Features and Benefits

Frequency Range from 10 MHz to 52 MHz 2.5 mm x 2.0 mm ceramic SMD package
Up to ±0.5 ppm (depends on operating frequency and operating temperature)
Clipped Sine Wave outputs
1.8V, 2.5V or 2.8V supply
Low height and light weight
Compatible for automatic assembly

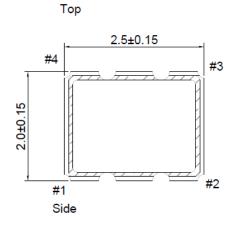
Description

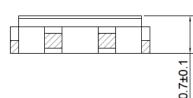
A new series of low height temperature compensated crystal oscillators with the latest low noise integrated circuit topologies.

Typical Applications

WiMAX, WLAN GPS Mobile phone

Mechanical Drawing & Pin Connections





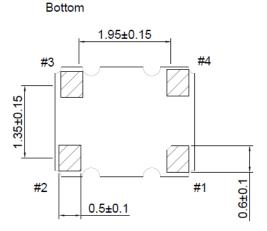
Pin Connection

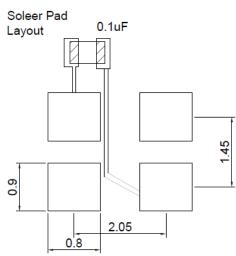
Name	Connection				
Pin 1	VCON:VC-TCXO GND/NC:TCXO				
Pin 2	GND				
Pin 3	OUTPUT				
Pin 4	VDD				

Unit : mm 1mm=0.0394inch

Drawing No:

MD160034-1





To ensure optimal oscillator performance, place a by-pass capacitor of 0.1uF as close to the part as possible between Vdd and GND pads.

