TUNING FORK CRYSTAL UNIT (SMD · Cylinder Type)

RoHS compliant / Pb free

CMR200T

2,000pcs/reel

- FEATURES
  - Reflowable cylinder type
  - Frequency range: 32.768kHz
  - External dimensions (mm)
    \( \Phi: 2.0 \times L: 6.1 \)
  - Applications
    Smart Meters / Consumer products

- DIMENSION [mm]

- SOLDER PAD LAYOUT [mm]

- STANDARD SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>CMR200T</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Frequency</td>
<td>( f_0 )</td>
<td>32.768kHz</td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance</td>
<td>( \Delta f/f_0 )</td>
<td>±10ppm / ±20ppm</td>
<td>at 25℃</td>
</tr>
<tr>
<td>Load capacitance</td>
<td>( C_L )</td>
<td>6.0pF / 7.0pF / 12.5pF</td>
<td>Please specify your requirement</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>( T_{OPR} )</td>
<td>-40℃ ~ +85℃</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>( T_{STR} )</td>
<td>-55℃ ~ +125℃</td>
<td></td>
</tr>
<tr>
<td>Turnover Temperature</td>
<td>( T_M )</td>
<td>25℃ ±5℃</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>( \beta )</td>
<td>-0.034±0.006ppm/℃²</td>
<td></td>
</tr>
<tr>
<td>Motional (series) resistance</td>
<td>( R_I )</td>
<td>50KΩ Max.</td>
<td>at 25℃</td>
</tr>
<tr>
<td>Level of drive</td>
<td>( D_L )</td>
<td>1μW Max.</td>
<td></td>
</tr>
<tr>
<td>Aging (first year)</td>
<td>( \Delta f/f_0 )</td>
<td>±3ppm Max.</td>
<td>25℃ ±3℃</td>
</tr>
<tr>
<td>Shunt capacitance</td>
<td>( C_0 )</td>
<td>1.35pF Typ.</td>
<td></td>
</tr>
</tbody>
</table>

http://cfd.citizen.co.jp/english/prod-tech/product/cvo_top.html
PART NUMBERING SYSTEM

**CMR200T** 32768 D Z F T - □□□

- **Frequency**
  - Please specify the frequency in Hz.
- **Frequency Tolerance**
  - (at 25°C)
    - D: ±20ppm (STD)
    - E: ±10ppm
- **Frequency Tolerance over Operating Temp. Range**
- **Package specification**
  - T: Only Tape & Reel
- **CITIZEN management code**
  - Ref. Code for internal use.

**Load capacitance (CL)**
- B: 6.0pF
- F: 12.5pF (STD)
- Y: 7.0pF

Part Marking [standard]

**32Cym**

- 32C: Manufacture's ID Code
- y: The last digit of production year
- m: Production month (See Table.1)

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>…</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tbody>
<tr>
<td>Code</td>
<td>1</td>
<td>2</td>
<td>…</td>
<td>9</td>
<td>X</td>
<td>Y</td>
<td>Z</td>
</tr>
</tbody>
</table>

Table.1

**Reflow profile**

Conforming to JIS C 0806 TB1208NEIAJ and RC-1009B TE1208N

**Packing**

- Tape lead-out direction

**PART NUMBERING SYSTEM**

<table>
<thead>
<tr>
<th>Qty/reel</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d (φ)</th>
<th>e</th>
<th>f</th>
<th>g</th>
<th>h</th>
<th>j</th>
<th>k</th>
<th>l</th>
<th>m (φ)</th>
<th>n (φ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>16.0</td>
<td>7.5</td>
<td>8.0</td>
<td>–</td>
<td>9.4</td>
<td>0.3</td>
<td>2.15</td>
<td>–</td>
<td>5.0</td>
<td>–</td>
<td>17.5</td>
<td>330</td>
<td>100</td>
</tr>
</tbody>
</table>

*Please contact us for specifications available.*

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