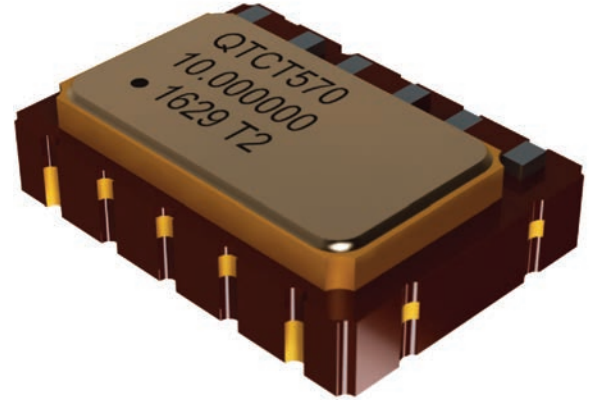


Description

Q-Tech's surface-mount QTCT570 oscillators consist of an IC 2.8Vdc, 3.3Vdc clock TCXO built in a low profile ceramic package with gold plated contact pads.

Features

- ECCN: EAR99
- Frequency range from 5.000000MHz to 52.000000MHz
- Small footprint
- Clipped Sine, CMOS logic
- 2.8Vdc, 3.3Vdc supply
- Operating temperature -40°C to +85°C available
- Optional Free Tuning
- Hermetically sealed ceramic package
- Military screening tests per MIL-PRF-55310 for class 3 devices available
- Tape and reel packaging
- Lead Free, RoHS Compliant
- VCTCXO Option



Applications

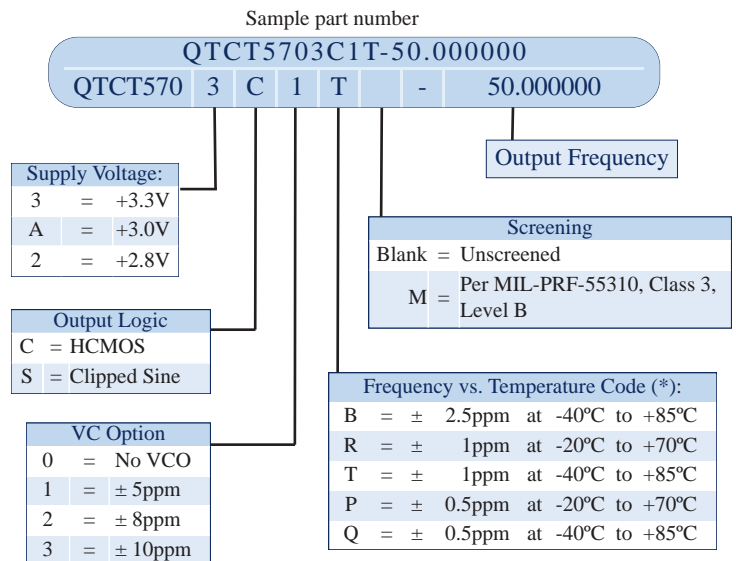
- Designed to meet today's requirements for low voltage applications
- Instrumentation
- Navigation
- Avionics
- Ethernet/SynchE
- Base Stations
- Global Positioning Systems (GPS)
- Manpack Radio
- FEMTO Cells

Stock List

See all QTCT products [IN STOCK](#)

Ordering is NOT limited to the IN STOCK list. Please consult with our sales managers to order custom frequencies.

Ordering Information



(*) Frequency Stability is referenced to the midpoint between minimum and maximum frequency value over the temperature range.

Other Options Available For An Additional Charge

- Hot Solder Dip Sn60/Pb40 per MIL-PRF 55310
- Specifications subject to change without prior notice.**

Frequency stability vs. temperature codes may not be available in all frequencies.
 For Non-Standard requirements, contact Q-Tech Corporation at Sales@Q-Tech.com

