



## Features and Benefits

Frequency range: 25MHz  
Supply voltage: 3.3V  
Current: 10mA Max.  
Frequency stability vs. temperature:  $\pm 100$ PPM  
Aging:  $\pm 3$ PPM 1<sup>st</sup> year  
Operating temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
Size: 2.5x2.0x0.9 mm

## Typical Applications

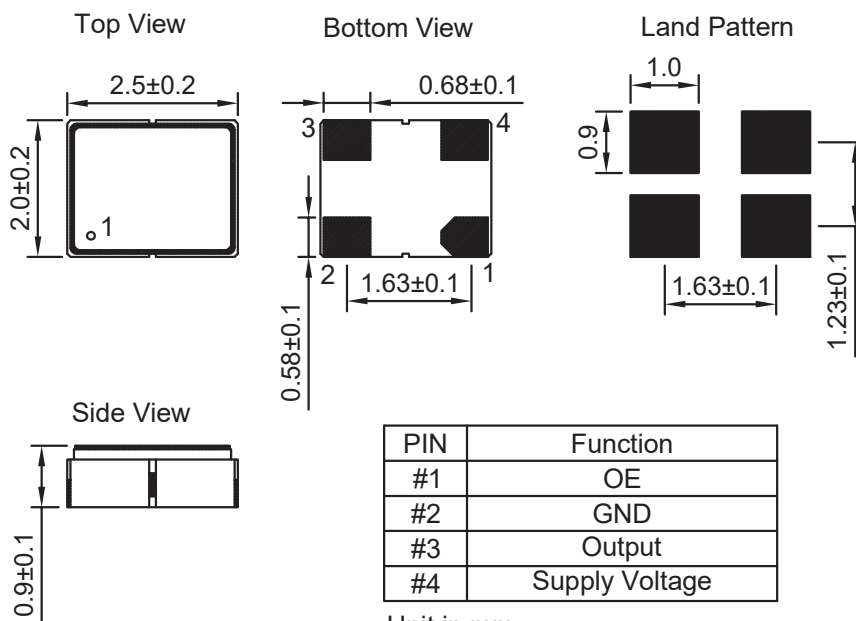
- Wearable device
- Sport Video Cams
- Ultra-small Notebook PC
- Mobile Phones
- Digital Circuit

## Description

XO2520BL-ULJ\_CMOS-25MHz-233 is the ultra-low jitter crystal oscillator.  
The RMS phase jitter can be 48fs typical. It can be widely used in the digital circuit and communication applications.

## Mechanical Drawing & Pin Connections

Drawing No: MD230031-1



Unit in mm  
1mm = 0.0394 inches

**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	$f_0$			25		MHz	
<b>RF Output</b>							
Output Load				15		pF	
Output Level High			2.97			V	
Output Level Low					0.33	V	
Rise / Fall Time		@10%-90% of $V_{CC}$		1.5	5	ns	
Duty Cycle			45		55	%	
Startup Time				0.8	5	ms	
Output Enable/Disable Function on PIN1		Enable output	70% $V_{CC}$			V	
		Disable output			30% $V_{CC}$	V	
Enable/Disable Time		Enable			1	ms	
		Disable			200	ns	
<b>Power Supply</b>							
Voltage	$V_{CC}$	$\pm 10\%$		3.3		V	
Current				7	10	mA	
Current With Output Disable				9	35	uA	
<b>Frequency Stability</b>							
Supply Voltage Vs. Frequency Sensitivity		@25°C			$\pm 1.0$	ppm	
Vs. Temperature		@-40°C to +85°C			$\pm 100$	ppm	
Aging@+25°C		1 <sup>st</sup> year			$\pm 3.0$	ppm	
SSB phase noise		10Hz		-68		dBc/Hz	
		100Hz		-102			
		1KHz		-139			
		10KHz		-157			
		100KHz		-170			
		1MHz		-166			
		5MHz		-168			
RMS Jitter (12KHz-20MHz)				48	300	fs	
<b>Environmental Conditions</b>							
Operating temperature range		-40°C to +85°C					
Storage temperature range		-55°C to +150 °C					