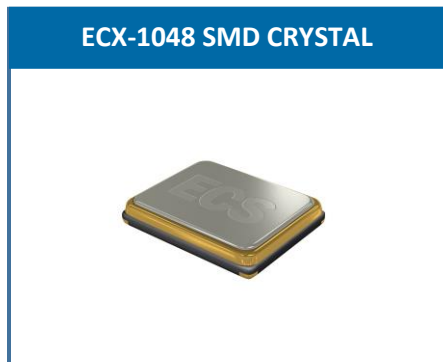


The ultra-miniature ECX-1048 is our smallest compact Crystal. The 1.2 x 1.0 x 0.33 mm ceramic package is ideal for LoRa WAN, receivers, video, audio, and mobile applications.

[Request a Sample](#)



- Low Profile
- 1.2 x 1.0 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- IOT/Wearable Applications

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-1048 | | | UNITS |
|-----------------------|-----------------|----------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 32.000 | | 54.000 | MHz |
| Frequency Tolerance | @ +25°C | | | ± 10 | ppm |
| Frequency Stability | -30 ~ +85°C (Y) | | | ± 10 | ppm |
| Resistance (ESR) | 32 ~ 54.000 MHz | | | 100 | Ω |
| Shunt Capacitance | Co | | | 2 | pF |
| Load Capacitance | Specify in P/N | | 10 | | pF |
| Drive Level | DL | | 10 | 50 | μW |
| Operating Temperature | Topr | -40 | | +85 | °C |
| Storage Temperature | Tstg | -40 | | +90 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±2 | ppm |

DIMENSIONS (mm)

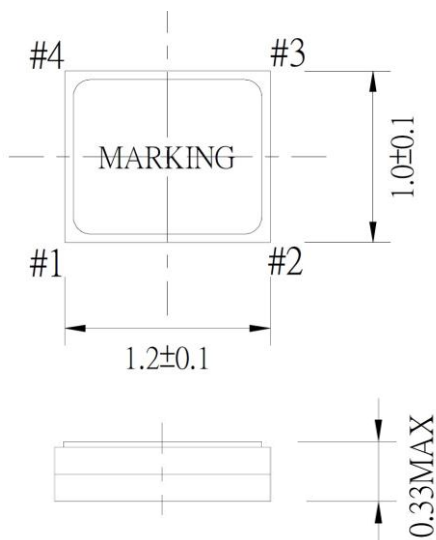


Figure 1) Top, Side, and Bottom views

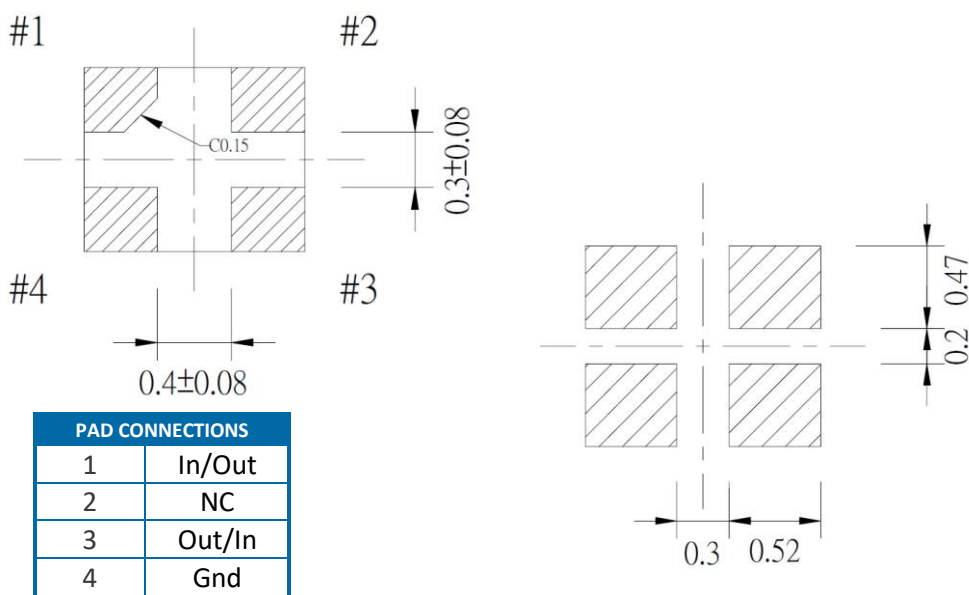


Figure 2) Suggested Land Pattern

| PAD CONNECTIONS | |
|-----------------|--------|
| 1 | In/Out |
| 2 | NC |
| 3 | Out/In |
| 4 | Gnd |

