



Features and Benefits

Frequency range: 2.5MHz to 60MHz

Supply voltage: 1.8V/2.5V/3.3V

Current: 6mA Max.

Frequency stability vs. temperature: $\pm 10\text{PPM}$ - 20PPM

Aging: $\pm 3\text{PPM}$ per year

Operating temperature: -40°C to $+95^{\circ}\text{C}$

Size: 3.2x2.5x0.95 mm

Typical Applications

Wireless Connectivity

Mobile device

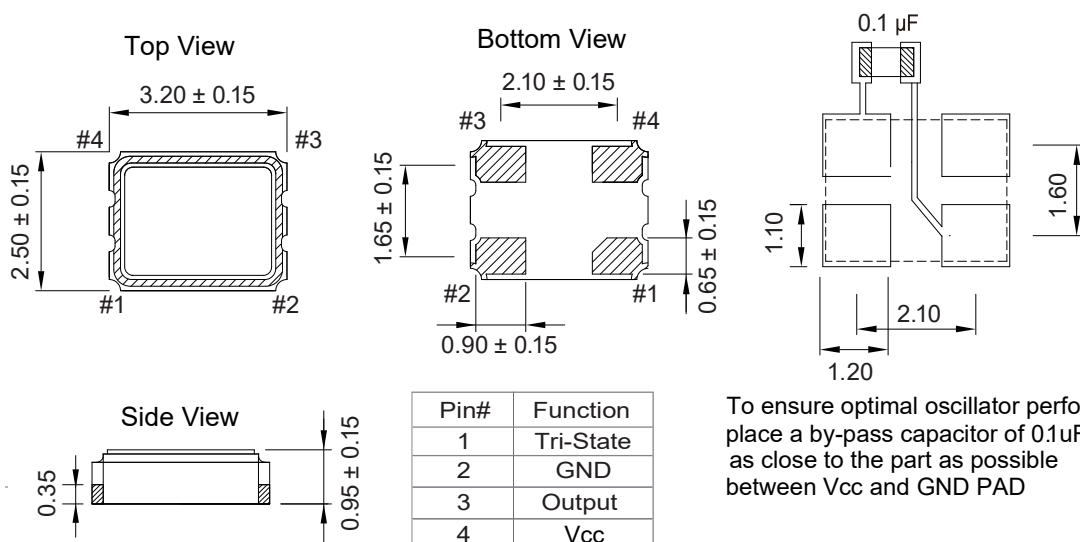
Smart meter

Description

XO3225BM02 is the high precision crystal oscillator. The stability can be $\pm 10\text{PPM}$. It can be widely used in the high precision applications.

Mechanical Drawing & Pin Connections

Drawing No: MD230014-1



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1 μF as close to the part as possible between Vcc and GND PAD

Unit in mm
1mm = 0.0394 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f_0		2.5		60	MHz	
RF Output							
Output Waveform			CMOS				
Load					15	pF	
Output Level		Output High	$0.9V_{cc}$			V	
		Output Low			$0.1V_{cc}$	V	
Duty Cycle		3.3V or 2.5V	45		55	%	
		1.8V	40		60	%	
Rise & Fall Time					6	ns	
Tri-State		Enable	$0.7 V_{cc}$			V	
		Disable			$0.3 V_{cc}$	V	
Startup Time					2	ms	
Power Supply							
Voltage	V_{cc}			1.8/2.5/3.3		V	See ordering section
Current					6	mA	
Stand by Current					10	uA	
Frequency Stability							
Versus Temperature		@-40°C to +95°C with reference to +25°C			±15	ppm	See ordering section
Aging@+25°C		1 st year			±3.0	ppm	
RMS Phase Jitter		Integrated 12kHz to 20MHz			0.5	ps	
Environmental Conditions							
Operating temperature range		-40°C to +95°C (See ordering section)					
Storage temperature range		-55°C to +125 °C					



Ordering Information

XO3225BM02	-	01	02	03
Group		Code		

For example, XO3225BM02-121 denotes the XO has the following specifications:

Temperature Range: -20°C to +70°C
Stability Over Temperature: ±15 ppm
Supply Voltage: 1.8V

01	Temperature Range
Code	Specification
1	-20°C to +70°C
2	-30°C to +85°C
3	-40°C to +85°C
4	-40°C to +95°C

02	Frequency Stability
Code	Specification
1	±10 ppm
2	±15 ppm
3	±20 ppm

03	Supply Voltage
Code	Specification
1	1.8V±5%
2	2.5V±10%
3	3.3V±10%

Frequency Stability vs. Temperature

Temperature Range [°C]	Frequency Stability		
	±10 ppm	±15 ppm	±20 ppm
-20°C to +70°C	Available	Available	Available
-30°C to +85°C	Available	Available	Available
-40°C to +85°C	Available	Available	Available
-40°C to +95°C	Not Available	Available	Available