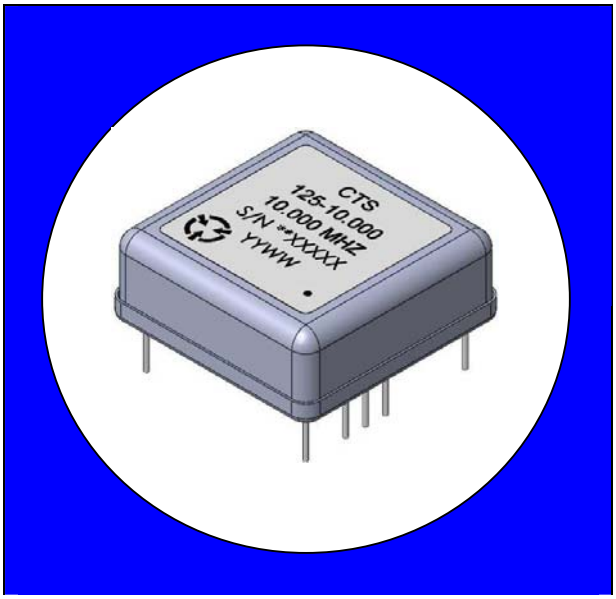
Model 125
SSOCXO
Compensated OCXO

APPLICATIONS

Telecom Switching
Base Stations/Picocells
Wireless Communications
UMTS
Test & Measurement
Timing and Synch



FEATURES

- 1 ppb frequency stability
- Very low aging
- 5 MHz or 10 MHz
- 12V operation
- Low Phase Noise
- Electrical Frequency Control
- Fully compliant to RoHS Directive 2002/95/EC

DESCRIPTION

CTS Model 125 is a high performance ovenized crystal oscillator. The high quality CTS SC-cut quartz crystal used in this OCXO design offers high stability, low phase noise, and very low aging, making it an ideal frequency or timing reference for Telecommunications and Test & Measurement applications.

ELECTRICAL SPECIFICATIONS

Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Operating Conditions					
Standard Frequencies	f_{NOM}		5MHz, 10 MHz		
Operating Temperature Range	T_{OP}	-10	-	80	°C
Supply Voltage	12.0 V	11.4	12.0	12.6	Vdc
Power Consumption	during warm up	-	4	6	W
	steady state @ 25°C	-	2	3	W
Load	Output to Ground	45	50	55	ohms

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Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Frequency Stability					
Initial Calibration	$\Delta f/f_{NOM}$; T_A=25°C; at time of shipment @ Vc = 2.5V	-	-	±100	ppb
vs Temperature	T_A= -10° to 80°C	-	0.5	1	ppb pk-pk
vs Supply Voltage	± 5%	-	-	± 0.1	ppb
vs Load	± 10%	-	-	± 0.2	ppb
Aging, after 30 days operation	at time of shipment	-	0.05	± 0.1	ppb/day
	first year	-	-	± 30	ppb/year
	20 years, total			± 300	ppb/20 yrs
Short Term Stability Allan Deviation	In Still Air @ 1 sec tau	-	-	0.01	ppb
	In Still Air @ 10 sec tau	-	-	0.01	ppb
Warm-Up Time	T_A=25°C; to within 10 ppb of freq. @ 60 min	-	5	10	minutes
Phase Noise (Typical for 10 MHz)					
	1 Hz	-	-85	-	dBc/Hz
	10 Hz	-	-120	-	dBc/Hz
	100 Hz	-	-140	-	dBc/Hz
	1 kHz	-	-145	-	dBc/Hz
	10 kHz	-	-145	-	dBc/Hz
Spurious		-	-	-70	dBc
Electronic Frequency Control					
Input Impedance	Z_i	30	-	-	kΩ
Control Voltage Range	V_C ; positive monotonic transfer	0	-	5	Vdc
Tuning Range		± 250	-	-	ppb
Tuning Coverage		20	-	-	years
Linearity		-	-	±10	%
Output Parameters					
Output Waveform			Sine Wave		
Amplitude	Sine Wave into 50 Ohm	2	5	8	dBm
Harmonics		-	-35	-25	dBc
Sub-harmonics		-	-35	-25	dBc

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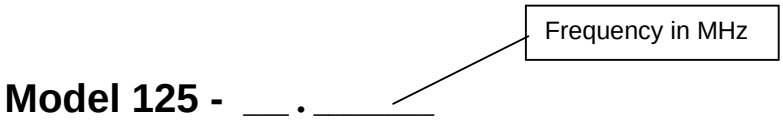
Model 125 Part Number Generator:



