3215A Series

3.2 x 1.5mm Watch crystal

RoHS & REACH compliant
Tuning fork crystal, ceramic package
Frequency tolerance from ±10ppm over -40°C ~ +85°C
Application: Consumer, metering, mobile communication, medical, industrial

Parameters | Specification | Remarks
--- | --- | ---
Frequency r | F_nom | 32.768kHz
Frequency tolerance | F_tol | ±10ppm, ±20ppm At 25°C ± 3°C
Operating temperature range | T_use | -40°C ~ +85°C
Storage temperature | T_stg | -55°C ~ +125°C
Temperature coefficient | K | -0.034±0.006 ppm/°C²
Turnover temperature | Ti | 25°C ± 5°C
Load capacitance | CL | 6pF, 7pF, 9pF, 12.5pF
Equivalent series resistance | ESR | 70kΩ max For 50kΩ max - please enquire
Motional capacitance | C1 | 3.3fF typical
Shunt capacitance | CO | 0.95pF typical
Drive level | DL | 1.0μW max For 0.5μW max - Please enquire
Frequency aging | F_age | ±3.0ppm max First year
Insulation resistance | IR | 500MΩ min at DC100V ± 15V

Dimensions (mm)

Frequency stability vs temperature

Part number generation

<table>
<thead>
<tr>
<th>SY</th>
<th>00003</th>
<th>G</th>
<th>I</th>
<th>H</th>
<th>D</th>
<th>-PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT Series Code</td>
<td>Frequency (KHz)</td>
<td>Frequency Tolerance (±ppm)</td>
<td>Operating Temperature Range (°C)</td>
<td>Load capacitance (CL)</td>
<td>Packaging (Tape &amp; Reel)</td>
<td>RoHS</td>
</tr>
<tr>
<td>SY</td>
<td>32.768kHz = 00003</td>
<td>±10 = C</td>
<td>-40 ~ +85 = I</td>
<td>6pF = N</td>
<td>Loose/Sample = L</td>
<td>RoHS = -pF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>±20 = G</td>
<td></td>
<td>7pF = M</td>
<td>3000pcs = D</td>
<td></td>
</tr>
</tbody>
</table>

Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.
Full Example Part Number: SY00003GIHD-PF (32.768kHz)
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Reflow profile

Temp. (°C) vs Time (sec.)

- 180 ± 10°C: 90~120 sec. max
- 220 ± 10°C: 30~40 sec. max
- 260 ± 5°C: 10 sec. max
- 300°C: 50-60 sec. max

Additional information