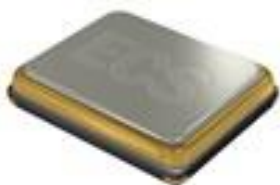


The ECX-64A is a miniature SMD Crystal with a 6 x 3.5 mm 2 pad footprint. This cost effective package with a height of 1.1 mm is ideal for densely populated PCB applications

# ECX-64A SMD CRYSTAL

Request a Sample

## ECX-64A SMD CRYSTAL



- Compact and Low Profile
- Industry Standard Footprint
- Extended Temp. Range Option
- RoHS Compliant
- 6 x 3.5 mm (2 Pad)

## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS             | CONDITIONS       | ECX-64A |     |        | UNITS |
|------------------------|------------------|---------|-----|--------|-------|
|                        |                  | MIN     | TYP | MAX    |       |
| Frequency              |                  | 8.000   |     | 50.000 | MHz   |
| Mode of Oscillation    | Fundamental      |         |     |        |       |
| Frequency Tolerance*   | @ +25°C          |         |     | ± 30   | ppm   |
| Frequency Stability*   | -10 ~ +70°C      |         |     | ± 50   | ppm   |
| Shunt Capacitance      | Co               |         |     | 7      | pF    |
| Load Capacitance       | Specify in P/N   | 10      | 20  | Series | pF    |
| Drive Level            | DL               |         |     | 100    | μW    |
| Operating Temperature* | T <sub>opr</sub> | -10     |     | +70    | °C    |
| Storage Temperature    | T <sub>stg</sub> | -55     |     | +125   | °C    |
| Aging (First Year)     | @ +25°C ±3°C     |         |     | ±5     | ppm   |

## DIMENSIONS (mm)

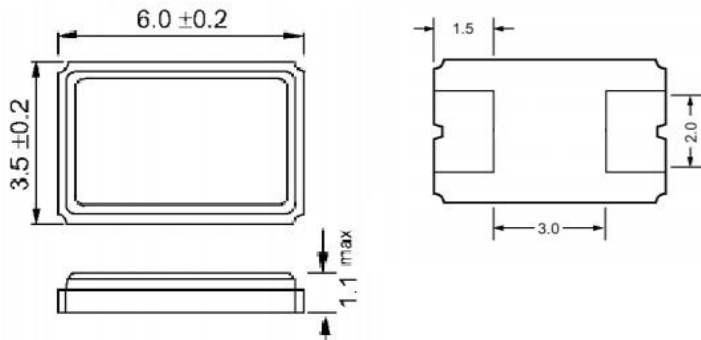


Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 2 are interchangeable.  
Chamfer on the bottom pad has no electrical significance.

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 8.000 ~ 15.999  | 80         |
| 16.000 ~ 19.999 | 60         |
| 20.000 ~ 50.000 | 30         |