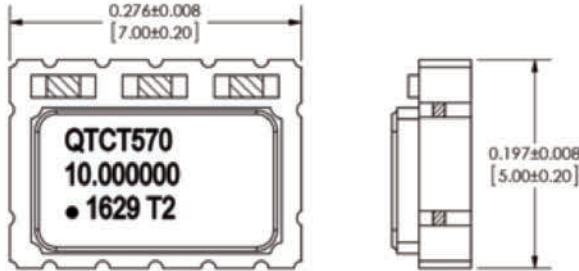


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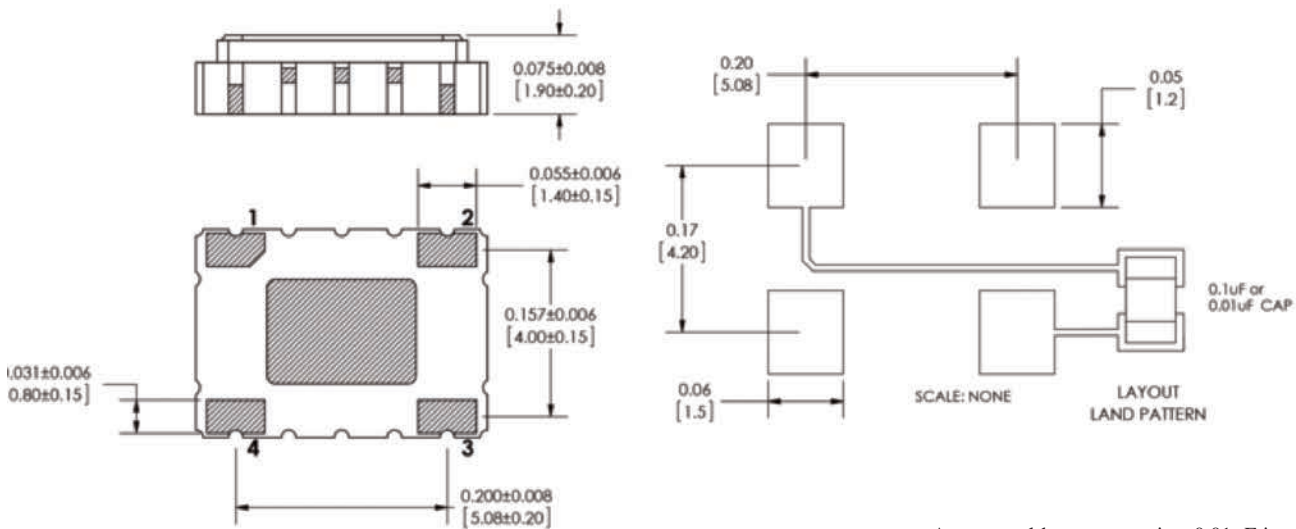
QTCT570 SERIES
5 x 7mm MINIATURE SMD TEMPERATURE CONTROLLED CRYSTAL OSCILLATORS
2.8 to 3.3Vdc - 5.000000MHz to 52.000000MHz

Package Outline and Pin Connections

Dimensions are in inches (mm)



Pin No.	Function
1	VC or NC
2	GND/CASE
3	OUTPUT
4	VDD



An external bypass capacitor 0.01µF is required between Vdd and GND

Marking

- Line 1: QTCT570 (First 7 Characters of Description)
- Line 2: XX.XXXXXX (8 or 9 Characters of Frequency in MHz including decimal)
- Line 3: Dot (Pin 1 Indicator) + Date code (YY/WW), Internal Traceability Code

Package Information

- Termination pads (4x), Electro nickel plating 1.27µm ~ 8.89µm typ., with gold 0.3µm ~ 1.0µm flash plate
- Weight: 0.15g typ., 2.0g max.



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QTCT570 SERIES
5 x 7mm MINIATURE SMD TEMPERATURE CONTROLLED CRYSTAL OSCILLATORS
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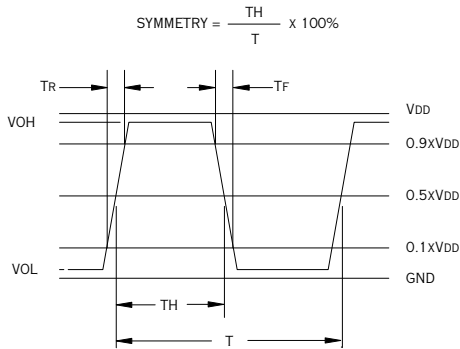
Electrical Characteristics

Parameters	QTCT570XC	QTCT570XS
Output frequency range (Fo)	5.000000MHz — 52.000000MHz	
Logic	HCMOS	Clipped Sine
Supply voltage (Vdd)	2.8Vdc, 3.3Vdc \pm 5%	
Supply current (Idd)	6.0mA	3.5mA
VCO Option (Tuning Range)	See Part Number on Page 1	
Operating temperature (Topr)	See Part Number on Page 1	
Storage temperature (Tsto)	-40°C to +85°C	
Duty Cycle	45/55%	N/A
Rise and Fall times	4ns	N/A
Start-up time (Tstup)	2ms max.	
Output voltage (Voh/Vol)	0.9Vdd min. / 0.1Vdd max.	Vop-p = 0.8V
Output Load	15pF max.	10k 10pF
Control Voltage to reach Pull Range	0.5V min. 1.5V typ. 2.5V max.	
Control Voltage Impedance	100k Ω min.	
Phase Noise typ. at 12.8MHz		
10Hz	-98 dBc/Hz	-96 dBc/Hz
100Hz	-129 dBc/Hz	-122 dBc/Hz
1kHz	-145 dBc/Hz	-140 dBc/Hz
10kHz	-153 dBc/Hz	-148 dBc/Hz
100kHz	-156 dBc/Hz	-153 dBc/Hz
Frequency Tolerance (Ftol) at 25°C	\pm 2.0ppm	
Power Supply Stability \pm 5% (Fpwr)	\pm 0.2ppm	
Load Stability \pm 10% (Fload)	\pm 0.2ppm	
Aging	\pm 1.0ppm 1st year	

