

- -55 to +125°C Temp. Range
- 5 x 3.2 mm Footprint
- Pb Free/RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-53B-DU | | | UNITS |
|------------------------|----------------|------------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 10.000 | | 50.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance* | @ +25°C | | | ± 30 | ppm |
| Frequency Stability* | -55 ~ +125°C | | | ± 100 | ppm |
| Shunt Capacitance | Co | | | 5 | pF |
| Load Capacitance | Specify in P/N | 8 | 20 | Series | pF |
| Drive Level | DL | | | 300 | μW |
| Operating Temperature* | Topr | -55 | | +125 | °C |
| Storage Temperature | Tstg | -55 | | +125 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±5 | ppm |

DIMENSIONS (mm)

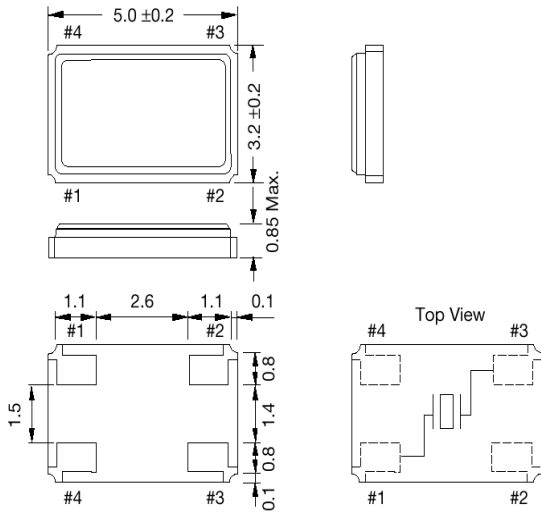


Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 3 are interchangeable.
Chamfer on the bottom pad has no electrical significance.

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 10.000 ~ 15.999 | 80 |
| 16.000 ~ 19.999 | 50 |
| 20.000 ~ 23.999 | 40 |
| 24.000 ~ 50.000 | 30 |

| Pad Connections | |
|-----------------|--------|
| 1 | In/Out |
| 2 | Gnd |
| 3 | Out/In |
| 4 | Gnd |

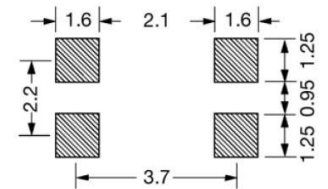


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-30B-DU-TR

| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | Stability | Temp Range | PACKAGING |
|------------------------------|-----------------------------------|------------------|-------------|------------------|-----------------------------------|
| ECS | 200 = 20.000 MHz See P/N Guide | 30B = ECX-53B | D= ±100 ppm | U = -55 ~ +125°C | TR = Tape & Reel 1K/Reel |

POCKET TAPE DIMENSIONS (mm)



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

| DEVELOPED FREQUENCIES | |
|-----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 100 | 10.000 |
| 120 | 12.000 |
| 143 | 14.31818 |
| 147.4 | 14.7456 |
| 160 | 16.000 |
| 200 | 20.000 |
| 240 | 24.000 |
| 250 | 25.000 |
| 270 | 27.000 |
| 300 | 30.000 |
| 320 | 32.000 |
| 400 | 40.000 |
| 480 | 48.000 |

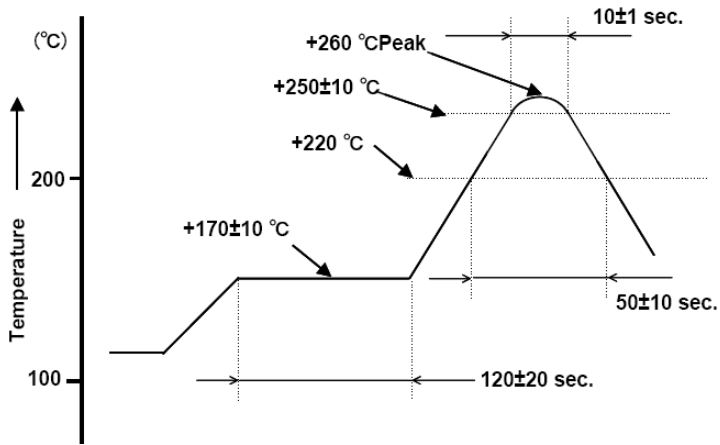


Figure 1) Suggested Reflow Profile