Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

TCXO1490BM-STR3-100MHz-A
SMD 100MHz TCXO

Features and Benefits

Frequency range: 100MHz
Supply voltage: 5.0V
Steady current: 40mA Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±0.28PPM
Operating temperature: -40°C to +85°C
Size: 14.3x9.6x6.5mm

Typical Applications

SATCOM System
Cellular Base Stations
Radar Applications

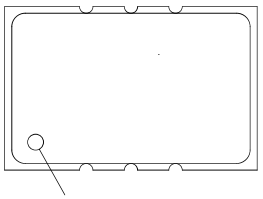
Description

TCXO1490BM-STR3-100MHz-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.

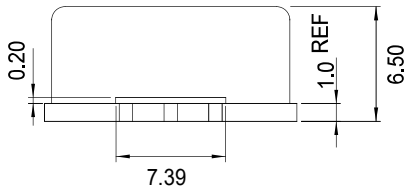
Mechanical Drawing & Pin Connections

Drawing No: MD230027-1

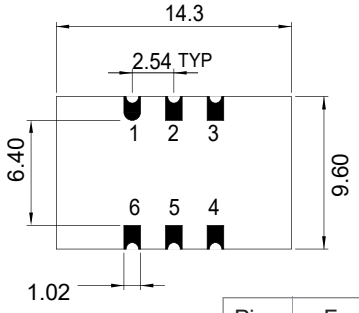
Top View



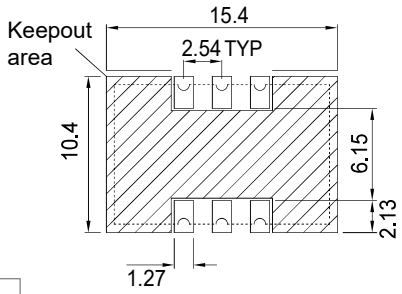
Side View



Bottom View



Recommended Soldering Layout



Pin	Function
1	NC/GND
2	NC
3	GND
4	Output
5	NC
6	Vcc

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}			100		MHz	
RF Output							
Signal Waveform				Sinewave			
Load	R_L			50		ohm	
Output power			10			dBm	
Power Supply							
Supply Voltage	V_{cc}		4.75	5	5.25	V	
Current		At maximum supply voltage			40	mA	
Frequency Stability							
Frequency stability (Overall)		Includes of frequency tolerance@25°C and frequency stability versus operating temperature range and voltage variance and IR reflow and output load variation and 20 years aging	-4.6		+4.6	ppm	
Versus Operating Temperature Range		-40°C to +85°C	-0.28		+0.28	ppm	Referenced to the midpoint between minimum and maximum frequency value
Nominal Frequency Tolerance		Frequency at 25°C ,before reflow.	-0.5		+0.5	ppm	
Versus supply voltage		±5% change	-0.05		+0.05	ppm	
Versus load voltage		±10% change	-0.05		+0.05	ppm	
Holdover stability		Including 24 hours aging, supply voltage 3.3+-5% and frequency stability over temperature, load change +-5%	-0.37		+0.37	ppm	
Aging		24 hours at 25°C	-4		+4	ppb	
		First year at 25°C	-0.8		+0.8	ppm	
		20 years at 25°C	-2.5		+2.5	ppm	
SSB Phase noise		10Hz		-85		dBc	
		100Hz		-116		dBc	
		1kHz		-144		dBc	
		10kHz		-155		dBc	
		100kHz		-158		dBc	
Environmental, Mechanical Conditions							
Operating temperature range	-40°C to +85°C						
Thermal Shock	MIL-STD-883 1010 Condition B, JESD22-A104 Condition B under -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 under 10~2000Hz, 1.52mm, 20G, each axis for 4hrs						
Mechanical Shock	MIL-STD-883 2002 Condition B, JESD22-B104 Condition B under 1500G, half-sine, 0.5ms, each axis for 3 times						