



Features and Benefits

- Frequency range: 32.768KHz
- Supply voltage: 1.5V/1.8V
- Current: 1.8uA Max.
- Frequency stability vs. temperature: ±25PPM-50PPM
- Aging: ±3PPM per year
- Operating temperature: -40°C to +85°C
- Size: 2.05x1.65x0.75 mm

Typical Applications

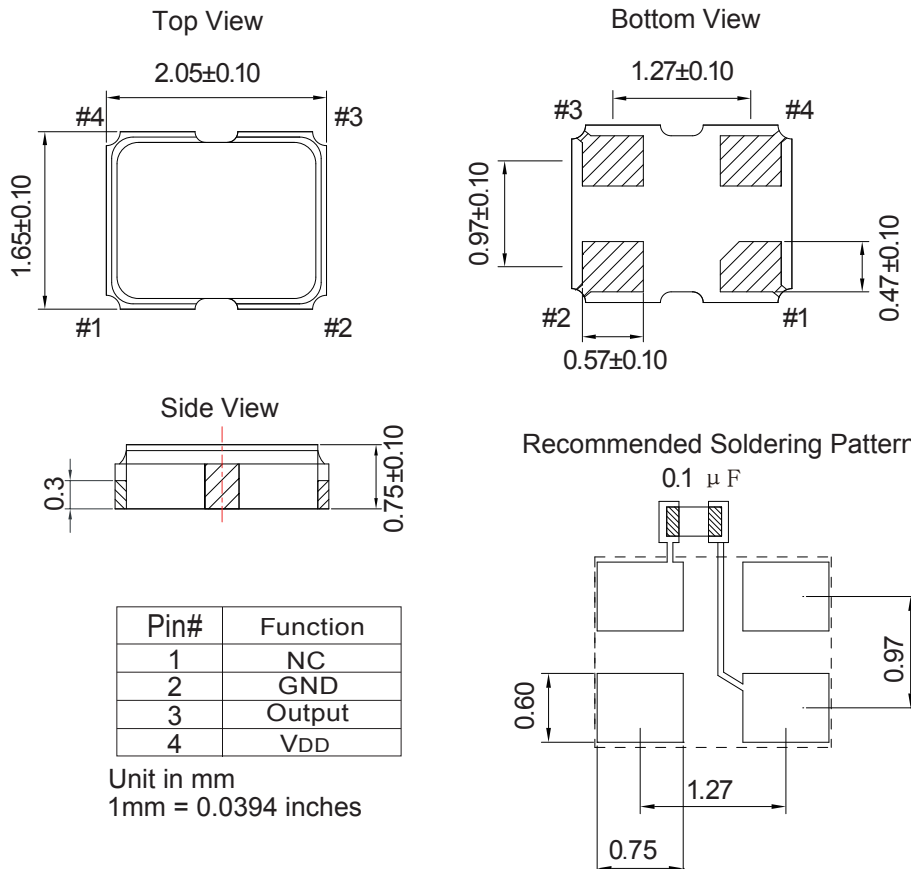
- RTC Reference Clock
- Wearable device
- Sport Video Cams
- Ultra-small Notebook PC
- Mobile Phones
- Health and Wellness Monitors

Description

XO2016BM-U LP-32.768KHz is the ultra-low power crystal oscillator. The power consumption can less than 1.8uA. It can be widely used in the low power consumption applications.

Mechanical Drawing & Pin Connections

Drawing No: MD220017-1



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



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f ₀			32.768		KHz	
RF Output							
Output Level High			90%V _{DD}			V	
Output Level Low					10%V _{DD}	V	
Rise & Fall Time		@10%-90%			10	ns	
Duty Cycle			45		55	%	
Startup Time					8	ms	
Power Supply							
Voltage	V _{DD}	±5%		1.5/1.8		V	See ordering section
Current				1.4	1.8	uA	
Frequency Stability							
Tolerance		@+25°C, 3days average			±10	ppm	
Versus Temperature		@-40°C to +85°C with reference to +25°C, 3day average			±25	ppm	See ordering section
Aging@+25°C		1 st year			±3.0	ppm	
Environmental Conditions							
Operating temperature range		-40°C to +85°C					
Storage temperature range		-55°C to +125 °C					



Ordering Information

XO2016BM-U LP-32.768KHz	-	01	02	03
Group		Code		

For example, XO2016BM-U LP-32.768KHz-111 denotes the XO has the following specifications:

Temperature Range: -20°C to +70°C
 Stability Over Temperature: ±25 ppm
 Supply Voltage: 1.5V

01	Temperature Range
Code	Specification
1	-20°C to +70°C
2	-40°C to +85°C
3	-40°C to +105°C

02	Frequency Stability
Code	Specification
1	±25 ppm
2	±50 ppm

03	Supply Voltage
Code	Specification
1	1.5 V
2	1.8 V

Frequency Stability vs. Temperature

Temperature Range [°C]	Frequency Stability	
	±25 ppm	±50 ppm
-20°C to +70°C	Available	Available
-40°C to +85°C	Available	Available
-40°C to +105°C	On Request	Available