

Features and Benefits

20 MHz CMOS Output Clock TCXO
 3.3V Supply
 +/- 1.0 ppm stability over -30°C to +70°C
 Packaged in a 4-pad 5mm x 3.2mm x 1.2mm
 SMD Ceramic Enclosure

Typical Applications

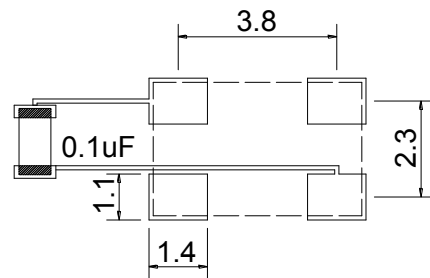
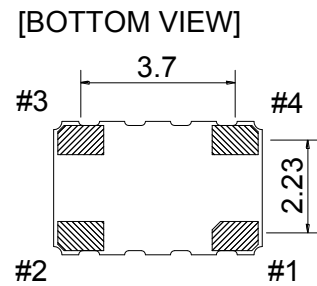
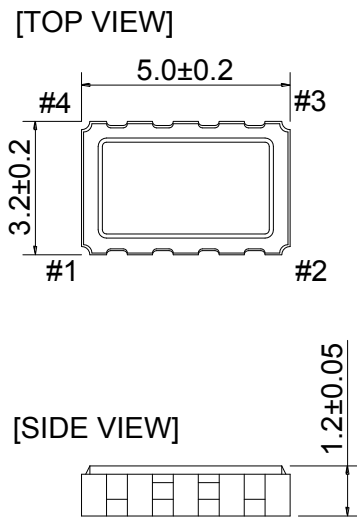
Base Stations
 10 G-bit Ethernet
 SONET
 GSM, CDMA, 3G, and 4G cellular

Description

The TCXO5300T family offers low noise compensation techniques combined with aggressive conditioning processes resulting in outstanding long term stability, tightly distributed performance parameters, and superior long term reliability.

Mechanical Drawing & Pin Connections

DrawingNo:
MD140026-1



Recommended soldering pattern

PIN FUNCTIONS

Pin	Funttion
#1	GND/NC
#2	GND
#3	Output
#4	V _{DD}

Specifications

Oscillator Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		F _{nom}		20.000000			MHz	
CMOS	Logic Level 1			2.97			V	
	Logic Level 0					0.33	V	
	Output Load		Operating Range			15	pF	
	Duty Cycle			45	50	55	%	
	Rise and Fall times					8.0	ns	
	Start Time					2.0	ms	Milli-seconds
Power Supply								
Voltage				3.135	3.3	3.465	V	
			Supply Current under load			6.0	mA	
Frequency Stability								
Versus temperature			Ref. to +25°C reading	-1.0		+1.0	ppm	
Tolerance at 25°C			1 hr after 2 times reflow	-2.0		+2.0	ppm	After two reflows
Versus 5% change in supply voltage				-0.4		+0.4	ppm	
Versus 10% change in load				-0.2		+0.2	ppm	
Aging per year			First year @ 25°C	-1.0		+1.0	ppm	
SSB Phase noise @ 20 MHz			10 Hz		-90.0	-80.0	dBc/Hz	
			100 Hz		-118.0	-110.0		
			1 KHz		-138.0	-130.0		
			10 KHz		-152.0	-145.0		
			100 KHz		-155.0	-148.0		
Environmental Conditions								
Operating temperature range		-30°C to +70°C						
Storage temperature range		-55°C to +125°C						
Mechanical Shock		MIL-STD-883 2002 Cond. B JESD22-B104 Cond. B, 1500G, half-sign, 0.5ms, each axis for 3 times						
Vibration Test		MIL-STD-883 2007 Cond. A JESD22-B103 Cond. 1, 10~2000Hz, 1.52mm, 20G, each axis for 4 hours						
Thermal Shock		MIL-STD-883 1010 Cond. B JESD22-A104 Cond. B, -55°C, 125°C; soak time is 10 mins, with total 200 cycles						