



## Features and Benefits

Frequency range: 50MHz

Supply voltage: 3.3V

Steady current: 10mA/Max

Output waveform: CMOS

Frequency stability vs. operating temperature:  $\pm 0.5\text{ppm}$

Aging:  $\pm 1\text{ppm}$  per year

Phase noise@100KHz: -153dBc/Hz

Operating temperature:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$

Size: 7x5x1.75mm

## Typical Applications

UHF Synthesizers

SATCOM System

Portable Microwave Applications

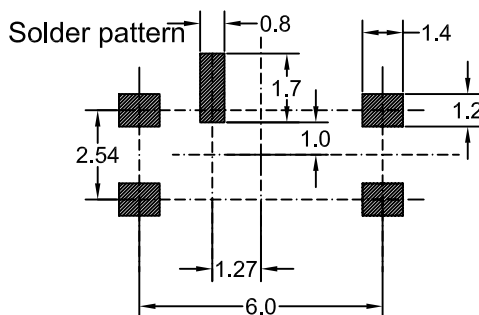
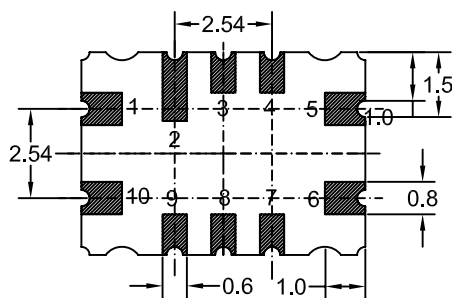
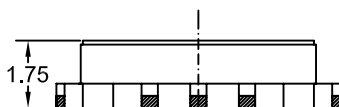
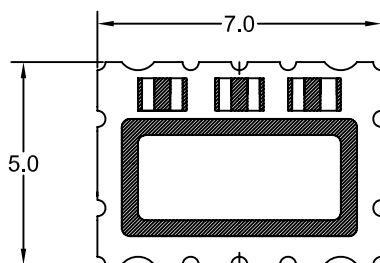
## Description

TCXO7500BT-50MHz-C-V offers wide temperature operation from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  with outstanding frequency stability and low phase noise performance.

## Mechanical Drawing & Pin Connections

Drawing No:

MD150075-8



### Pin Function

#1 Control Voltage

#5 GND

#6 Output

#9 Tri-state or NC

#10 Vcc

Do not connect #2, #3, #4, #7, #8

Unit in mm

1mm = 0.0394 inch



## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F <sub>nom</sub>			50		MHz	
Output			(LV)CMOS				
Output Level			V <sub>OH</sub> ≥ 0.9 x V <sub>cc</sub> V <sub>OL</sub> ≤ 0.1 x V <sub>cc</sub>				
Output load					15	pF	
Power Supply							
Voltage	V <sub>cc</sub>	±5%		3.30		V	
Current Consumption			2		10	mA	
Frequency Control*							
Control voltage range	V <sub>c</sub>		0.5	1.5	2.5	V	
Tuning range			±5			ppm	Tuning Slope Positive
Control voltage input impedance			100			kohm	
Tri-state function			pin9 high or open pin6 oscillation pin9 low or GND pin6 high impedance				
Frequency Stability							
Vs. temperature		-40°C to 85°C, ref to (fmax+fmin)/2	-0.5		+0.5	ppm	
Vs. supply voltage changes		±5%	-0.1		+0.1	ppm	referenced to frequency at nominal supply
Vs. load changes		±5%	-0.1		+0.1	ppm	referenced to frequency at nominal supply
G-sensitivity		per axis		2.0		ppb/g	
Tolerance at 25°C			0		+1.0	ppm	
First Year Aging		@+40°C	-1.0		+1.0	ppm	
Phase noise		100 Hz		-109		dBc/Hz	
		1000 Hz		-133			
		10 KHz		-149			
		100 KHz		-153			
Environmental Conditions							
Operating temperature range	-40°C to 85°C						
Storage temperature range	-55°C to 105°C						
Reflow Profiles	≤ 260 °C over 10 sec. Max. as per IPC/JEDEC J-STD-020C						