



### Features and Benefits

- 48MHz Frequency
- 3.3V Supply voltage
- LVC MOS Output waveform
- ±2.5ppm Stability Vs -40°C to +85°C

### Typical Applications

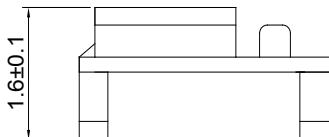
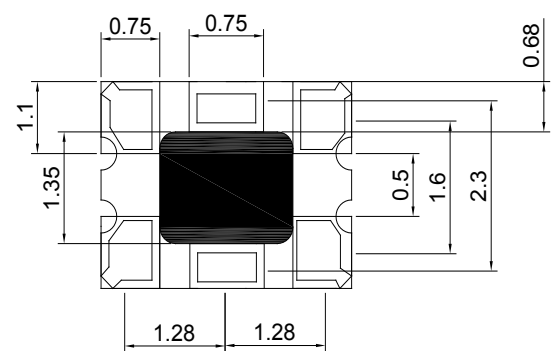
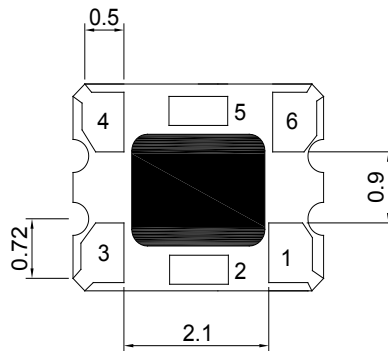
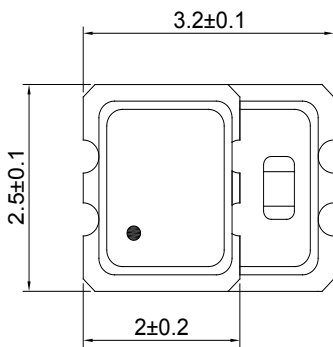
- Frequency reference for real time clocks (RTCs)
- Portable instruments
- Timing synchronization for networks, servers, hubs, routers and switches
- Smart metering, data loggers
- GPS receivers. Telematics

### Description

TCXO3225BL-48MHz-A-V 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: MD160046-1



Pin Connection

Pin	Function
1	Voltage Control
2	Output Enable
3	GND
4	Output
5	N.C.
6	Vcc

Unit in mm  
1mm = 0.0394 inches



## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F <sub>nom</sub>			48		MHz	
<b>RF Output</b>							
Signal Waveform			LVCMOS				
Load	R <sub>L</sub>		15pf				
H-Level Voltage	V <sub>H</sub>		90% V <sub>cc</sub>				
L- Level Voltage	V <sub>L</sub>		10% V <sub>cc</sub>				
Duty Cycle			45	50	55	%	
Rise and fall time			1.5 nS. ( Typical ) , 3.0 nS. ( max. ) Tr / Tf : 10% ↔ 90% waveform				
Start up time			5 m sec. ( max. )				
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>	±5%		3.3		V	
Current consumption				26		mA	
Current with output disabled				18		mA	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		-40°C to +85°C		±2.5		ppm	
Initial Calibration Tolerance			±1.0 ppm. max. at +25°C±2°C. ( at the shipment )				
Versus supply voltage		±5% change			±0.2	ppm	
Versus load		±10% change			±0.2	ppm	
Versus Reflow		1 reflow and measured 24 hours afterwards			±1.0	ppm	
Aging 1 <sup>st</sup> Year					±2.0	ppm	25°C
Aging 10 Year					±10	ppm	25°C
Storage Temperature			-55°C to +150°C				
<b>Control Voltage Function on Pad 1</b>							
Control Voltage Center and Range			+1.5V ± 1.0V				
Frequency Pulling Range			± 8 ppm min.				
Linearity			± 1 % typical. ± 10% max.				
Transfer Function			Positive Transfer				
Absolute Voltage			4.0 V max.				
Input Impedance			770 KΩ typical.				
Harmonics			-5.0 dBc max.				
<b>Output Enable Function on pad 2</b>							
OE Control on Pad 2			0.7% of VDD ( min. ) or no connection to enable output. LVCMOS / LVTTTL level.				
			0.3% of VDD ( max. ) to disable output ( high impedance ). LVCMOS / LVTTTL level.				
Output Enable Time / Disable Time			200 nS. Max. / 50 nS. Max.				
Integrated Phase Jitter			1.5 pS typical ( 12 KHz to 20 MHz ) < 400 fS ( 1.875 KHz to 21 MHz )				