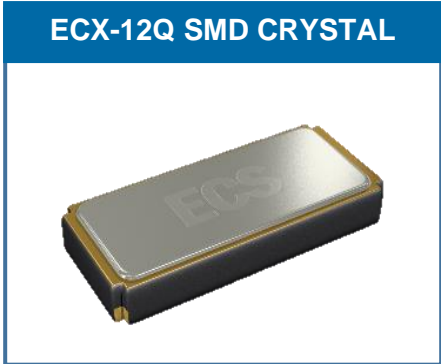


The ultra-miniature ECX-12Q is a very compact SMD AEC-Q200 Qualified Tuning Fork Crystal.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- RoHS Compliant (2011/65/EU)
- MSL: 1
- AEC-Q200 Qualified
- TS16949 certified production
- PPAP Supported

| PARAMETERS | CONDITIONS | ECX-12Q | | | UNITS |
|------------------------------|----------------|---------|--------|--------|---------------------|
| | | MIN | TYP | MAX | |
| Frequency | | | 32.768 | | KHz |
| Frequency Tolerance | @ +25°C | | | ± 20 * | ppm |
| Temperature Coefficient | | -0.028 | -0.034 | -0.040 | ppm/°C ² |
| Shunt Capacitance | Co | | 1.2 | | pF |
| Load Capacitance | Specify in P/N | | 12.5 | | pF |
| Drive Level | DL | | 0.1 | 0.5 | µW |
| Equivalent Series Resistance | R1 | | | 90K | Ω |
| Insulation Resistance | @ 100V DC | 500M | | | Ω |
| Turnover Temperature | | +20 | +25 | +30 | °C |
| Operating Temperature | S Option | -40 | | +125 | °C |
| Storage Temperature | Tstg | -55 | | +125 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±3 | ppm |

DIMENSIONS (mm)

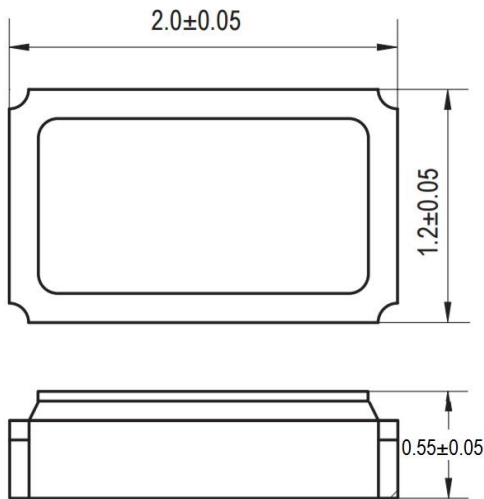


Figure 1) Top, Side, and Bottom views

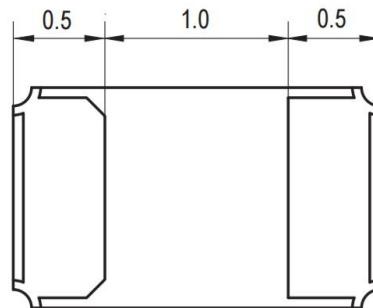


Figure 2) Suggested Land Pattern

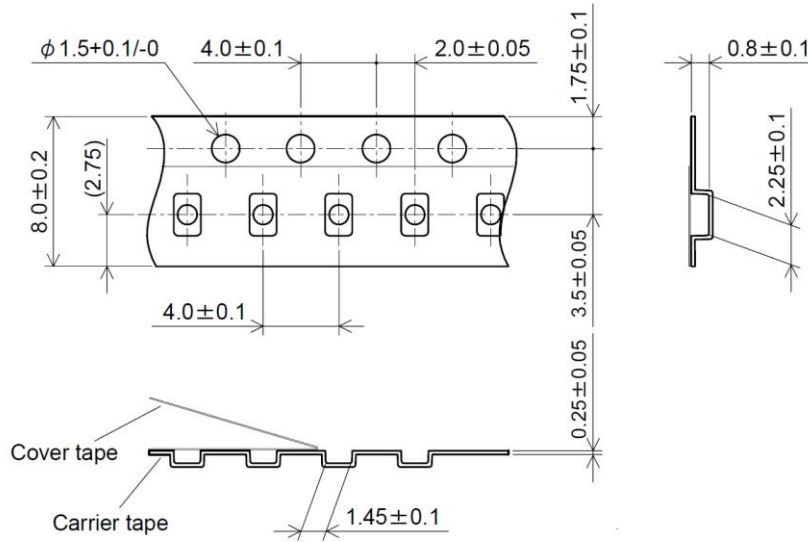
| PAD CONNECTIONS | |
|-----------------|--------|
| 1 | In/Out |
| 2 | Out/In |

PART NUMBERING GUIDE: Example ECS-.327-12.5-12QS-TR

| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | TOLERANCE | OPERATING TEMPERATURE | PACKAGING | |
|------------------------------|-------------------|--|----------------|----------------------------------|--------------------------------|-----------------------------|
| ECS | .327 = 32.768 KHz | 12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF | -12Q = ECX-12Q | Blank = ±20ppm * C = ± 10 ppm | N=-40 ~ +85°C S=-40 ~ 125°C | TR = Tape & Reel 3K/Reel |

*Contact ECS for availability

POCKET TAPE DIMENSIONS (mm)



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

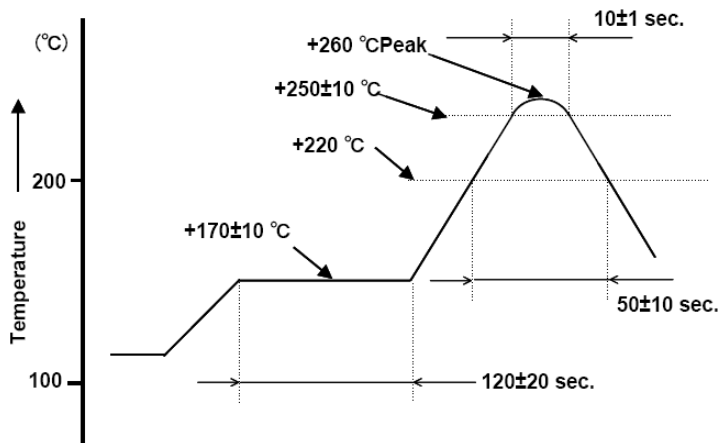


Figure 1) Suggested Reflow Profile