

The ECS-327TXO is a low power CMOS SMD TCXO. The 3.28 x 2.5 x 1.3 mm ceramic package is ideal for LoRa WAN and accurate RTC applications.

# ECS-327TXO 32.768 KHz SMD TCXO

## ECS-327TXO SMD CMOS TCXO



- Low Profile
- 3.28 x 2.5 mm Footprint
- Extended Temp Range
- RoHS Compliant

## DIMENSIONS (mm)

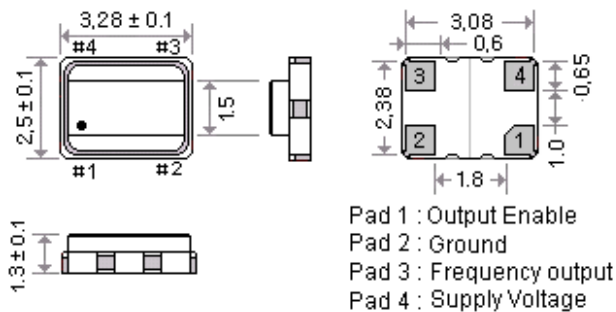


Figure 1) Top, Side, and Bottom views

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-327TXO			UNITS
		MIN	TYP	MAX	
Frequency			32.768		KHz
Frequency Tolerance	@25°C ±3°C			±1.5	ppm
Frequency Stability over Temp	-40 ~ +85°C			±5	ppm
Stability vs. Aging	First Year at +25°C			±3	ppm
Stability vs. VDD Change	±5% VDD Change			±0.2	ppm
Stability vs. Load Change	±10% Load Change			±0.2	ppm
Stability vs. Reflow	After 24 Hours			±1.0	ppm
Output	CMOS		15		pF
Output Voltage Level	VOH: VDD-0.4V min. (IOH 0.1 mA) VOL: 0.4V max. (IOL -0.1 mA)				
Start-Up time			1	3	sec
Rise & Fall time	20% - 80%			100	ns
Duty Cycle	@ 1/2 VDD			40/60	%
Operating Temp*		-40		+85	°C
Storage Temp		-55		+105	°C

## Power Supply Current (Typical)

1.8V ±5%	2.5V ±5%	3.0V ±5%	3.3V ±5%	5.0V ±5%
0.79 µA	1.05 µA	1.25 µA	1.37 µA	2.05 µA

## PAD CONNECTIONS

1	Output Enable
2	Gnd
3	Output
4	Supply Voltage

## Eable Function

Pin 1	Output
Vih=0.8* VDD	Enabled
Vil=0.2*Low	Disabled

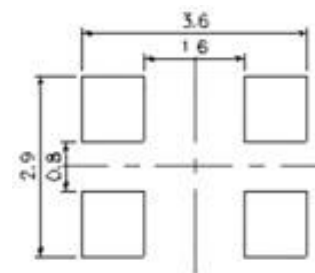
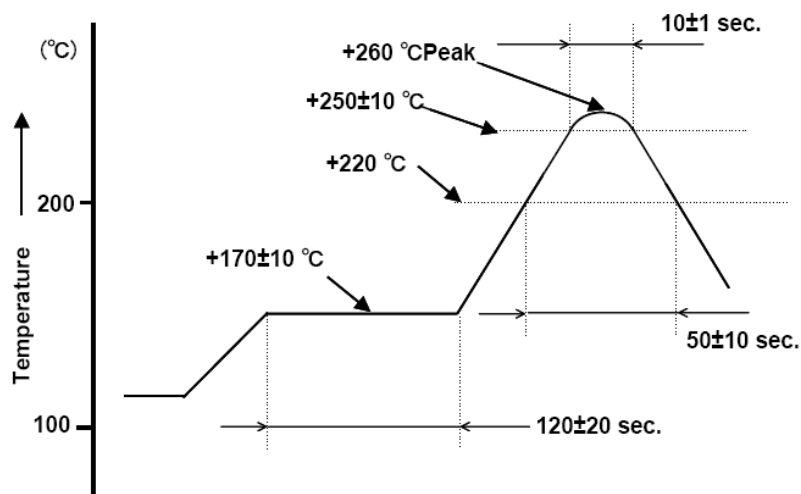


Figure 2) Suggested Land

## PART NUMBERING GUIDE: Example ECS-327TXO-33-TR

ECS	SERIES	Voltage	PACKAGING
ECS	327TXO 32.768 KHz TCXO	18 = +1.8V 25 = +2.5V 30 = +3.0V 33 = +3.3V 50 = +5.0V	TR = Tape & Reel 1K/Reel

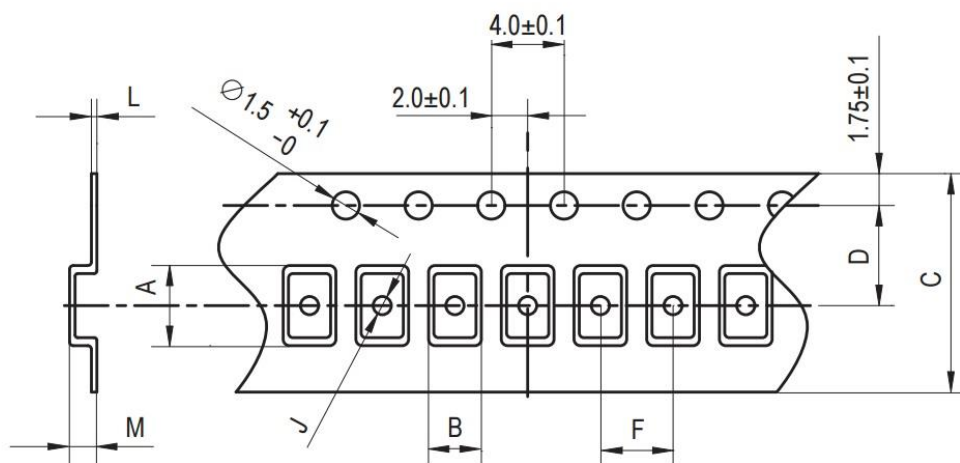
Timing Error over time (±5 ppm over -40 ~ +85°C)
±0.432 sec/day
±12.960 sec/month
±2.628 min/year



SOLDER PROFILE
Peak solder Temp +260°C Max 10 sec Max.
2 Cycles Max.
MSL 1, Lead Finish Au

Figure 1) Suggested Reflow Profile

**POCKET TAPE DIMENSIONS (mm)**



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
3.5	2.8	8.0	3.5	4.0	1.0	0.25	1.4	180	1000pcs