

The ECX-33AQ is a miniature 2 pad SMD Crystal with a 3.2 x 2.5 mm footprint. AEC-Q200 Qualified.

ECX-33AQ SMD CRYSTAL

[Request a Sample](#)



- Low Profile
- 3.2 x 2.5 mm 2 pad Footprint
- RoHS Compliant
- AEC-Q200 Qualified

DIMENSIONS (mm)

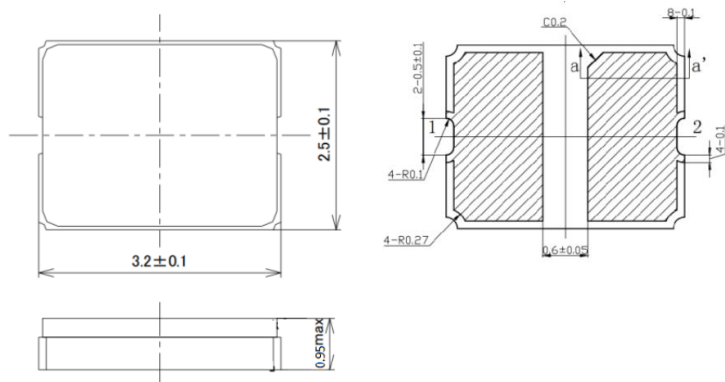


Figure 1) Top, Side, and Bottom

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-33AQ | | | UNITS |
|------------------------|---------------------------------|----------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 8.000 | | 54.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance* | @+25°C | | | ± 30 | ppm |
| Frequency Stability* | -40 ~ +150°C (VY Option) | | | ± 150 | ppm |
| Shunt Capacitance | Co | | | 2 | pF |
| Load Capacitance | Specify in P/N | | 8 | | pF |
| Drive Level | DL | | | 200 | µW |
| Operating Temperature* | T _{opr} (VY Option) | -40 | | +150 | °C |
| Storage Temperature | T _{stg} | -55 | | +150 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±2 | ppm |

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 8.000 ~ 9.999 | 500 |
| 10.000 ~ 15.999 | 100 |
| 16.000 ~ 19.999 | 70 |
| 20.000 ~ 25.999 | 50 |
| 26.000 ~ 54.000 | 35 |

| Pad Connections | |
|-----------------|--------|
| 1 | In/Out |
| 2 | Out/In |

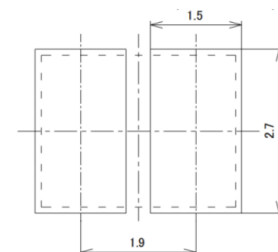


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-8-33AQ-VY-TR3

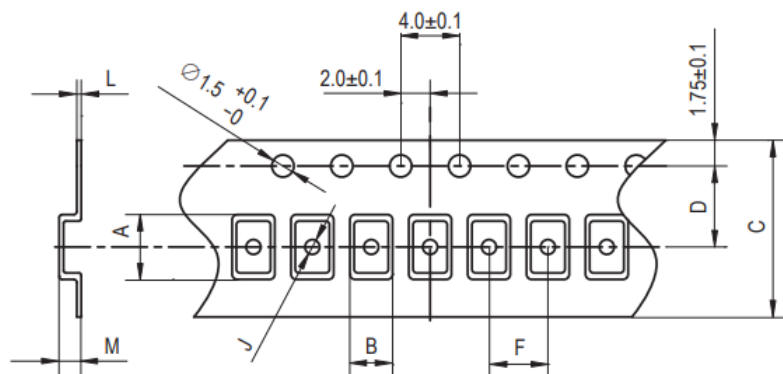
| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | AVAILABLE OPTIONS | | | PACKAGING | |
|------------------------------|-----------------------------------|--------------------------------------|--------------------|---|---|---|------------------------------|
| | | | Tolerance Range | Stability | Temp | | |
| ECS | 200 = 20.000 MHz See P/N Guide | 8 = 8 pF 10 = 10 pF 12 = 12 pF | 33AQ = ECX-33AQ | Blank = ±50 ppm A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm | V = ±150 ppm D = ±100 ppm † E = ± 50 ppm † G = ± 30 ppm † H = ± 25 ppm † T = ± 20 ppm † W = ±15 ppm † K = ± 10 ppm † | L = -10 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C Y = -40 ~ +150°C | TR =1K TR3=3K Qty/Reel |

* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

Rev.2024

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 | 1.05 | 0.25 | 1.0 | 180 | 3000pcs (1000pcs) |

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

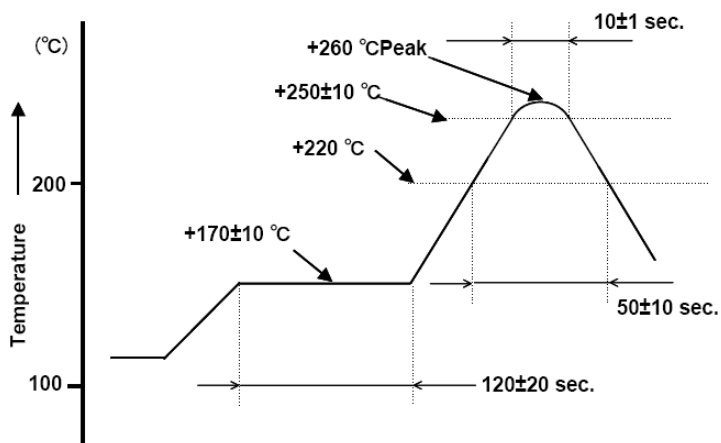


Figure 1) Suggested Reflow Profile

| DEVELOPED FREQUENCIES | |
|-----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 80 | 8.000 |
| 100 | 10.000 |
| 120 | 12.000 |
| 122.8 | 12.288 |
| 130 | 13.000 |
| 135.6 | 13.560 |
| 143 | 14.31818 |
| 147.4 | 14.7456 |
| 160 | 16.000 |
| 163.8 | 16.384 |
| 184 | 18.432 |
| 196.6 | 19.6608 |
| 200 | 20.000 |
| 221 | 22.1184 |
| 240 | 24.000 |
| 245.7 | 24.576 |
| 250 | 25.000 |
| 260 | 26.000 |
| 270 | 27.000 |
| 286.3 | 28.63636 |
| 300 | 30.000 |
| 320 | 32.000 |
| 330 | 33.000 |
| 400 | 40.000 |
| 480 | 48.000 |

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[ECS-160-8-33AQ-VY-TR3](#) [ECS-080-8-33AQ-JVY-TR3](#) [ECS-100-8-33AQ-VY-TR3](#) [ECS-200-8-33AQ-VY-TR3](#) [ECS-120-8-33AQ-VY-TR3](#) [ECS-080-8-33AQ-VY-TR3](#) [ECS-080-8-33AQ-JEN-TR3](#)