TCXO2520S-series

Clipped Sine Wave10 to 52MHz
Temperature Compensated Crystal Oscillator

Specifications

Parameter	General Specific	cations								
Min. Max. Min. Max. Min. Max. Min. Max. Min. Max. Min. Max. S2MHz 52MHz	·		1.8V		2.5V		2.8V			
Standard Frequency			Min.	Max.	Min.	Max.	Min.	Max.		
20.00000MHz, 26.00000MHz, 40.000000MHz, 50.000000MHz, 52.000000MHz	Frequency Rang	ge								
Frequency Tolerance* (at 25°C, 1 hour after reflow)										
(at 25°C, 1 hour after reflow) - ±2.0ppm - ±2.0ppm - ±2.0ppm - ±2.0ppm Frequency Stability Vs Supply Voltage (±5%) change - ±0.2ppm ±0.2ppm - ±0.2ppm ±0.2ppm - ±0.2ppm			20.000000MHz, 26.000000MHz, 40.000000MHz, 50.000000MHz, 52.000000MHz							
Temperature Range VCTCXO VCT			_	+2 0ppm	_	+2 0ppm	_	+2 0ppm		
VS Supply Voltage (±5%) change - ±0.2ppm - ±1.0ppm				±2.0ppm		±2.0ppm		±2.0ppm		
Vs Load (±10%) change - ±0.2ppm - ±1.0ppm - ±2.6e0V 2.6e0V 2.940V - 2.0mA - 2.5mA - 2.5mA - 2.5mA - 2.5mA - 0.8Vp-p - 0.8Vp-p - 0.8Vp-p - 0.8Vp-p - 0.4V 2.4V 0.4V 2.4V 0.4V 2.4V 0.4V 2										
Vs Aging (@1 ^{st'} year)			-	±0.2ppm	-		-			
Supply Voltage Variation (V ₀₀)±5% 2.660V 2.940V			-		-		-			
1.710V 1.890V 2.375V 2.625V 2.660V 2.940V			-	±1.0ppm	-	±1.0ppm	-	±1.0ppm		
Vocation Supply Current 10 MHz ≤ Fo ≤ 26 MHz - 2.0mA - 2.0mA - 2.5mA -		Variation	1.710V	1.890V	2.375V	2.625V	2.660V	2.940V		
10 MHz ≤ Fo ≤ 26 MHz 26 MHz 26 MHz 26 MHz 27 Fo ≤ 52 MHz 2.5mA 2.6mA 2.5mA 2.6mA 2.5mA 2.6m 2.6m 2.6m 2.6m 2.6m 2.6m 2.6m 2.6m										
26 MHz ≤ Fo ≤ 52 MHz - 2.5mA - 2.5mA - 2.5mA Output Level (Clipped Sine Wave) 0.8Vp-p - 0.4V 0.4V 0.4V 2.4V 0.4V										
Output Level (Clipped Sine Wave) 0.8Vp-p - 0.4V			-		-		-			
Vave			-	2.5mA	-	2.5mA	-	2.5mA		
Load			0.8Vp-p	_	0.8Vp-p	_	0.8Vp-p	_		
Control Voltage Range (VCTCXO)0.3V1.5V0.4V2.4V0.4V2.4VPulling Range (VCTCXO)±5.0ppm-±5.0ppm-±5.0ppm-Vc Input Impedance (VCTCXO)500kΩ-500kΩ-500kΩ-Phase Noise @ 19.2 MHz100 Hz 1 kHz-115dBc/HzStart-up Time2ms max.Start-up Time2ms max.Stability vs. Temperature Range-40°C to +85°CStability vs. Temperature Range AvailabilityTemperature RangeStability in ppm-20°C to +70°C-30°C to +85°C-40°C to +85°CConditional (depends on operating frequency; case by case)LangeStability in ppm-20°C to +70°C-30°C to +85°C-40°C to +85°CConditional (depends on operating frequency; case by case)LangeAvailableAvailableAvailableAvailable±1.5AvailableAvailableAvailableAvailableAvailable±2.0AvailableAvailableAvailableAvailable			0.0.7				0.0.7			
VCTCXO					10KΩ /	// 10pF	I	1		
$ \begin{array}{ c c c c }\hline \textbf{Pulling Range} & (VCTCXO) & \pm 5.0 \text{ppm} & - & \pm 5.0 \text{ppm} & - & \pm 5.0 \text{ppm} & - \\ \hline \textbf{Vc Input Impedance} & (VCTCXO) & 500 k\Omega & - & 500 k\Omega & - & 500 k\Omega & - \\ \hline \textbf{Phase Noise} & 100 \text{ Hz} & -115 \text{dBc/Hz} \\ \hline \textbf{1 kHz} & -135 \text{dBc/Hz} \\ \hline 10 \text{ kHz} & -148 \text{dBc/Hz} \\ \hline \textbf{Start-up Time} & 2ms max. \\ \hline \textbf{Stardge Temp. Range} & -40^{\circ}\text{C to} +85^{\circ}\text{C} \\ \hline \textbf{Stability vs. Temperature Range} & -40^{\circ}\text{C to} +85^{\circ}\text{C} \\ \hline \textbf{Stability in ppm} & -20^{\circ}\text{C to} +70^{\circ}\text{C} & -30^{\circ}\text{C to} +85^{\circ}\text{C} \\ \hline \textbf{Conditional (depends on operating frequency; case by case)} \\ \hline \textbf{\pm 1.0} & \text{Available} & \text{Available} & \text{Available} \\ \hline \textbf{4vailable} & \text{Available} \\ \hline \textbf{4vailable}$		Range	0.3\/	1.5V	0.4\/	2 4\/	0.4V	2 4\/		
Vc Input Impedance (VCTCXO) 500kΩ - 500kΩ - Phase Noise @ 19.2 MHz 100 Hz / 1 kHz -115dBc/Hz 1 kHz -135dBc/Hz 10 kHz -2ms max. Start-up Time 2ms max. Stability vs. Temperature Range Temperature Range Stability in ppm -20°C to +85°C -40°C to +85°C Conditional (depends on operating frequency; case by case) ±0.5 Available Available Available Conditional (depends on operating frequency; case by case) ±1.0 Available Available Available ±1.5 Available Available Available ±2.0 Available Available Available					_		• • • • • • • • • • • • • • • • • • • •			