### Pad Connections

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

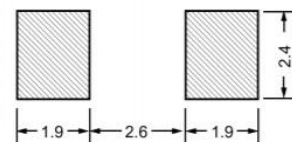


Figure 2) Suggested land

## PART NUMBERING GUIDE: Example ECS-200-20-23A-TR

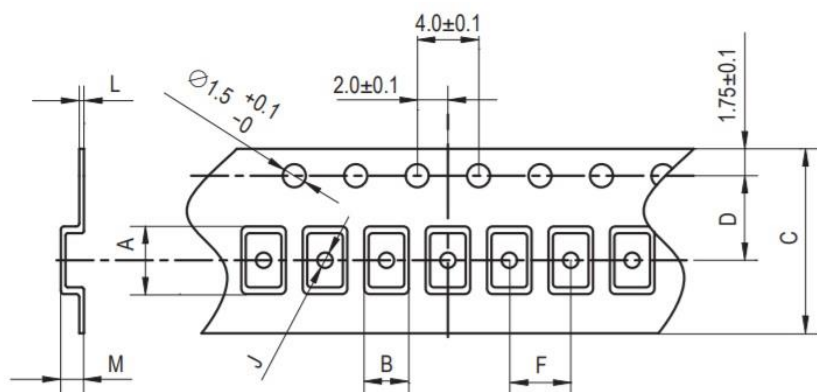
| ECS - FREQUENCY ABBREVIATION                             |                                   | LOAD CAPACITANCE         | PACKAGE          | AVAILABLE OPTIONS                                                           |                                                                                                                                |                                                                                                                                                    | PACKAGING                         |
|----------------------------------------------------------|-----------------------------------|--------------------------|------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                                          |                                   |                          |                  | Tolerance                                                                   | Stability                                                                                                                      | Temp Range                                                                                                                                         |                                   |
| ECS                                                      | 200 = 20.000 MHz<br>See P/N Guide | 20 = 20 pF<br>S = Series | 23A =<br>ECX-64A | Blank = Std<br>A = ± 25 ppm<br>J = ± 20 ppm<br>R = ± 15 ppm<br>C = ± 10 ppm | Blank= Std<br>D= ±100 ppm<br>E = ± 50 ppm<br>G = ± 30 ppm<br>H = ± 25 ppm<br>T = ± 20 ppm †<br>W = ±15 ppm †<br>K = ± 10 ppm † | Blank= Std<br>L = -10 ~ +70°C<br>M = -20 ~ +70°C<br>Y = -30 ~ +85°C<br>N = -40 ~ +85°C<br>P = -40 ~ +105°C<br>S = -40 ~ +125°C<br>U = -55 ~ +125°C | TR =<br>Tape<br>& Reel<br>1K/Reel |
| * Specify available options in P/N.                      |                                   |                          |                  |                                                                             |                                                                                                                                |                                                                                                                                                    |                                   |
| † Contact ECS for availability over extended temp range. |                                   |                          |                  |                                                                             |                                                                                                                                |                                                                                                                                                    |                                   |
|                                                          |                                   |                          |                  |                                                                             |                                                                                                                                |                                                                                                                                                    | Rev.2017                          |

\* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

Rev.2017

## POCKET TAPE DIMENSIONS (mm)



| A   | B   | C    | D   | F   | J   | L   | M   | Reel Dia. | Qty/Reel |
|-----|-----|------|-----|-----|-----|-----|-----|-----------|----------|
| 6.4 | 3.9 | 12.0 | 5.5 | 8.0 | 1.5 | 0.3 | 1.5 | 178       | 1000pcs  |

### SOLDER PROFILE

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

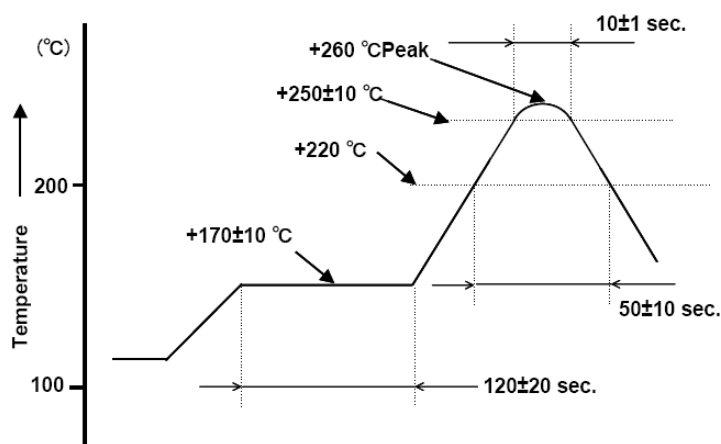


Figure 1) Suggested Reflow Profile

### DEVELOPED FREQUENCIES

| Abbreviation | Frequency (MHZ) |
|--------------|-----------------|
| 080          | 8.000           |
| 098.3        | 9.8304          |
| 100          | 10.000          |
| 110.5        | 11.0592         |
| 120          | 12.000          |
| 122.8        | 12.2880         |
| 135.6        | 13.560          |
| 143          | 14.31818        |
| 147.4        | 14.7456         |
| 160          | 16.000          |
| 184          | 18.432          |
| 196.6        | 19.6608         |
| 200          | 20.000          |
| 221          | 22.1184         |
| 240          | 24.000          |
| 245.7        | 24.576          |
| 250          | 25.000          |
| 270          | 27.000          |
| 286.3        | 28.63636        |
| 330          | 33.000          |
| 400          | 40.000          |
| 480          | 48.000          |