

The ECS-327TXO-2012 is a low power CMOS SMD TCXO. The 2.0 x 1.2 x 1.1 mm ceramic package is ideal for IOT and accurate RTC applicaitons.

ECS-327TXO-2012

32.768 KHz

SMD TCXO

ECS-327TXO SMD CMOS TCXO



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- Low Profile
- 2.0 x 1.2 mm Footprint
- Extended Temp Range
- RoHS Compliant

DIMENSIONS (mm)

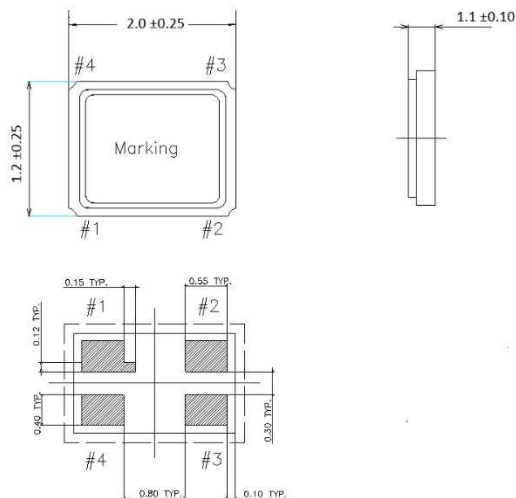


Figure 1) Top, Side, and Bottom views

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-327TXO-2012 | | | UNITS |
|-------------------------------|---------------------|-----------------|--------|-------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | | 32.768 | | KHz |
| Frequency Tolerance | @25°C ±3°C | | | ±2.5 | ppm |
| Frequency Stability over Temp | -40 ~ +85°C | | | ±5 | ppm |
| Stability vs. Aging | First Year at +25°C | | | ±3 | ppm |
| Stability vs. VDD Change | | | | ±1 | ppm/V |
| Stability vs. Reflow | After 24 Hours | | | ±1 | ppm |
| Supply Voltage (Vdd) | 33 Option | 3.135 | 3.3 | 3.465 | V |
| Supply Current (without load) | 33 Option | | 1 | 2 | µA |
| Output | CMOS | | | 15 | pF |
| Start-Up time | @+25°C | | | 0.5 | sec |
| Rise & Fall time | 20% - 80% | | | 100 | ns |
| Duty Cycle | @ ½ V _{dd} | | | 40/60 | % |
| Operating Temp | | -40 | | +85 | °C |
| Storage Temp | | -55 | | +85 | °C |

Enable Function

| Pin 1 | Output |
|---------------------------------------|----------|
| Open | Enabled |
| V _{ih} =0.8* V _{DD} | Enabled |
| V _{il} =0.2*Low | Disabled |

PAD CONNECTIONS

| Pin | Function |
|-----|----------------|
| 1 | Output Enable |
| 2 | Gnd |
| 3 | Output |
| 4 | Supply Voltage |

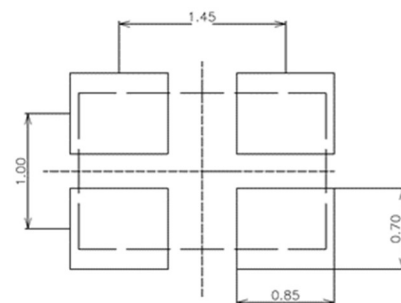
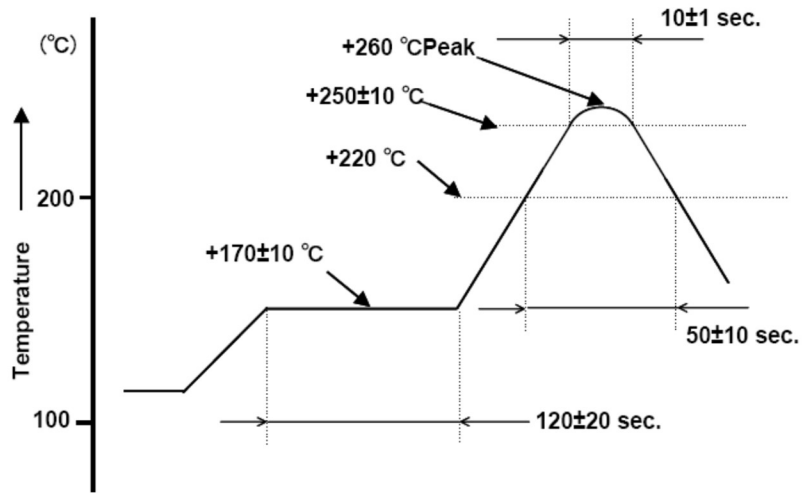


Figure 2) Suggested Land

PART NUMBERING GUIDE: Example ECS-327TXO-2012-33-TR

| ECS | SERIES | Voltage | PACKAGING |
|-----|-----------------------------------|--|-----------------------------|
| ECS | 327TXO-2012 32.768 KHz TCXO | 25 = +2.5V 30 = +3.0V 33 = +3.3V | TR = Tape & Reel 3K/Reel |

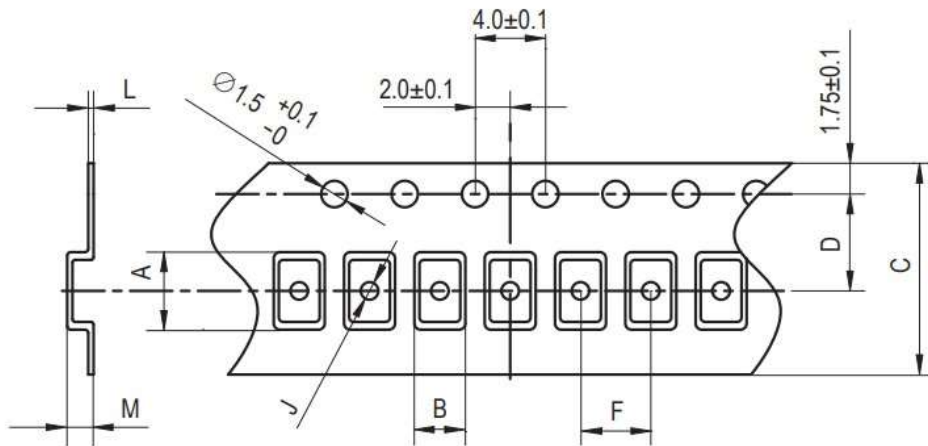
| Timing Error over time (±5 ppm over -40 ~ +85°C) |
|---|
| ±0.432 sec/day |
| ±12.960 sec/month |
| ±2.628 min/year |



| 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 |
|-----|-----|-----|-----|-----|-----|------|------|-----------|----------|
| 2.3 | 1.5 | 8.0 | 3.5 | 4.0 | 1.0 | 0.25 | 1.35 | 180 | 3000pcs |

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