

The miniature ECX-42 is a compact SMD Crystal. The 4.0 x 2.5 x 0.8 mm ceramic package is ideal for today's SMD manufacturing environment.

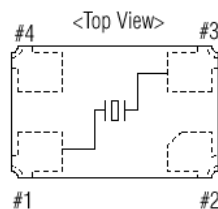
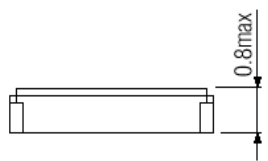
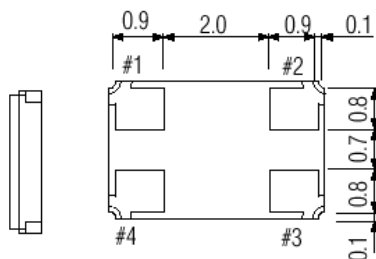
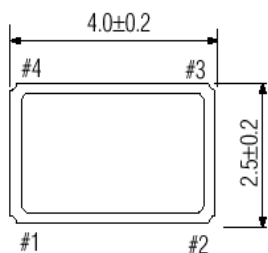


- Low Profile
- 4.0 x 2.5 mm Footprint
- Extended Temp. Range Option
- RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-42 | | | UNITS |
|------------------------|------------------|--------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 12.000 | | 50.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance* | @ +25°C | | | ± 30 | ppm |
| Frequency Stability* | -10 ~ +70°C | | | ± 50 | ppm |
| Shunt Capacitance | Co | | | 5 | pF |
| Load Capacitance | Specify in P/N | | 12 | | pF |
| Drive Level | DL | | | 300 | μW |
| Operating Temperature* | T _{opr} | -10 | | +70 | °C |
| Storage Temperature | T _{stg} | -55 | | +125 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±5 | ppm |

DIMENSIONS (mm)



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

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 12.000 ~ 15.999 | 80 |
| 16.000 ~ 19.999 | 60 |
| 20.000 ~ 23.999 | 50 |
| 24.000 ~ 50.000 | 40 |

Figure 1) Top, Side, and Bottom

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

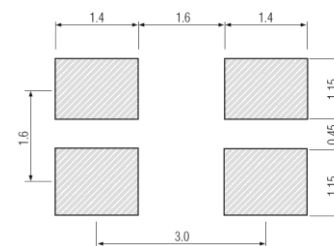


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-42-TR

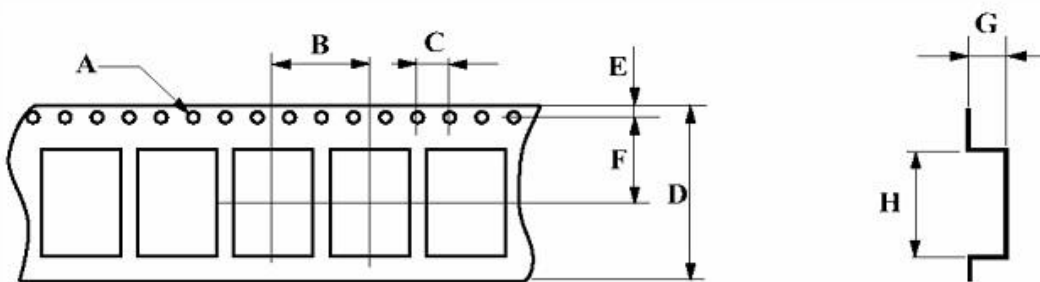
| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | AVAILABLE OPTIONS | | | PACKAGING | |
|------------------------------|-----------------------------------|--------------------------|-------------------|---|--|---|-----------------------------------|
| | | | Tolerance | Stability | Temp Range | | |
| ECS | 200 = 20.000 MHz See P/N Guide | 20 = 20 pF S = Series | 42 = ECX-42 | Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm | Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ± 15 ppm † K = ± 10 ppm † | Blank = Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C | TR = Tape & Reel 1K/Reel |

* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

Rev.2017

POCKET TAPE DIMENSIONS (mm)



| TAPE SPECIFICATIONS (mm) | | | | | | | | |
|--------------------------|-------|-----|-----|------|------|-----|-----|-----|
| MODEL | A | B | C | D | E | F | G | H |
| ECS-42 | φ 1.5 | 4.0 | 4.0 | 12.0 | 2.50 | 3.5 | 1.0 | 4.4 |

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

| DEVELOPED FREQUENCIES | |
|-----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 120 | 12.000 |
| 130 | 13.000 |
| 160 | 16.000 |
| 240 | 24.000 |
| 260 | 26.000 |
| 320 | 32.000 |

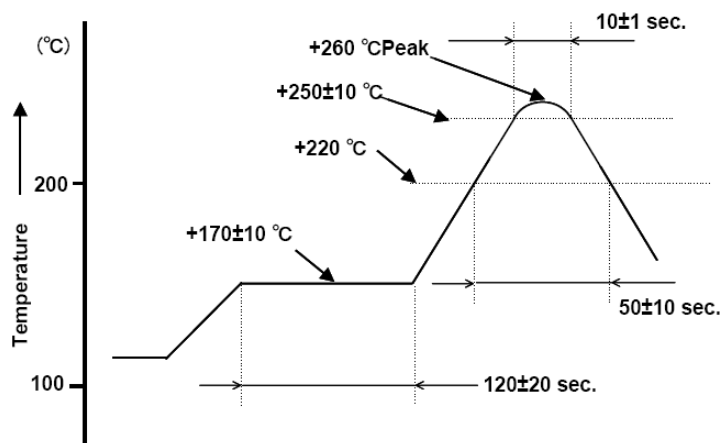


Figure 1) Suggested Reflow Profile