ULTRA MINIATURE CERAMIC SMD CRYSTAL

ABM12

RoHS/RoHS II Compliant

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

FEATURES:

- Suitable for RoHS reflow profile
- Available tight tolerance and stability
- Electron beam sealed ceramic package assures high precision and reliability

APPLICATIONS:

- Blue-tooth, Wireless applications
- Computers, Moderns, Microprocessors
- Communication, Test equipment
- High density applications
- PCMCIA
- Portable radios and MP3 players

STANDARD SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>24.000</td>
<td></td>
<td>80.000</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Standard Frequencies</td>
<td>26.000, 32.000 and 36.000MHz</td>
<td></td>
<td></td>
<td></td>
<td>(Contact Abracon for other frequencies)</td>
</tr>
<tr>
<td>Operation Mode</td>
<td>Fundamental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-10</td>
<td>+50</td>
<td></td>
<td>°C</td>
<td>See options</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40</td>
<td>+85</td>
<td></td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance @+25°C</td>
<td>-50</td>
<td>+50</td>
<td></td>
<td>ppm</td>
<td>See options</td>
</tr>
<tr>
<td>Frequency Stability over the Operating Temperature (ref. to +25°C)</td>
<td>-50</td>
<td>+50</td>
<td>ppm</td>
<td>See options</td>
<td></td>
</tr>
<tr>
<td>Equivalent series resistance (R1) (Effective 8/14/2012)</td>
<td>200</td>
<td>100</td>
<td>Ω</td>
<td>24.000<del>39.999MHz 40.000</del>80.000MHz</td>
<td></td>
</tr>
<tr>
<td>Shunt capacitance (C0)</td>
<td>5</td>
<td></td>
<td></td>
<td>pF</td>
<td>Standard (See options if other than STD)</td>
</tr>
<tr>
<td>Load capacitance (CL)</td>
<td>8</td>
<td></td>
<td></td>
<td>pF</td>
<td></td>
</tr>
<tr>
<td>Drive Level</td>
<td>10</td>
<td>100</td>
<td></td>
<td>µW</td>
<td></td>
</tr>
<tr>
<td>Aging</td>
<td>-5</td>
<td>+5</td>
<td></td>
<td>ppm</td>
<td></td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>500</td>
<td></td>
<td></td>
<td>MΩ</td>
<td></td>
</tr>
</tbody>
</table>

OPTIONS & PART IDENTIFICATION: (Left blank if standard)

ABM12 - [ ] MHz - [ ] R - [ ] - [ ] - [ ]

- Frequency in MHz
  - Please specify the frequency in MHz, e.g. 26.000MHz

- Load Capacitance
  - Blank: 8pF
  - 5: 5pF
  - 6: 6pF
  - 7: 7pF

- Custom ESR if other than standard
  - R
  - Specify a value in Ω (e.g.: R40)

- Operating Temp.
  - Blank: -10°C to +50°C
  - A: -10°C to +50°C
  - B: -20°C to +70°C
  - D: -40°C to +85°C

- Freq. Tolerance
  - Blank: ± 50 ppm
  - Blank: ± 15 ppm
  - 2: ± 20 ppm
  - 4: ± 30 ppm

- Freq. Stability
  - Blank: ± 50 ppm
  - G: ± 15 ppm (*)
  - X: ± 20 ppm (**)
  - Y: ± 30 ppm
  - Q: ± 100 ppm

Packaging
- Blank: 1kpcs / reel
- E: 1kpcs / reel
- T3: 3kpcs / reel

5101 Hidden Creek Lane Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sale please visit: www.abracon.com

ABRACON IS
ISO9001-2008 CERTIFIED

REVISED: 05.02.2018
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OUTLINE DRAWING:

Dimensions: mm

Note 1: Due to material availability, the outline and finish color of the component lid may vary. This variation in no way affects the electrical performance of the product.

Note 2: Due to materials availability, this part may be manufactured with the chamfer on pin 1, 2 or 4. This variation in no way affects the electrical performance of the product.

Pin 2 is connected to the metal lid (*1).
(Please connect to GND)

Recommended land pattern

Dimensions: mm
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1.6 x 1.2 x 0.45mm

REFLOW PROFILE:

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Temperature</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preheat / Soak</td>
<td>$T_{\text{S MIN}} \sim T_{\text{S MAX}}$ (150^\circ\text{C} \sim 180^\circ\text{C})</td>
<td>60 ~ 120 sec</td>
</tr>
<tr>
<td>2</td>
<td>Reflow</td>
<td>$T_{L}$ (230^\circ\text{C})</td>
<td>30 ~ 40 sec</td>
</tr>
<tr>
<td>3</td>
<td>Peak heat</td>
<td>$T_{P}$ (260^\circ\text{C} \pm 5^\circ\text{C})</td>
<td>10 sec. MAX</td>
</tr>
</tbody>
</table>
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1.6 x 1.2 x 0.45mm

TAPE & REEL:

Option "-T": Tape and reel (1,000pcs/reel)
Option "-T3": Tape and reel (3,000pcs/reel)

Dimensions: mm