Warm-Up Time	@ 25°C, to within 100 ppb of final frequency		-	2	5	minutes
Output Parameters						
Output Signal			LVCMOS Square Wave			
Amplitude		V_{OL}	-	-	10% V_{CC}	Vdc
		V_{OH}	90% V_{CC}	-	-	
Rise/Fall Times	20% to 80% @ 15pf load		-	-	3	ns
Duty Cycle	@ 50% of output waveform		45	50	55	%
Spurious			-	-	-80	dBc
Non and Sub-harmonics			-	-	-100	dBc
Phase Noise (Typical @ 10 Mhz)		10Hz	-	-95	-80	dBc/Hz
		100Hz	-	-125	-115	dBc/Hz
		1kHz	-	-145	-135	dBc/Hz
		10kHz	-	-154	-145	dBc/Hz
		100kHz	-	-154	-145	dBc/Hz
Electronic Frequency Adjustment (Optional)						
EFC Control Voltage	V_C	Standard Available Option	0.3 0.5	1.65 2.5	3.0 4.5	volts
Frequency Adjust Range (Std)			± 9.6	-	-	ppm
Slope	Positive, monotonic		-	-	-	
Input Impedance	Z_{IN}		-	1.0	-	M ohms
Linearity			-	-	10	%
Enable Function						
Enable Input Voltage	V_{IO}	Pin 2 OPEN, Output Enabled				
Disable Input Voltage	V_{IH}	Pin 2 Logic '1', Output Enabled	0.7* V_{CC}	-	-	V
	V_{IL}	Pin 2 Logic '0', Disabled, High Z	-	-	0.3* V_{CC}	V

MECHANICAL SPECIFICATIONS

PACKAGE DRAWING

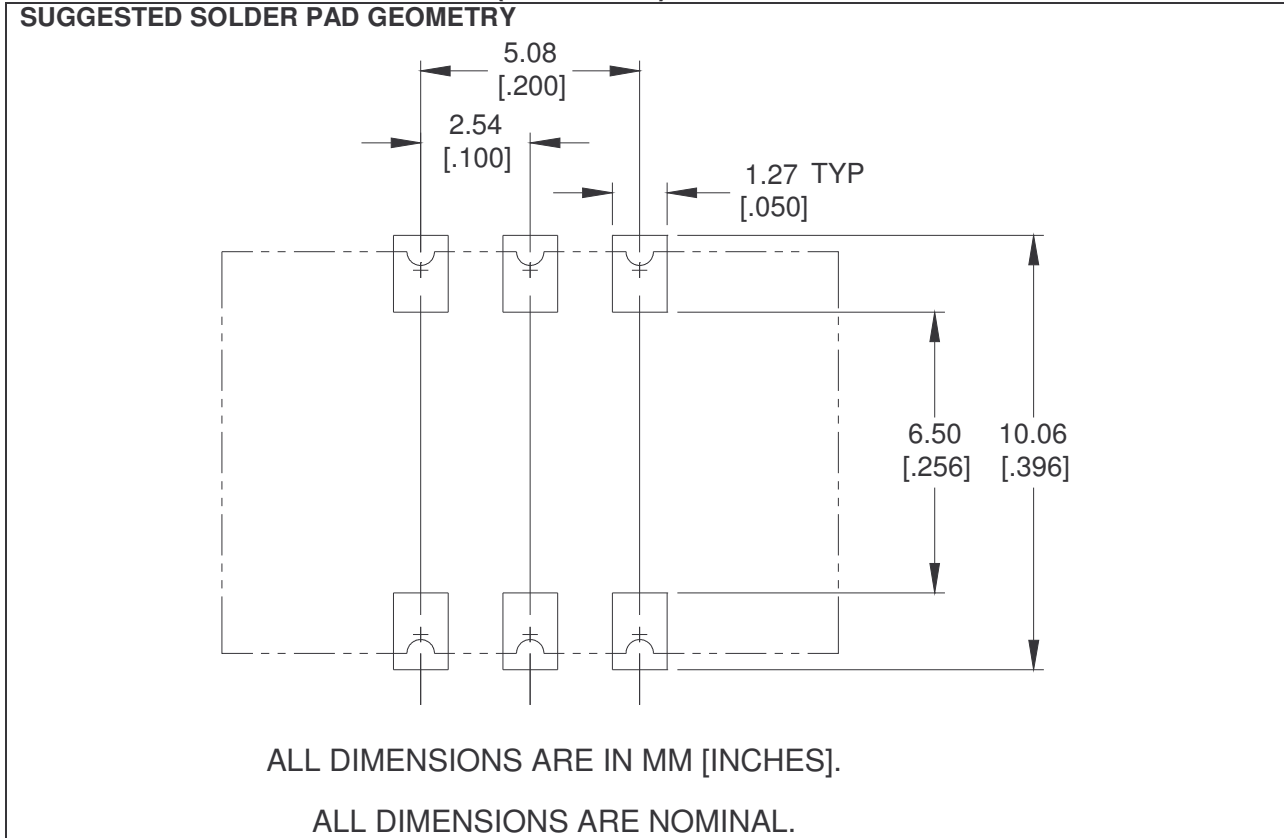
PAD	CONNECTION
1	EFC or DO NOT CONNECT
2	ENABLE
3	GROUND
4	OUTPUT
5	N/C
6	SUPPLY VOLTAGE - VCC

ENABLE TRUTH TABLE	
PIN 2	PIN 4
LOGIC '1'	ENABLED
OPEN	ENABLED
LOGIC '0'	High Z



ALL DIMENSIONS ARE IN MM [INCHES]
 ALL DIMENSIONS ARE NOMINAL UNLESS OTHERWISE SPECIFIED.
 LEAD TERMINATION FINISH: GOLD FLASH, <10 MICRO INCH, OVER Ni PLATED Cu.

MECHANICAL SPECIFICATIONS (Continued)



MAXIMUM SOLDERING PROFILE		
Temperature	>217 °C	260 °C (Absolute max temperature)
Time	2.5min	10 sec
Note: Part is not designed to be reflowed in an inverted position.		

- ◆ Fully compliant to RoHS Directive 2002/95/EC
- ◆ Co-Planarity (from seating plane): max. 0.1mm
- ◆ MSL: level 1
- ◆ Device quantity is 500 pcs maximum per 330 mm reel

