



### Features and Benefits

High Precision:  $\pm 0.2$  ppm over  $-40$  to  $+85^\circ\text{C}$ ;  $\pm 2$  ppm over  $-40$  to  $+105^\circ\text{C}$   
CMOS and Clipped Sine wave (without DC-cut capacitor) output optional  
7.0 x 5.0 x 1.9 mm ceramic SMD package

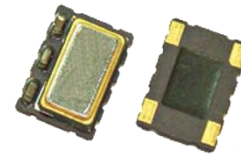
### Typical Applications

WLAN/WiMax/WIFI  
Wireless Communications  
Femtocell, Base Stations

### Description

The TCXO7500S-ET is a high precision TCXO specially designed for extended temperature operation from  $+85^\circ\text{C}$  to  $+105^\circ\text{C}$

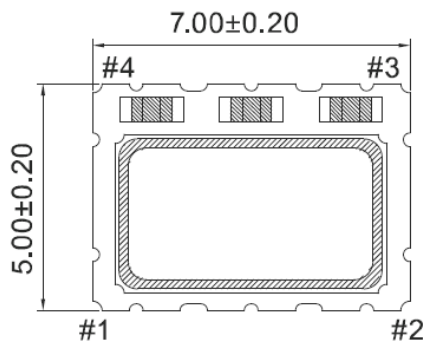
### Picture of Part



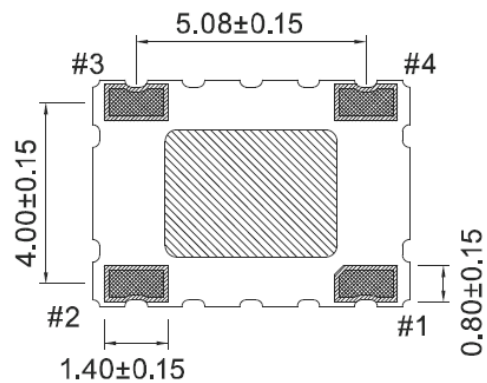
### Mechanical Drawing & Pin Connections

Drawing No:

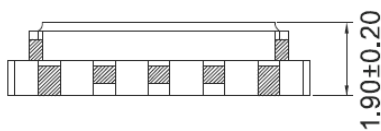
[TOP VIEW]



[BOTTOM VIEW]



[SIDE VIEW]



Pin	Function
1	V <sub>CON</sub> : V <sub>C</sub> = TCXO GND/NC: TCXO
2	GND
3	Output
4	V <sub>DD</sub>



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	F <sub>nom</sub>		5		52	MHz	
Standard Frequency		10, 12.8, 16.384, 19.2, 19.44, 20, 25, 26					
CMOS	Logic Level 1		4.5			V	
	Logic Level 0				0.5		
	Duty Cycle		45		55	%	
Clipped Sine Wave	Load			15		pF	
	Output Level		0.8			V <sub>P-P</sub>	
	Load			10		KΩ // pF	
<b>Power Supply</b>							
Voltage	V <sub>DD</sub>	±5% variation	4.75	5.0	5.25	V	3.3V typ. option
Supply Current (CMOS output)	I <sub>s</sub>				6.0	mA	
Supply Current (Clipped Sine Wave)	I <sub>s</sub>				3.5		
Warm-up Time:					2	mS	
<b>Frequency Control</b>							
Control Voltage Range (VCTCXO)			0.5		2.5	V	
Pulling Range (VCTCXO)			±5.0			ppm	
V <sub>c</sub> Input Impedance (VCTCXO)			100			KΩ	
<b>Frequency Stability</b>							
Versus temperature							
Tolerance at 25°C		1 hour after reflow	-2.0		+2.0	ppm	
Versus ±5% change in supply voltage			-0.1		+0.1	ppm	
Versus ±5% change in load			-0.05		+0.05	ppm	
First Year Aging			-1.0		1.0	ppm/year	
Phase noise (typ.) at 10 MHz		@ 100 Hz			-130	dBc/Hz	
		@ 1 KHz			-145		
		@ 10 KHz			-154		
<b>Environmental Conditions</b>							
Operating temperature range		-40 to +85°C (-40 to +105°C option)					
Storage temperature range		-55 to +125°C					

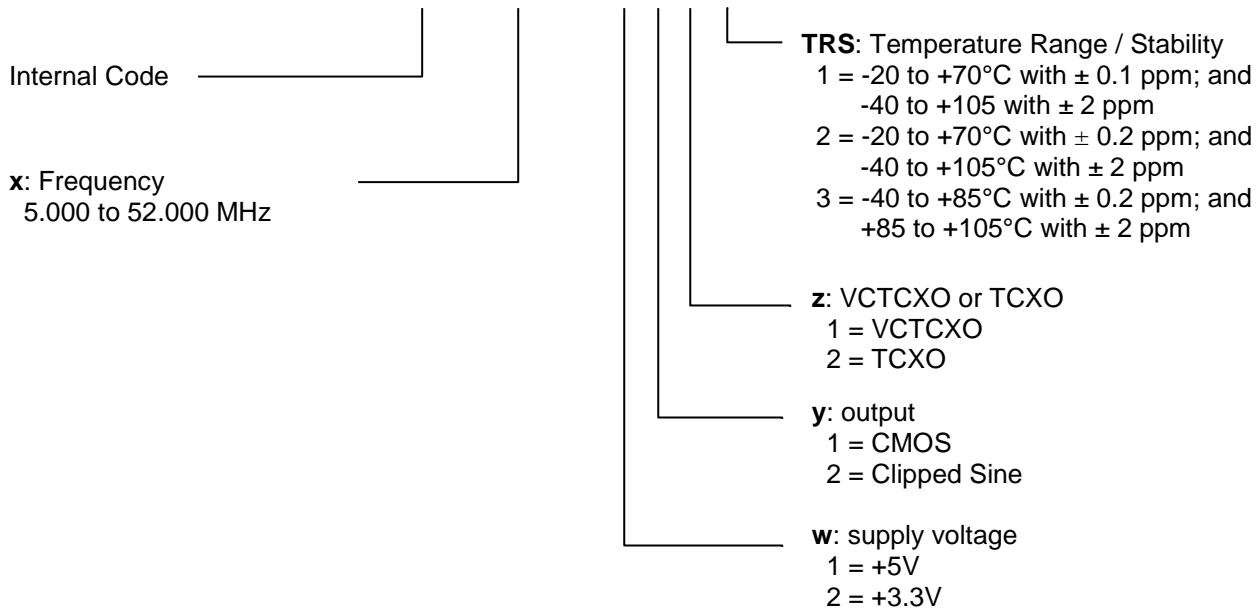
**Note**

Not all combinations of options are shown. Other specifications may be available upon request.



### Ordering System

#### TCXO7500S-ET-xMHz-w-y-z-TRS



### Example

TCXO7500S-ET-10.000MHz-2-1-1-3

Frequency: 10.000 MHz  
Supply Voltage: +3.3V  
Output: CMOS  
VCTCXO Function  
TRS: -40 to +85°C with ± 0.2 ppm; and +85 to +105°C with ± 2 ppm