The ECX-53 is a miniature SMD Crystal with a 3.2 x 5 mm footprint. This package is ideal for today’s compact wireless applications where board space is critical.

### ECX-53 SMD CRYSTAL

- Compact and low profile
- Extended Temp. Range Option
- RoHS Compliant
- 2 Pad Option

### DIMENSIONS (mm)

- Frequency
- Mode of Oscillation
- Frequency Tolerance
- Frequency Stability
- Shunt Capacitance
- Load Capacitance
- Drive Level
- Operating Temperature
- Storage Temperature
- Aging (First Year)

<table>
<thead>
<tr>
<th>PARAMETERS</th>
<th>CONDITIONS</th>
<th>ECX-53 UNITS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td></td>
<td>8.000</td>
<td>50.000</td>
</tr>
<tr>
<td>Mode of Oscillation</td>
<td>Fundamental</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance*</td>
<td>@ +25°C</td>
<td>± 30</td>
<td></td>
</tr>
<tr>
<td>Frequency Stability*</td>
<td>-10 ~ +70°C</td>
<td>± 50</td>
<td></td>
</tr>
<tr>
<td>Shunt Capacitance</td>
<td>Co</td>
<td>5</td>
<td>pF</td>
</tr>
<tr>
<td>Load Capacitance</td>
<td>Specify in P/N</td>
<td>10</td>
<td>20 Series</td>
</tr>
<tr>
<td>Drive Level</td>
<td>DL</td>
<td>100</td>
<td>μW</td>
</tr>
<tr>
<td>Operating Temperature*</td>
<td>Topr</td>
<td>-10 ~ +70°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td>-55</td>
<td>+125°C</td>
</tr>
<tr>
<td>Aging (First Year)</td>
<td>@ +25°C ±3°C</td>
<td>±5</td>
<td>ppm</td>
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</tbody>
</table>

### PART NUMBERING GUIDE: Example ECS-200-20-30-TR

- ECS - FREQUENCY ABBREVIATION
- LOAD CAPACITANCE
- PACKAGE
- AVAILABLE OPTIONS
- PACKAGING

**ECS**
- 200 = 20.000 MHz See P/N Guide
- 20 = 20 pF
- 30 = ECS-53

**Available Options**
- Blank = Std
- A = ±25 ppm
- J = ±20 ppm
- R = ±15 ppm
- C = ±10 ppm

**Temp Range**
- ECS-200-20-30-TR

- 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

**Packaging**
- Tape & Reel
- 1K/Reel

* Specify available options in P/N.
† Contact ECS for availability over extended temp range.

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

Figure 1) Top, Side, and Bottom

Figure 2) Suggested land pattern

Request a Sample
**DEVELOPED FREQUENCIES**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Frequency (MHZ)</th>
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</thead>
<tbody>
<tr>
<td>080</td>
<td>8.000</td>
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<tr>
<td>100</td>
<td>10.000</td>
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<tr>
<td>120</td>
<td>12.000</td>
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<td>200</td>
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<tr>
<td>240</td>
<td>24.000</td>
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<tr>
<td>250</td>
<td>25.000</td>
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</table>

**SOLDER PROFILE**

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

**POCKET TAPE DIMENSIONS (mm)**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>J</th>
<th>L</th>
<th>M</th>
<th>Reel Dia.</th>
<th>Qty/Reel</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5</td>
<td>3.7</td>
<td>12.0</td>
<td>5.5</td>
<td>8.0</td>
<td>1.5</td>
<td>0.3</td>
<td>1.65</td>
<td>180</td>
<td>1000pcs</td>
</tr>
</tbody>
</table>

*Figure 1) Suggested Reflow Profile*