



DEI Releases New Ultra-High Stability (UHS) TCXO's

The Ultra-High Stability (UHS) TCXO family is based on the latest proprietary compensation algorithms that take full advantage of precision crystal manufacturing process breakthroughs to deliver OCXO-like stability at a fraction of the power consumption.

Better than +/- 100 ppb stability can be maintained over an extended temperature range of -40C to +105C. Better than +/- 50 ppb can be offered over -40C to +85C.

High performance small cell base stations, mobile radio manpacks, and SATCOM reference clocks are ideal applications for this cutting edge TCXO design and process technology.

Please consult with sales for any custom requirements.

sales@dynamiceng.com



Features and Benefits

Ultra High Precision; $\pm 100\text{ppb}$ for -40°C to $+105^\circ\text{C}$

$\pm 50\text{ppb}$ for -40°C to $+85^\circ\text{C}$

14 pin DIP package footprint

Sealed Crystal Package; Sealed Oscillator Package

Typical Applications

Small Cell Base Stations

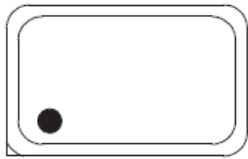
High Performance Mobile Radio Manpack

SATCOM clock reference

Mechanical Drawing & Pin Connections

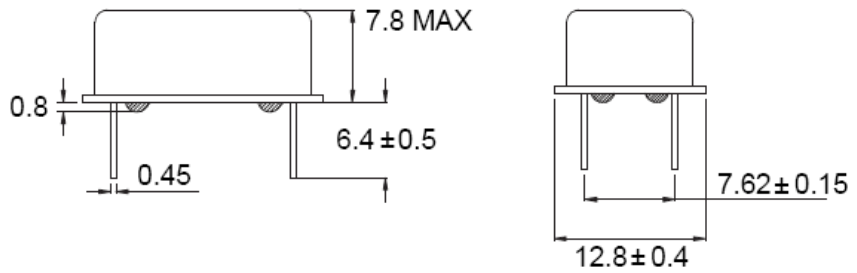
Drawing No:MD170003-1

Top View

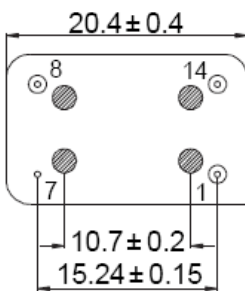


Pin1 Symbol

Side View



Bottom View



Pin#	Function
1	VCON
7	GND
8	Output
14	VDD

Unit: mm

1mm=0.0394inch

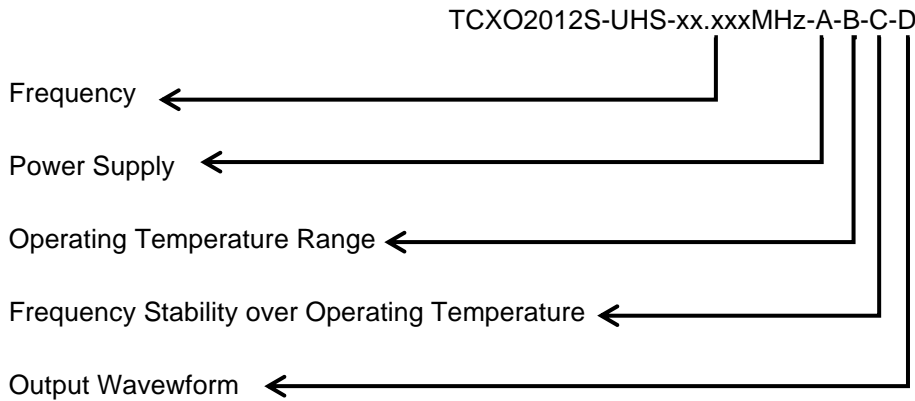


Specifications

Oscillator Specification	Condition	5.0V		3.3V		Unit	Note
		Min.	Max.	Min.	Max.		
Frequency Range		10.00	40.00	10.00	40.00	MHz	
Standard Frequency		10.00, 12.80, 19.2, 19.44, 20.00, 26.00					
RF Output							
Output Wave Form	Clipped Sine Wave	0.8	-	0.8	-	Vp-p	
Output Level	CMOS	3.50	-	2.31	-	V	
Output High (Logic "1")		-	1.50	-	0.99	V	
Output Low (Logic "0")		45	55	45	55	%	
Duty							
Start Time		-	2	-	2	mSec	
Transition Time: Rise / Fall Time	Measured between 10% and 90% or VDD, with an output load of 15pF	6				nSec	
Power Supply							
Supply Voltage Variation	V _{DD} ±5%	4.750	5.250	3.135	3.465	V	
Supply Current		-	15	-	10	mA	
Control Voltage							
Pulling Range		±5.0	-	±5.0	-	ppm	
Frequency Stability							
Frequency Tolerance	Frequency @ +25°C	-	±2.0	-	±2.0	ppm	1 hour after reflow
Over Temperature	-40°C to +85°C	-	±50	-	±50	ppb	
	-20°C to +70°C	-	±30	-	±30		
Supply Voltage Change	±5% change	-	±0.02	-	±0.02	ppm	
Aging (@ 1 st year)		-	±1.0	-	±1.0	ppm/ year	
Phase Noise							
Phase noise @ 10MHz	100 Hz offset	-123				dBcHz	
	1 kHz offset	-143					
	10 kHz offset	-150					
Environmental Conditions							
Parameter		Reference Std.					
Operating temperature range		-40°C to +85°C or -40°C to +105°C					
Storage temperature range		-55°C to +125°C					



Ordering Options



Options Codes	Description	Options
xx.xxx	Frequency up to 3 decimals	Standard Frequencies 10.000MHz, 12.800MHz, 19.200MHz, 19.440MHz, 20.000MHz, 26.000MHz
A	Power Supply	1 = +5V 2 = +3.3V
B	Operating Temperature Range	1 = -40°C to +105°C 2 = -40°C to +85°C
C	Frequency Stability Over Operating Temperature	1 = ±100ppb 2 = ±50ppb**Note: ±50ppb available only with -40°C to +85°C
D	Output Waveform	1 = CMOS 2 = Clipped Sine Wave

Example: TCXO2012S-UHS-19.440MHz-1-2-2-1

Frequency = 19.440MHz

Power Supply = 5V

Operating Temperature Range = -40°C to +85°C

Frequency Stability Over Operating Temperature = ±50ppb

Output Waveform = CMOS