



Features and Benefits

Frequency range: 20MHz-50MHz
Supply voltage: 1.8V/2.5V/3.3V
Current: 10mA Max.
Frequency stability vs. temperature: ±25PPM-100PPM
Aging: ±3PPM 1st year
Operating temperature: -40°C to +85°C
Size: 3.2x2.5x1.0 mm

Typical Applications

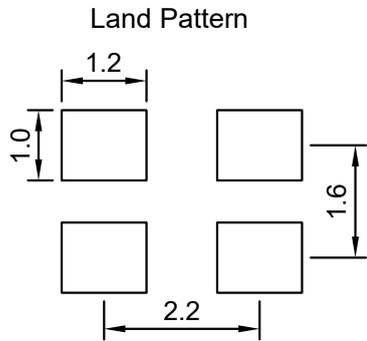
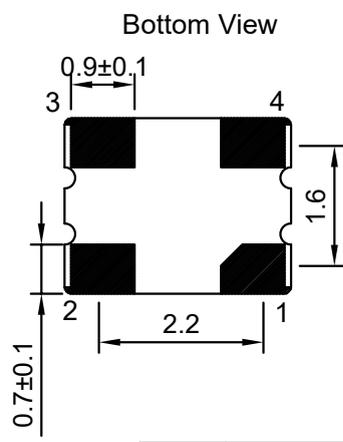
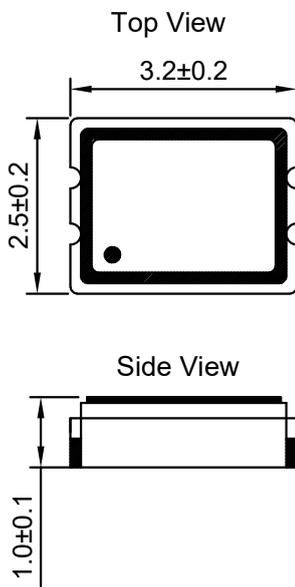
- Wearable device
- Sport Video Cams
- Ultra-small Notebook PC
- Mobile Phones
- Digital Circuit

Description

XO3225BL-ULJ_CMOS 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: MD230030-1



PIN	Function
#1	OE
#2	GND
#3	Output
#4	Supply Voltage

Unit in mm
1mm = 0.0394 inches



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f ₀		20		50	MHz	
RF Output							
Output Load				15		pF	
Output Level High			90%V _{cc}			V	
Output Level Low					10%V _{cc}	V	
Rise / Fall Time		@10%-90% of V _{cc}		1.5	5	ns	For 3.3V supply voltage
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	
Power Supply							
Voltage	V _{cc}			1.8/2.5/3.3		V	See ordering section
Current		V _{cc} =1.8V		3	5	mA	
		V _{cc} =2.5V		5	7	mA	
		V _{cc} =3.3V		7	10	mA	
Current With Output Disable		V _{cc} =1.8V		3	25	uA	
		V _{cc} =2.5V		5	30	uA	
		V _{cc} =3.3V		9	35	uA	
Frequency Stability							
Supply Voltage Vs. Frequency Sensitivity		@25°C			±1.0	ppm	
Vs. Temperature		@-40°C to +85°C			±25	ppm	See ordering section
Aging@+25°C		1 st year			±3.0	ppm	
RMS Jitter (12KHz-20MHz)				48	300	fs	
Phase Noise (25MHz,3.3V)		@10Hz		-68		dBc/Hz	
		@100Hz		-102		dBc/Hz	
		@1KHz		-139		dBc/Hz	
		@10KHz		-157		dBc/Hz	
		@100KHz		-170		dBc/Hz	
		@1MHz		-166		dBc/Hz	
		@5MHz		-168		dBc/Hz	
Environmental Conditions							
Operating temperature range	-40°C to +85°C (See ordering section)						
Storage temperature range	-55°C to +150 °C						



Ordering Information

XO3225BL-ULJ_CMOS	-	xMHz	-01	02	03
Group			Code		

For example, XO3225BL-ULJ_CMOS -25MHz-111 denotes the XO has the following specifications:

Frequency: 25MHz
 Temperature Range: -10°C to +70°C
 Stability Over Temperature: ±25 ppm
 Supply Voltage: 1.8V

01	Temperature Range
Code	Specification
1	-10°C to +70°C
2	-40°C to +85°C

02	Frequency Stability
Code	Specification
1	±25 ppm
2	±50 ppm
3	±100 ppm

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