

ECX-1210

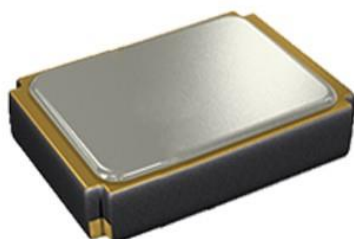
32.768 KHz

SMD Tuning Fork Crystal

The ultra-miniature 2-Pad ECX-1210 is a very compact SMD Tuning Fork Crystal. The 1.2 x 1.0 x 0.5 mm **smallest** in it's class ceramic package is ideal for LoRa Wan, wearable devices, IoT, and medical applications.

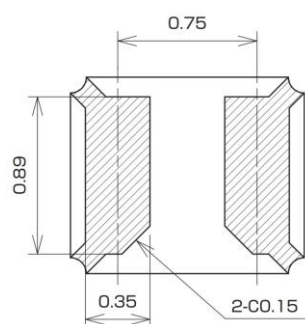
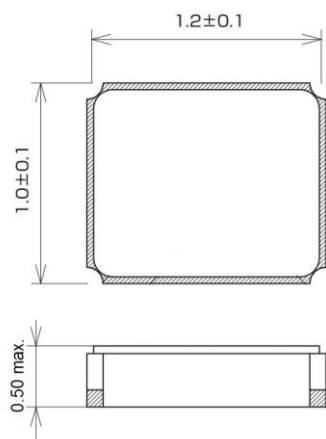
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ECX-1210 SMD CRYSTAL



- Low Power RTC Applications such as STM32 [AN2867](#)
- 1.2 x 1.0 mm Footprint
- Extended Temp. Range
- RoHS Compliant
- Applications: Automotive, COTS, Industrial, IOT

DIMENSIONS (mm)



PAD CONNECTIONS

| | |
|---|--------|
| 1 | In/Out |
| 2 | Out/In |

Figure 1) Top, Side, and Bottom views

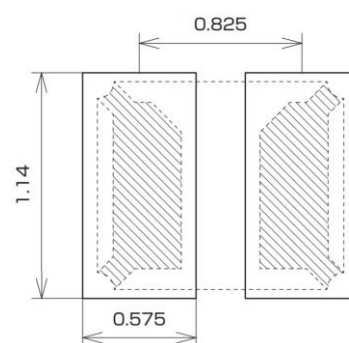


Figure 2) Suggested Land Pattern

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-1210 | | | UNITS |
|------------------------------|------------------|----------|--------|--------|---------------------|
| | | MIN | TYP | MAX | |
| Frequency | | | 32.768 | | KHz |
| Frequency Tolerance | @ +25°C | | | ± 20 * | ppm |
| Load Capacitance | Specify in P/N | | 12.5 | | pF |
| Drive Level | DL | | 0.1 | 0.5 | μW |
| Equivalent Series Resistance | R1 | | | 90K | Ω |
| Turnover Temperature | | +20 | +25 | +30 | °C |
| Temperature Coefficient | | -0.02 | -0.03 | -0.040 | ppm/°C ² |
| Shunt Capacitance | Co | | 1.1 | | pF |
| Aging (First Year) | @ +25°C ±3°C | | | ±3 | ppm |
| Operating Temperature | T _{opr} | -40 | | +85 | °C |
| Storage Temperature | T _{stg} | -40 | | +85 | °C |

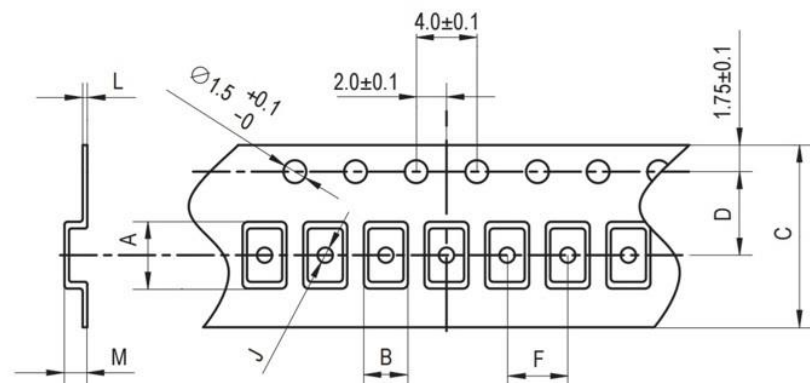
PART NUMBERING GUIDE: Example ECS-.327-12.5-1210-TR

| ECS - FREQUENCY ABBREVIATION | | LOAD CAPACITANCE | PACKAGE | CUSTOM OPTIONS Tolerance | PACKAGING |
|------------------------------|-------------------|--|------------------|-----------------------------------|--------------------------------|
| ECS | .327 = 32.768 KHz | 12.5 = 12.5 pF 9 = 9 pF 7 = 7 pF 6 = 6 pF | -1210 = ECX-1210 | Blank = ±20 ppm * C = ± 10 ppm | TR = Tape & Reel 5K/Reel |

*Contact ECS for availability

Rev.2021

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 | 5000pcs |

SOLDER PROFILE

Peak solder Temp +260°C Max 10 sec Max.

2 Cycles Max.

MSL 1, Lead Finish Au

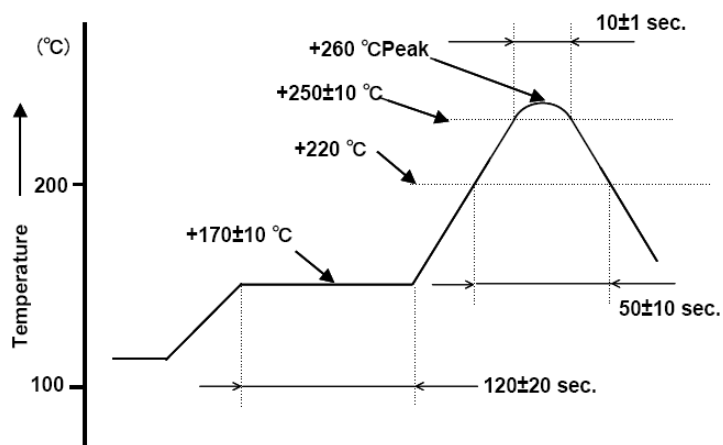


Figure 1) Suggested Reflow Profile

Mouser Electronics

Authorized Distributor

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ECS:

[ECS-.327-6-1210-TR](#)