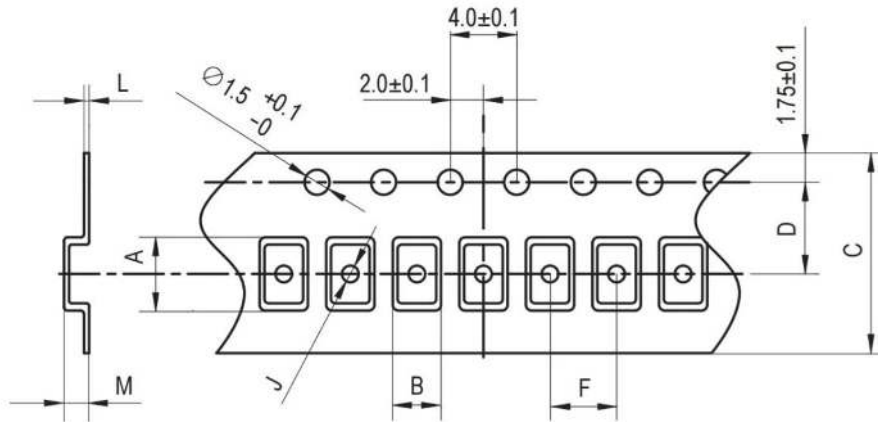
PART NUMBERING GUIDE: Example ECS-320-10-48-CKY-TR

| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | CUSTOM OPTIOND | | | PACKAGING |
|------------------------------|-----------------------------------|-------------------|--|--|---|-----------------------------------|
| | | | Tolerance | Stability | Temp Range | |
| ECS | 320 = 32.000 MHz See P/N Guide | -48 = ECX-1048 | A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm | E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm W = ± 15 ppm K = ± 10 ppm | M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C | TR = Tape & Reel 3K/Reel |

*Contact ECS for availability

Rev.2017

POCKET TAPE DIMENSIONS (mm)



| A | B | C | D | F | J | L | M | Reel Dia. | Qty/Reel |
|------|------|-----|-----|-----|-----|-----|------|-----------|----------|
| 1.42 | 1.17 | 8.0 | 3.5 | 4.0 | 0.5 | 0.2 | 0.65 | 180 | 3K/Reel |

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

| STANDARD FREQUENCIES | |
|----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 320 | 32.000 |
| 374 | 37.400 |
| 384 | 38.400 |
| 480 | 48.000 |

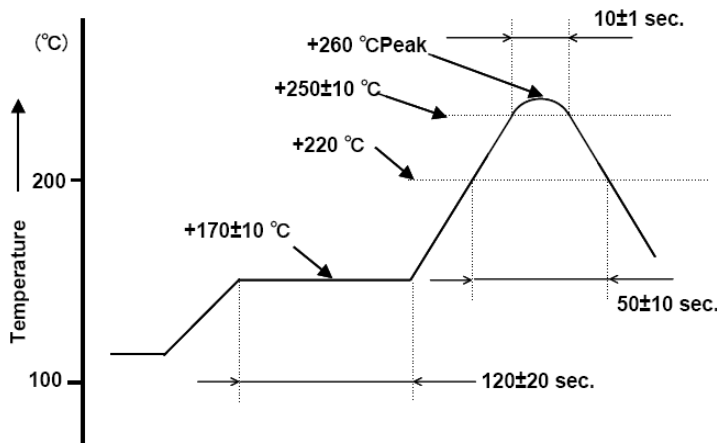


Figure 1) Suggested Reflow Profile