

ECS-TXO32-S3 & ECS-VC-TXO32-S3

Stratum 3 Clipped Sine Wave TCXO / VCTCXO

ECS-TXO32-S3 Stratum 3, Clipped Sine Wave SMD TCXO / VCTCXO. The 3.2 x 2.5 x 0.9 mm ceramic package S3 TCXO ideal for Femtocell, Nanocell and Instrumentation applications.

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OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

ECS-TXO32-S3



- Clipped Sine Wave Output
- Stratum 3
- TCXO / VCTCXO
- 280ppb Stability
- 3.2 x 2.5 mm Footprint
- PbFree/RoHS Compliant
- MSL 1
- Lead Finish Au

Notes:

1. Over temp (-40 ~ +85°C) varied less than 2°C per minute. Ref to $F_{ref} = (F_{max} + F_{min})/2$, $V_{cc} = 3.3V$, Load 10KΩ//10 pF.
2. Inclusive of initial tolerance at 25°C, temperature, supply voltage ±5%, load ±5%, reflow soldering and ageing 15 years

ECS-TXO32-S3					
Parameters	MIN	TYP	MAX	Units	Test Conditions
Frequency Range	9.600		50.000	MHz	
Frequency Tolerance			±1.0	ppm	Ref to freq @ +25°C ±2°C, $V_{cc} = 3.3V$, within 30 days ex-works
Frequency Stability	Temperature		±280	ppb	See Note 1
	Supply		±0.1	ppm	Vs. Supply Change (±5%), with 10KΩ//10 pF load
	Load		±0.1	ppm	Vs. Load Change (±5%), Ref +25°C, $V_{cc} = 3.3V$
	Aging/day		±0.02	ppm	Vs. Aging @ +25°C, $V_{cc} = 3.3V$, after 1hr of operation
	Aging/ year		±1.0	ppm	
Overall Stability	-4.6		+4.6	ppm	See Note 2
Supply Voltage	+3.135	+3.3	+3.465	VDC	VDD (33 Option)
Current Consumption			3.0	mA	Ref 25°C, $V_{cc}=3.3V$, $V_c=1.5V$ $C_{load}=10KΩ//10pF$.
Output Waveform	Clipped Sinewave				
Output Level	0.8			V p-p	Clipped Sine Wave
Output Load	10KΩ//10 pF				
Start-up Time			2	mS	
Phase Noise @ 10.000 MHz		-90	-85	dBc/Hz	@ 10 Hz Offset
		-120	-115	dBc/Hz	@ 100 Hz Offset
		-140	-135	dBc/Hz	@ 1 KHz Offset
		-145	-140	dBc/Hz	@ 10 KHz Offset
		-148	-143	dBc/Hz	@ 100 KHz Offset
VC-TXO32-S3					VC-TCXO Option
Control Voltage Range	+0.5	+1.5	+2.5	V	Input Impedance 100kΩ Min.
Pullability	±10		±15	ppm	Positive Slope ≤10% Linearity
Operating Temperature	-40		+85	°C	* N Option
Storage Temperature	-55		+105	°C	Vs. Temp (-40 ~ +85°C) BN Option

Part Numbering Guide: Example ECS-TXO32-S3-33-200-BN-TR

ECS	Series	Frequency Abbreviations	Voltage	Stability	Temperature	Packaging
ECS	TXO32-S3 = Clipped Sine Wave TCXO VC-TXO32-S3 = Clipped Sine Wave VC-TCXO	200 = 20.000 MHz	33 = 3.3V ±5% 30 = 3.0V ±5%	B = ±280 ppb	M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C	TR = Tape & Reel

Package Dimensions (mm)

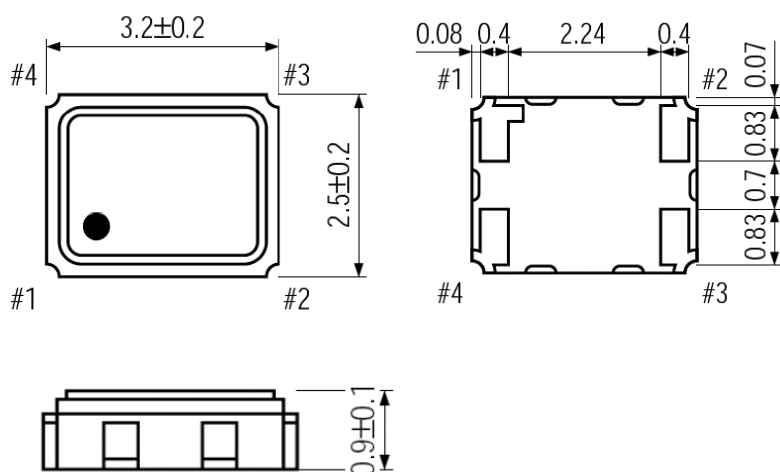


Figure 1) Top, Side, and Bottom views

ECS-TXO32-S3	
Pin Connections	
#1	N/C
#2	Ground
#3	Output
#4	VDD

ECS-VC-TXO32-S3	
Pin Connections	
#1	Voltage Control
#2	Ground
#3	Output
#4	VDD

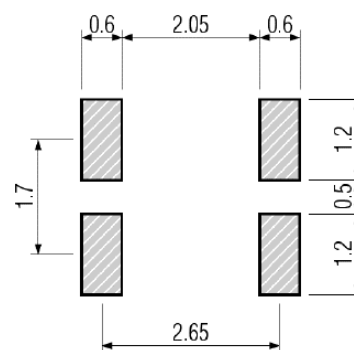


Figure 2) Land Pattern

Developed Frequencies	
* Abbreviation	Frequency (MHz)
100	10.000
128	12.800
192	19.200
200	20.000
400	40.000
500	50.000

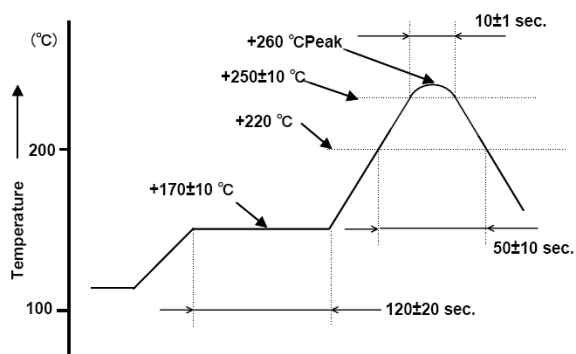


Figure 3) Suggested Reflow Profile