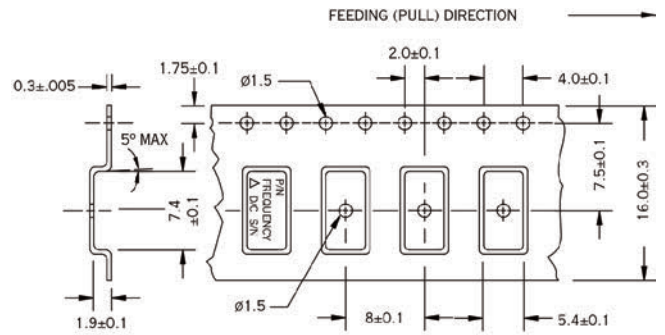


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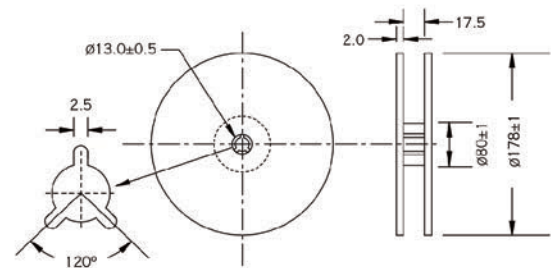
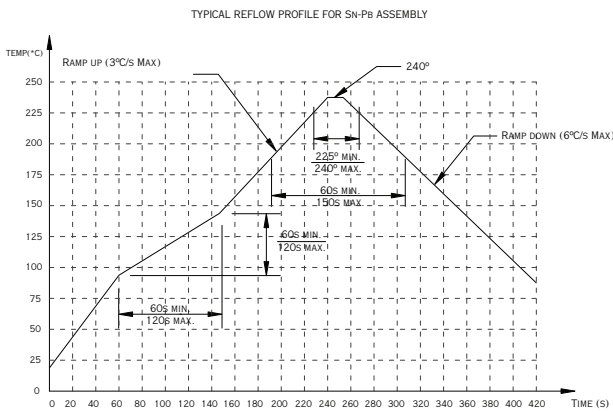
CMOS Output Waveform (Typical)



Embossed Tape and Reel Information



Reflow Profile



Dimensions are in mm. Tape is compliant to EIA-481-A.

Reel size (Diameter in mm)	Qty per reel (pcs)
178	1,000

Environmental and Mechanical Specifications

Environmental Test	Test Conditions
Temperature cycling	MIL-STD-883, Method 1010, Cond. B
Constant acceleration	MIL-STD-883, Method 2001, Cond. A, Y1
Vibration sinusoidal	MIL-STD-202, Method 204, Cond. D
Shock, non operating	MIL-STD-202, Method 213, Cond. I
Resistance to solder heat	MIL-STD-202, Method 210, Cond. B
Resistance to solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-202, Method 208
ESD Classification	MIL-STD-883, Method 3015, Class 1
Moisture Sensitivity Level	J-STD-020, MSL=1



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QTCT570 SERIES
5 x 7mm MINIATURE SMD TEMPERATURE CONTROLLED CRYSTAL OSCILLATORS
2.8 to 3.3Vdc - 5.000000MHz to 52.000000MHz

DCO	REV	REVISION SUMMARY	PAGE	DATE
6167	A	Add 'VCTCXO Option' in description	1	02/03/2017
		Storage temp changed -55C to -62C	3	
		'Phase noise' changed to 'Phase noise typ. at 12.8MHz'		
		Power supply tolerance changed 0.1ppm to 0.2ppm		
6652	B	Add temperature code B.	1	04/10/2017
		Revised 'Applications'	1	
10036	C	Revise Frequency format to six digits after decimal	All	06/13/2019
11949	D	Add Note (*) for frequency temperature stability	1	09/17/2020
14110	E	Add 'Class 3' to MIL-PRF-55310 screening for clarification of requirements	1	10/29/2021
		Change Storage Temperature	3	