Example: 125-10.0000

Environmental and Mechanical	
Soldering	Hand or Wave Solder only; Maximum Solder Temperature 300°C for 10 Seconds Max.
MSL	Level 1
Shock :	50 G's 11 ms, Halfsine, 3 shock per direction, per IEC 68-2-27 Test Ea / Severity 50A
Sinusoidal Vibration :	0.06" D.A. or 10 G's Peak, 10 to 500 Hz, per MIL-STD-202F, Method 204D, Test Condition A.
Random Vibration :	5.35 G's RMS. 20 to 2000 Hz, 1 cycle / axis, 10 minutes each axis.
Seal :	Hermetic
Marking Permanency :	per MIL-STD-202F, Method 215J.
Attachment Method :	Through-Hole
Lead Finish	Matte Tin plated, 100 microinches minimum over 100 microinches minimum Ni underplate
Storage Temperature Range:	-40°C to +85°C
RoHS	Lead-free and fully compliant to RoHS Directive 2002/95/EC

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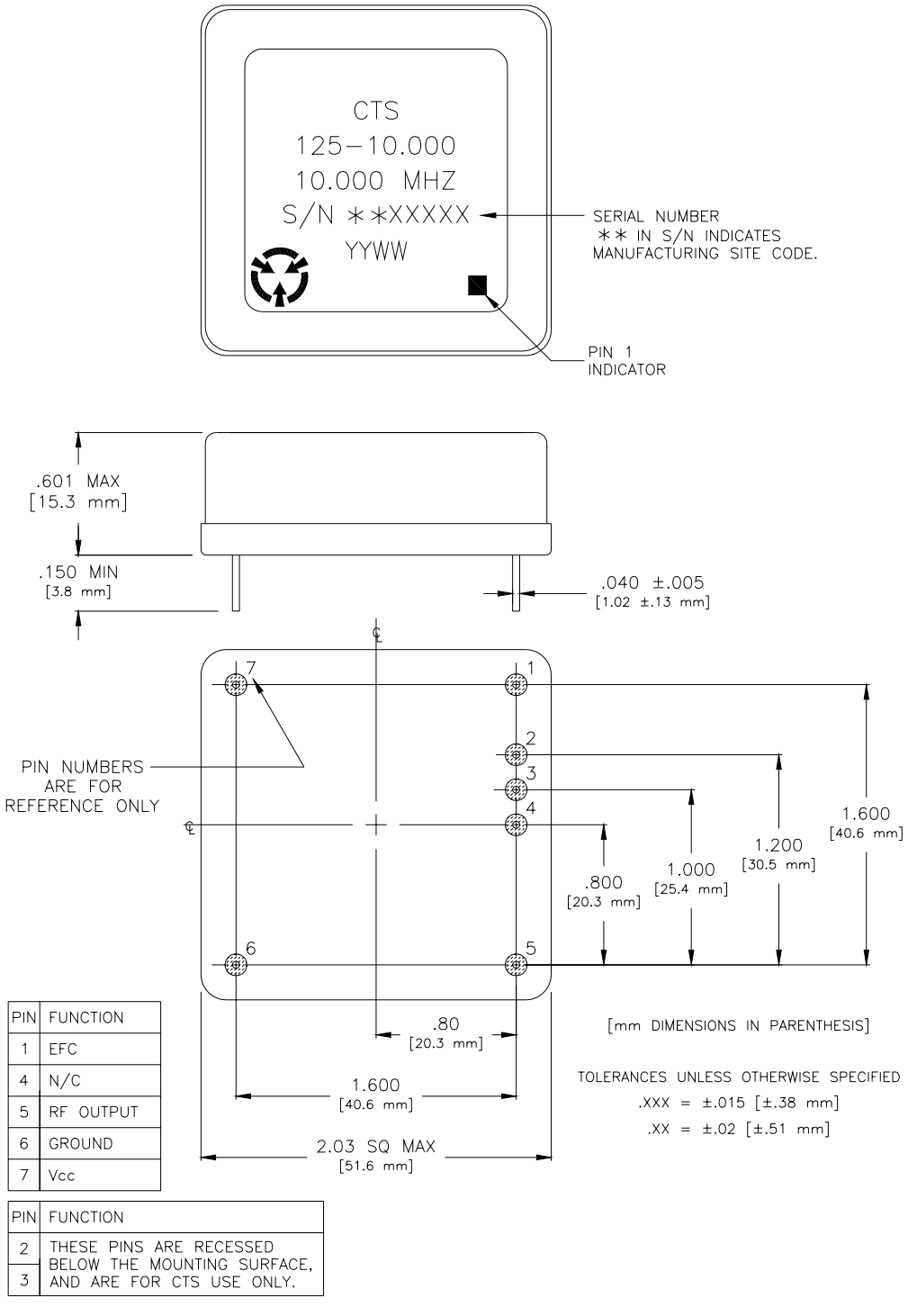
MECHANICAL SPECIFICATIONS



PIN	FUNCTION
1	EFC
4	N/C
5	RF OUTPUT
6	GROUND
7	Vcc

PIN	FUNCTION
2	THESE PINS ARE RECESSED BELOW THE MOUNTING SURFACE, AND ARE FOR CTS USE ONLY.
3	

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