



## Features and Benefits

Frequency range: 38.4MHz

Supply voltage: 3.3V

Steady current: 35mA /Max

Output waveform: CMOS

Frequency stability vs. operating temperature:  $\pm 0.28$ PPM

Aging:  $\pm 1.0$ PPM per year

Phase noise@100KHz: -155dBc/Hz

Operating temperature: -40°C to +85°C

Size: 14.5x13.2x6.5mm

## Typical Applications

Time Synchronization

Microwave Communication

Test & Measurement

Telecom Systems

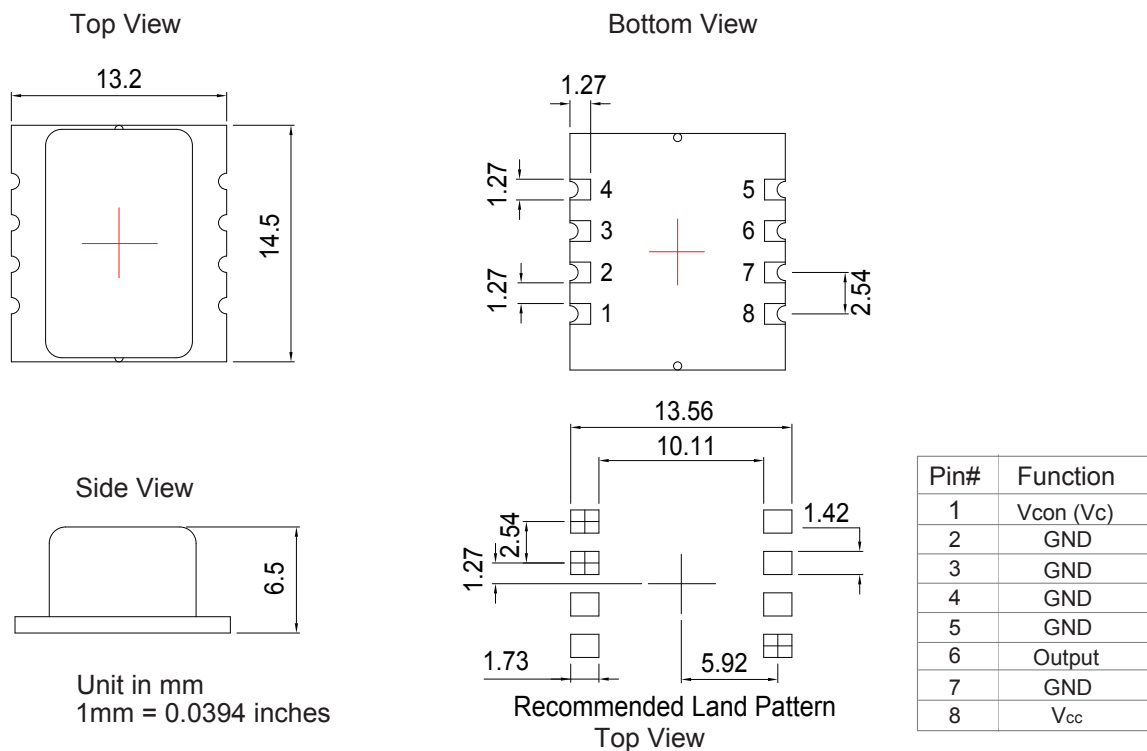
Satellite Communication

## Description

TCXO1314BM-LN-38.4MHz-A-V is the 38.4MHz low phase noise TCXO. The frequency stability can less than  $\pm 0.28$ PPM from -40°C to +85°C operating temperature. It can be widely used in the portable communication device.

## Mechanical Drawing & Pin Connections

Drawing No: MD220017-1





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## TCXO1314BM-LN-38.4MHz-A-V

High Stability, Very Low Noise TCXO

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	$F_{nom}$			38.4		MHz	
<b>RF Output</b>							
Signal Waveform			CMOS				Sinewave is available
Load	$R_L$			15		pF	
H-Level Voltage	$V_H$		2.97			V	
L- Level Voltage	$V_L$				0.33	V	
Duty Cycle			45		55	%	
Rise and fall time					4	nS	
<b>Power Supply</b>							
Supply Voltage	$V_{cc}$		2.97	3.3	3.63	V	
Current		At maximum supply voltage			35	mA	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)			±5			ppm	
EFC voltage	$V_c$		0		3.3	V	Positive
Linearity					10	%	
Input Impedance			10			kohm	
Modulation BW		3dB bandwidth		6		Hz	
<b>Frequency Stability</b>							
Versus Operating Temperature Range			-0.28		+0.28	ppm	
Initial Tolerance		$V_c$ input floating		±1.0		ppm	
Versus supply voltage			-0.1		+0.1	ppm/V	
Aging 1 <sup>st</sup> Year			-1.0		+1.0	ppm	
Aging 10 Years			-3.0		+3.0	ppm	
SSB Phase noise		10Hz			-87	dBc	
		100Hz			-117	dBc	
		1kHz			-141	dBc	
		10kHz			-150	dBc	
		100kHz			-155	dBc	
		1MHz			-157	dBc	
<b>Environmental,Mechanical Conditions</b>							
Operating temperature range	-40°C to +85°C						
Storage temperature range	-40°C to +105°C						
Thermal Shock	MIL-STD-883 1010 Condition B, JESD22-A104 Condition B. -55°C, +125°C ; soak time is 10 mins, with total 200 cycles						
Vibration Test	MIL-STD-883 2007 Condition A, JESD22-B103 Condition 1. 10~2000Hz, 1.52mm, 20G, each axis for 4 hrs						
Mechanical Shock	MIL-STD-883 2002 Condition B, JESD22-B104 Condition B. 1500G, half-sine, 0.5ms, each axis for 3 times.						