Phase Noise 100 Hz -115dBc/Hz ② 19.2 MHz 1 kHz -135dBc/Hz 10 kHz -148dBc/Hz Start-up Time 2ms max. Storage Temp. Range -40°C to +85°C Stability vs. Temperature Range Availability Temperature Range Stability in ppm -20°C to +70°C -30°C to +85°C -40°C to +85°C Conditional (depends on operating frequency; case by case) Operating frequency; case by case) ±0.5 Available Available Available ±1.0 Available Available Available ±2.0 Available Available Available				-		-		-		
Phase Noise @ 19.2 MHz I kHz I 0 kHz 2ms max. Storage Temp. Range -40°C to +85°C Stability vs. Temperature Range Stability in ppm -20°C to +70°C Available			500kΩ	-			500kΩ	-		
@ 19.2 MHz 1 kHz / 10 kHz -135dBc/Hz / -148dBc/Hz Start-up Time 2ms max. Storage Temp. Range -40°C to +85°C Stability vs. Temperature Range Availability Temperature Range Stability in ppm -20°C to +70°C -30°C to +85°C -40°C to +85°C Conditional (depends on operating frequency; case by case) Operating frequency; case by case) Operating frequency; case by case) ±1.0 Available Available Available ±1.5 Available Available Available ±2.0 Available Available Available	Phase Noise									
Start-up Time 2ms max. Storage Temp. Range -40°C to +85°C Stability vs. Temperature Range Availability Temperature Range Stability in ppm -20°C to +70°C -30°C to +85°C -40°C to +85°C Conditional (depends on operating frequency; case by case) ±1.0 Available Available Available Available ±1.5 Available Available Available Available -40°C to +85°C -40°C to +85°C -40°C to +85°C Conditional (depends on operating frequency; case by case) Conditional (depends on operating frequency; case by case) Available Available Available Available Available										
Stability vs. Temperature Range Temperature Range Stability in ppm -20°C to +70°C Available		10 kHz	-148dBc/Hz							
Stability vs. Temperature Range Temperature Range Stability in ppm -20°C to +70°C -30°C to +85°C Conditional (depends on operating frequency; case by case) ±1.0 Available										
Temperature RangeStability in ppm-20°C to +70°C-30°C to +85°C-40°C to +85°C±0.5AvailableConditional (depends on operating frequency; case by case)Conditional (depends on operating frequency; case by case)±1.0AvailableAvailableConditional (depends on operating frequency; case by case)±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable										
Stability in ppm-20°C to +70°C-30°C to +85°C-40°C to +85°C±0.5AvailableConditional (depends on operating frequency; case by case)Conditional (depends on operating frequency; case by case)±1.0AvailableAvailableConditional (depends on operating frequency; case by case)±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable	Stability vs. Ten	nperature Range								
Conditional (depends on operating frequency; case by case) Available			Temperature	Range						
±0.5Availableoperating frequency; case by case)operating frequency; case by case)±1.0AvailableAvailableConditional (depends on operating frequency; case by case)±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable	Stability in ppm		-20°C to +70°C		-30°C to +85°C					
by case) Lambda depends on operating frequency; case by case)	±0.5		Available		Conditional (depends on		Conditional (depends on			
±1.0AvailableAvailableConditional (depends on operating frequency; case by case)±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable					operating frequency; case		operating frequency; case			
±1.0AvailableAvailableoperating frequency; case by case)±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable										
±1.5 Available Available Available ±2.0 Available Available Available	±1.0		Available		Available		Conditional (depends on			
±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable										
±1.5AvailableAvailableAvailable±2.0AvailableAvailableAvailable										
	±1.5		Available		Available		Available			
	±2.0		Available		Available		Available			
± 2.3 AVAIIADIE AVAIIADIE AVAIIADIE AVAIIADIE	±2.5		Available		Available		Available			

Other customized specifications may be available. Please contact Dynamic Engineers Inc. for further details.