

Dynamic Engineers Inc.

Website: www.DynamicEngineers.com Email: Inquiry@DynamicEngineers.com

Features and Benefits

Frequency range: 40MHz Supply voltage: 3.3V Steady current: 7mA Max Output waveform: CMOS Frequency stability vs. operating temperature: ±0.5PPM Phase noise@10KHz: -150dBc/Hz Operating temperature: -40°C to +85°C Size: 5.0x3.2x1.85mm Package type: SMD

Typical Applications

Stratum 3 Femtocell Base Stations

Description

TCXO5300BM-40MHz-A-V is the high stability TCXO. The frequency stability can be less than ± 0.5 PPM. It can be widely used in portable communication device.

Mechanical Drawing & Pin Connections

[Top View]

.2±0.

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#4 #3 #1 #2 10758

5.0±0.2





To ensure optimal oscillator performance, place a by-pass capacitor of 0.1uF as close to the part as possible between Vcc and GND PAD

Pin	Function	
#1	N.C./GND	
#2	GND	
#3	Output	Unit in mm
#4	Supply Voltage	1mm = 0.039inches

Dynamic Engineers, Inc.

Rev. 1

TCXO5300BM-40MHz-A-V High Stability 40MHz TCXO_Temperature Compensated Crystal Oscillator

Drawing No: MD

MD240076-1

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Specifications

Oscillator	Sym Condition	Condition	Value			Unit	Note		
Specification		Min.	Тур.	Max.					
Operational Frequency	f ₀			40		MHz			
RF Output									
Output Waveform			CMOS						
Load					15	pF			
Output Level High			2.97			V			
Output Level Low					0.33 _c	V			
Duty Cycle		Measured at 50% Vcc trigger level	45	50	55	%			
Rise and fall times		CMOS logic output at 10% to 90%			6	ns			
Start Time					5	ms			
Power Supply									
Voltage	Vcc	±5%	2.97	3.3	3.63	V			
Current		At maximum supply voltage			7	mA			
Frequency Stability									
Versus Temperature		Referenced to the frequency at 25°C	-0.5		+0.5	ppm			
Frequency Tolerance		Frequency at 25°C, before reflowing	-0.5		+0.5	ppm			
Versus Supply		±5% at 25°C	-0.2		+0.2	ppm			
Aging first year		at 25°C	-1		+1	ppm			
Aging 5 years		at 25°C	-3		+3	ppm			
		@100Hz		-115		dBc/H z			
Phase Noise		@1KHz		-135					
T Hase Noise		@10KHz		-150					
		@100KHz		-155					
		@1MKHz		-155					
Environmental Conditions									
Operating temperature range		-40°C to +85°C							
Storage temperature range		-40°C to +85 °C							
Thermal Shock		MIL-STD-883H 1010.8 Condition B; -55°C, 125°C; soak time is 10 mins, with total 200 cycles							
Damp Heat		JESD22-A101; 85°C /85% RH for 500 hrs							
Low Temp Storage		IEC 60068-2-1; -55°C for 500 hrs							
Drop Test		IEC 60068-2-32; 70, 80, 100cm, each height for 3 times on hardboard							
Mechanical Shock		MIL-STD-883H 2002.5 Condition B; 1500g, half-sine, 0.5ms, each axis for 3 times.							
Vibration Test		MIL-STD-883H 2007.3 Condition A; 10~2000Hz, 1.52mm, 20g, each axis for 4 hrs							

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