

FEATURES

- Factory configurable part for short lead times
- Ultra-miniature 3.2 x 2.5 x 0.95mm package
- Frequency Range 1.0MHz to 200.0MHz
- Tristate (Enable/Disable) function as standard
- Supply voltage 1.8, 2.5 or 3.3 Volts
- Jitter 70ps typical, phase noise
- Low phase noise -114dBc/Hz @ 1kHz offset (133.0MHz)

DESCRIPTION

XOB32 ultra-miniature oscillators consist of a TTL/CMOS-compatible hybrid circuit and a miniature quartz crystal packaged in a low-profile, industry-standard ceramic package. The package provides a fully specified clock oscillator with a very small footprint. The part is factory configurable ensuring short delivery lead times.

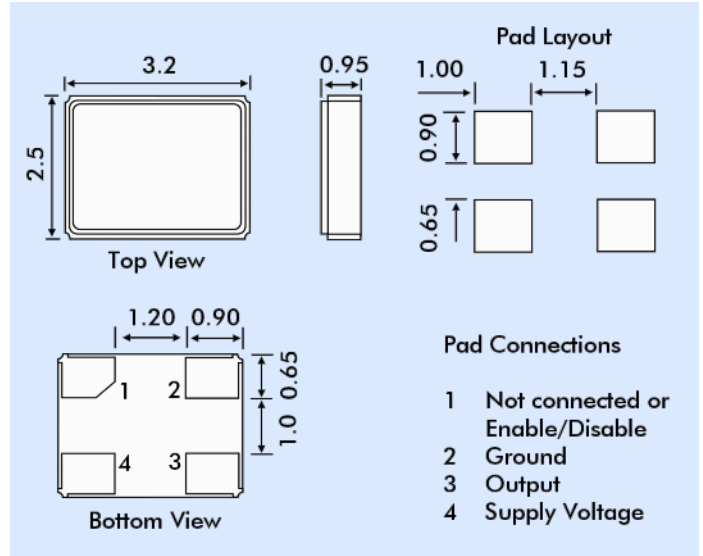
SPECIFICATION

Frequency Range	
Supply 1.8 Volts:	1.0MHz to 110.0MHz
Supply 2.5 Volts:	1.0MHz to 166.0MHz
Supply 3.3 Volts:	1.0MHz to 200.0MHz
Supply Voltage:	1.8, 2.5 or 3.3Volts $\pm 10\%$
Output Logic:	LVC MOS
Frequency Stability:	From ± 25 over temperature (See part number table)
Rise/Fall Time:	2ns typical. (Frequency dependant)
Output Voltage:	
HIGH '1':	90%Vdd minimum
LOW '0':	10%Vdd maximum
Output Load	15pF
Duty Cycle:	50% $\pm 5\%$ typical
Supply Current:	See table
Operating Temperature	
Commercial:	0° to +70°C
Industrial:	-40° to +85°C
Storage Temperature:	-55 to +105°C
Start-up Time:	5ms max.
Ageing:	± 3 ppm max. in first year at 25°C
Tristate Function (Pad 1):	Enable/Disable function is standard for XOB32. Output (Pad 3) is active if Pad 1 is not connected or Pad 1 is 'HIGH'. Output is high impedance when 'LOW' or GROUND is applied to Pad 1.

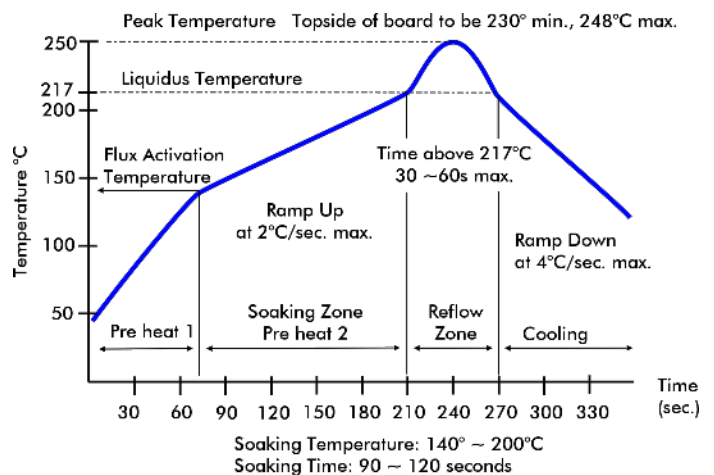
Note: Parameters are measured at ambient temperature of 25°C, supply voltage as stated and a load of 15pF



OUTLINE & DIMENSIONS



SOLDER TEMPERATURE PROFILE



SUPPLY VOLTAGE/CURRENT CONSUMPTION/RISE AND FALL TIME

Supply Voltage		+1.8VDC±5% Code = 'C'	+2.5VDC±5% Code = 'B'	+3.3VDC±5% Code = 'A'
Available Frequency Range		1.0~110MHz	0.5~166MHz	0.5~200MHz
Logic HIGH '1'		90%Vdd min.		
Logic LOW '0'		10%Vdd max.		
Current Consumption	at 25MHz	2.5mA max.	3.0mA max.	4.0mA max.
	25MHz PLL Off	2.0mA max.	2.5mA max.	4.0mA max.
	at 200MHz	8.0mA max.	13.0mA max.	20.0mA max.
	200MHz PLL On	8.5mA max.	12.5mA max.	20.0mA max.
Tristate Function (Pad 1.)		Available	Available	Available
Rise Time/Fall Time	25MHz PLL Off	4.0ns typ.	3.0ns typ.	3.0ns typ.
	200MHz PLL Off	1.5ns typ.	1.5ns typ.	1.5ns typ.

ENVIRONMENTAL PERFORMANCE SPECIFICATION

RoHS Status:	Compliant
Storage Temperature Range:	-55° to +105°C
Humidity:	85% RH, 85°C for 48 hours
Hermetic Seal:	Leak rate 2x10 ⁻⁸ ATM -cm ³ /s max.
Solderability:	MIL-STD-202F Method 208E
Reflow:	260°C for 10 sec (see diagram)
Vibration:	MIL-STD-202F Method 204, 35±5 mins, 50 to 2000Hz
Shock:	MIL-STD-202F Method 213B, test Condition E, 50g 11ms.

PART NUMBERING

Example: 20.000MHz XOB32050UCTA

Frequency	←	20.000MHz
Series Designation XOB32	←	XOB32
Temperature Stability*	←	050 = ±50ppm 100 = ±100ppm 025 = ±25ppm
Output LVC MOS	←	U
Operating Temp. Range	←	C = Commercial -10° ~ +70° I = Industrial -40° ~ +85°C
Tristate Function	←	T
Supply Voltage	←	A = 3.3 Volts B = 2.5 Volts C = 1.8 Volts

* For other stability requirements enter figure required.
E.g. for ±20ppm add '020' after 'XOB32'.