Dynamic Engineers Inc.
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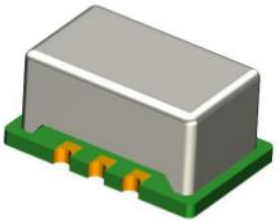
TCXO1196BT-LG-100MHz-A
High reliable, shock and vibration resistant Analogue TCXO_Temperature Compensated Crystal Oscillator

Features and Benefits

Frequency range: 100MHz
Supply voltage: 3.3V
Steady current: 25mA Max
Output waveform: Clipped Sinewave
Frequency stability vs. operating temperature: ±1ppm
Aging: ±1ppm per year
Phase noise@100KHz: -149dBc/Hz
Operating temperature: -40°C to +95°C
Size: 11.4x9.6x3.8mm
Package type: SMD



Typical Applications

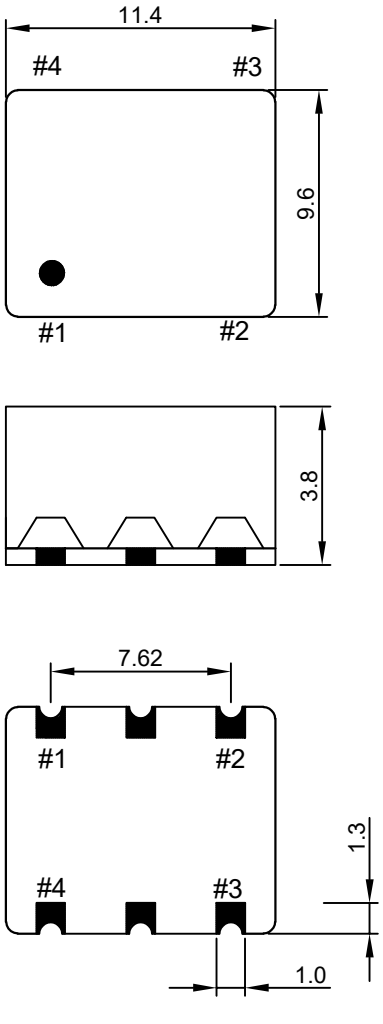
5G Repeater
Link and micro cells
Low noise microwave

Description

TCXO1196BT-LG-100MHz-A offers wide temperature operation from -40°C to +95°C with outstanding frequency stability and low phase noise performance.

Mechanical Drawing & Pin Connections

Drawing No: MD250002-1



Pin Connection

#1	GND or N.C.
#2	N.C.
#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_{nom}	Mode of vibration is Fundamental		100		MHz	
Output signal				Clipped Sinewave			
Output level			1			Vp-p	
Output load				10kΩ//10pF			
Power Supply							
Voltage	V_{cc}			3.3		V	
Current Consumption					25	mA	
Frequency Stability							
Versus temperature		-40°C to +95°C, ref to (fmax+fmin)/2			±1	ppm	
Tolerance at +25°C					±1	ppm	
Versus ±5% change in supply voltage		Ref to frequency at nominal supply			±0.05	ppm	
Versus ±10% change in load		Ref to frequency at nominal load			±0.05	ppm	
First Year Aging		@40°C			±1	ppm	
G Sensitivity		per axis		0.1		ppb/g	
Phase Noise		10 Hz		-73		dBc/Hz	
		100 Hz		-102			
		1 KHz		-128			
		10 KHz		-145			
		100 KHz		-149			
		1 MHz		-152			
Short-Term Stability	ADEV	Tau = 1 second			1	E-10	
RMS Jitter		12KHz-20MHz			250	fs	
Environmental Conditions							
Operating temperature range	-40°C to +95°C						
Storage temperature range	-55°C to +105°C						
Reflow Profiles as per IPC/JEDEC J-STD-020C	≤ 245 °C over 10 sec. Max.						
Sealing tests (if applicable)	IEC 60068 Part 2-17; IEC 60679-1 Clause 5.6.2; MIL-STD-202G Method 112E; MIL-PRF-55310D Clause 3.6.1.2; Gross leak: Test Qc, Fine leak: Test Qk						
Solderability Resistance to soldering heat	IEC 60068 Part 2-20 and 2-58; IEC 60679-1 Clause 5.6.3; MIL-STD-202G Method 208H and 210F; MIL-PRF-55310D Clause 3.6.52 and 3.6.48; Test Ta method 1, Test Td1 method 2, Test Td2 method 2						
Shock	IEC 60068 Part 2-27; IEC 60679-1 Clause 5.6.8; MIL-STD-202G Method 213B Cond C; MIL-STD-810F Method 516.4; MIL-PRF-55310D Clause 3.6.40; Test Ea, 3 x per axis 100 g, 6 ms half-sine pulse						
Vibration, sinusoidal	IEC 60068 Part 2-6; IEC 60679-1 Clause 5.6.7.1; MIL-STD-202G Method 204D Cond A; MIL-STD-810F Method 516.4-4; MIL-PRF-55310D Clause 3.6.38.1 and 3.6.38.2; Test Fc, 30 min per axis, 10 Hz – 55 Hz 0,75 mm; 55 Hz – 2 kHz, 10 g						
Vibration, random	IEC 60068 Part 2-64; IEC 60679-1 Clause 5.6.7.3; MIL-STD-202G Method 214A; MIL-STD-810F Method 514.5; MIL-PRF-55310D Clause 3.6.38.3 and 3.6.38.4; Test Fdb						
Endurance tests - aging - extended aging	IEC 60679-1 Clause 5.7.1 and 5.7.2; MIL-STD-202G Method 108A; MIL-PRF-55310D Clause 4.8.35; 30 days @ 85 °C, 1000 h, 2000 h, 8000 h @ 85 °C						

Note: Unless otherwise specified conditions are @+25 °C