



### Features and Benefits

- 32.768KHz Frequency
- 3.3V Supply voltage
- CMOS Output waveform
- ±5.0ppm Stability Vs -40°C to +85°C
- 3.3x2.5x1.3mm size

### Typical Applications

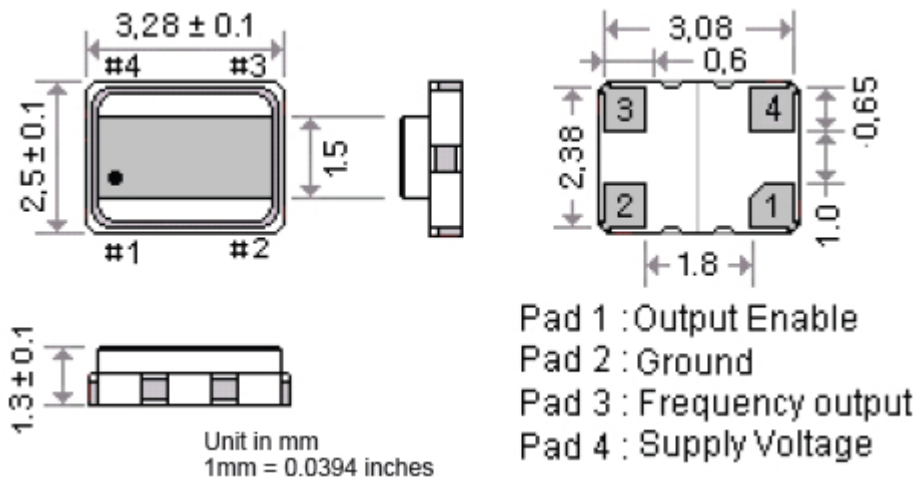
- Frequency reference for real time clocks (RTCs)
- Portable instruments
- Timing synchronization for networks, servers, hubs, routers and switches
- Smart metering, data loggers
- GPS receivers. Telematics

### Description

TCXO3225BL-32.768KHz-A is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

### Mechanical Drawing & Pin Connections

Drawing No: MD1-\$\$\$&!%





## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F <sub>nom</sub>			32.768		KHz	
<b>RF Output</b>							
Signal Waveform			CMOS				
Load	R <sub>L</sub>		15pf				
H-Level Voltage	V <sub>H</sub>		VDD - 0.4 V ( min. ) ; IOH = 0.1 mA , all Vcc range				
L- Level Voltage	V <sub>L</sub>		0.4 V ( max. ) ; IOL = - 0.1 mA , all Vcc range				
Duty Cycle			40	50	60	%	
Rise and fall time			100 nano. sec. max. Measured at 20% ↔ 80% of the waveform , 15 pF load				
Start up time			1 sec. ( max. ) at +25°C ; 3 sec. ( max . ) over -40°C to +85°C				
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>	±5%		3.3		V	
Current				1.37		uA	
Supply Voltage Variation ( ΔVcc )			0.25 V ( max. ) Condition : ΔV / Δt = 1 V / us				
<b>Frequency Stability</b>							
Versus Operating Temperature Range		-40°C to +85°C		±5.0		ppm	
Initial Calibration Tolerance		25°C±3°C			±1.5	ppm	
Timing error over time [ ± 5 ppm ( -40°C to +85°C ) ]			± 0.432 sec/day ; ± 12.960 sec/month ; ± 2.628 minutes / year , w.r.t fo at +25°C				
Versus supply voltage		±5% change			±0.2	ppm	
Versus load voltage		±10% change			±0.2	ppm	
Versus Reflow		1 reflow and measured 24 hours afterwards			±1.0	ppm	
Aging 1 <sup>st</sup> Year					±3.0	ppm	25°C
Versus all range of Vcc ( Δf / V )			± 1.0 ppm / volt ( max. ) Vcc = 1.7 V to 5.5 V				
Pad 1 OE Thresholds			Vih = 0.8 * Vcc , Vil = 0.2 * Vcc ; Open connection prohibit				