

The ECS-327ATQMV is a miniature 32.768 KHz SMD AEC-Q200 Qualified HCMOS Oscillator with Multi Volt capability of 1.62 ~ 3.63 V. The 3.2 x 2.5 x 0.9 mm ceramic package is ideal for Low Power/Portable, Industrial and IOT. applications.

[Request a Sample](#)



- 3.2 x 2.5 mm Footprint
- AEC-Q200 Qualified
- AT Strip Crystal for tighter stability
- Multit Volt, Wide Supply Voltage

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS            | CONDITIONS  | ECS-327ATQMV |        |       | UNITS |
|-----------------------|---|--------------|--------|-------|-------|
|                       |   | MIN          | TYP    | MAX   |       |
| Frequency Range       |   |              | 32.768 |       | KHz   |
| * Frequency Stability | -40 ~ +125°C (AS Opt)                                       |              |        | ±100  | ppm   |
| Supply Voltage        |   | 1.62         |        | 3.63  | V     |
| Output Load           | CMOS  |              |        | 15    | pF    |
| Output voltage Level  | VOL:10%V <sub>dd</sub> max./VOH:90%V <sub>dd</sub> min.V DC |              |        |       |       |
| Current Consumption   |   |              |        | 0.2   | mA    |
| Standby Current       |   |              |        | 20    | µA    |
| Rise & Fall time      | 10%V <sub>dd</sub> – 90%V <sub>dd</sub>                     |              |        | 100   | ns    |
| Start Up Time         | @90%V <sub>dd</sub>   |              |        | 10    | mS    |
| Duty Cycle            | @ ½ V <sub>dd</sub>   |              |        | 45/55 | %     |
| Operating Temp*       |   | -40          |        | +125  | °C    |
| Storage Temp          |   | -55          |        | +125  | °C    |

### DIMENSIONS (mm)

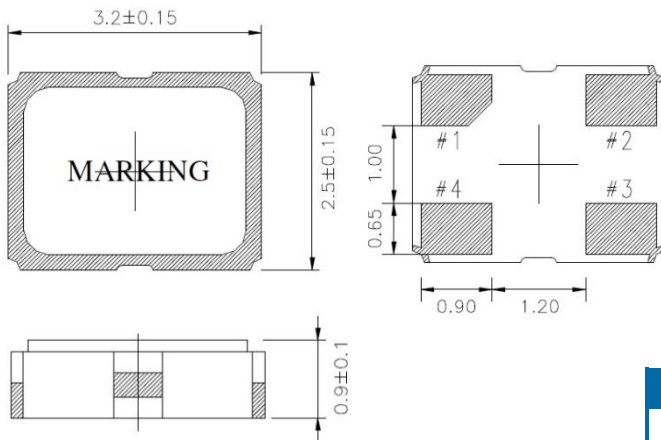


Figure 1) Top, Side, and Bottom views

| PAD CONNECTIONS |                 |
|-----------------|-----------------|
| 1               | Tri-state or NC |
| 2               | Gnd             |
| 3               | Output          |
| 4               | Vdd             |

| Tri State Function              |                |
|---------------------------------|----------------|
| Pin 1                           | Output         |
| 0.7 * V <sub>dd</sub> Min Or NC | Active         |
| 0.3 * V <sub>dd</sub> Max.      | High Impedance |

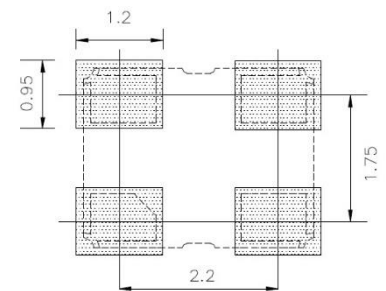


Figure 2) Suggested Land Pattern

### PART NUMBERING GUIDE: Example ECS-327ATQMV-AS-TR

| ECS | - | SERIES | - | * STABILITY | - | TEMP RANGE | - | PACKAGING |
|-----|---|--------|---|-------------|---|------------|---|-----------|
|-----|---|--------|---|-------------|---|------------|---|-----------|

327ATQMV  
3.2 x 2.5 mm  
32.768 KHz  
AEC-Q200 Qualified  
Multi Volt Oscillator

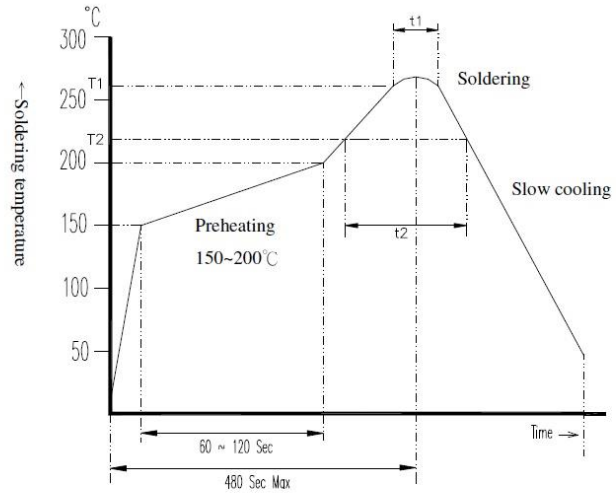
A = ±100 ppm

S = -40 ~ +125°C

-TR =  
Tape  
& Reel  
3K/Reel

\* Frequency Stability includes initial tolerance, temperature, supply voltage & load change reflow frequency shift, and aging.

| SOLDER PROFILE   |                            |
|------------------|----------------------------|
| Peak solder Temp | +260°C ±5°C 10 ±5 Sec Max. |
|                  | 2 Cycles Max.              |
|                  | MSL 1, Lead Finish Au      |



| Application\Temperature | Time                   | T1 / t1                | T2 / t2 |
|-------------------------|------------------------|------------------------|---------|
| Lead Free               | 260±5°C / 10±5 Sec Max | 217°C Min / 60~150 Sec |         |
| Non Lead Free           | 240±5°C / 10±5 Sec Max | 183°C Min / 60~150 Sec |         |

Figure 1) Suggested Reflow Profile

## POCKET TAPE DIMENSIONS (mm)

