ULTRA MINIATURE CERAMIC PACKAGE
HIGH STABILITY SMD CRYSTAL

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

FEATURES:
- -40°C to +125°C wide operating temperature range
- ±40 ppm Max. All Inclusive frequency stability over 10-year product life
- Fundamental Mode, low ESR Quartz design
- Ultra miniature, Seam-Sealed, RoHS compliant reflow-able package

APPLICATIONS:
- Zigbee based designs for indoor / outdoor applications
- Wireless Sensor Networks
- Industrial Control
- Home and Building Automation
- Consumer Electronics
- PC Peripherals

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>Center Frequency</td>
<td>24.000</td>
<td></td>
<td>32.000</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Operation Mode</td>
<td></td>
<td></td>
<td>Fundamental</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40</td>
<td></td>
<td>+125</td>
<td>ºC</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55</td>
<td></td>
<td>+155</td>
<td>ºC</td>
<td></td>
</tr>
<tr>
<td>Overall Frequency Stability (All inclusive)</td>
<td>-40</td>
<td></td>
<td>+40</td>
<td>ppm</td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance</td>
<td>-10</td>
<td></td>
<td>+10</td>
<td>ppm</td>
<td></td>
</tr>
<tr>
<td>Frequency Stability over the Operating Temperature Range (ref. to +25°C)</td>
<td>-25</td>
<td></td>
<td>+25</td>
<td>ppm</td>
<td>@25±3ºC 10 years</td>
</tr>
<tr>
<td>Aging</td>
<td>-5</td>
<td></td>
<td>+5</td>
<td>ppm</td>
<td></td>
</tr>
<tr>
<td>Equivalent series resistance (R1)</td>
<td></td>
<td></td>
<td>60</td>
<td>Ø</td>
<td></td>
</tr>
<tr>
<td>Shunt capacitance (C0)</td>
<td></td>
<td></td>
<td>2.5</td>
<td>pF</td>
<td></td>
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<tr>
<td>Motional capacitance (C1)</td>
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<td></td>
<td>2.0</td>
<td>fF</td>
<td></td>
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<tr>
<td>Load capacitance (CL)</td>
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<td></td>
<td>10</td>
<td>pF</td>
<td></td>
</tr>
<tr>
<td>Drive Level</td>
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<td></td>
<td>50</td>
<td>µW</td>
<td></td>
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<tr>
<td>Insulation Resistance</td>
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<td></td>
<td>500</td>
<td>MΩ</td>
<td>@100Vdc±15V</td>
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</tbody>
</table>

Options and Part Identification (left blank if standard)

ABM8X -  - - MHz -

Internal Code | Frequency
---|---
101 | 24.000 MHz
102 | 32.000 MHz

Example Part #: ABM8X-101-24.000MHz-T
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HIGH STABILITY SMD CRYSTAL

ABM8X

Dimensions: mm

3.2 x 2.5 x 0.6mm

OUTLINE DIMENSIONS:

Pin function

- #1 crystal connection
- #2 GND
- #3 crystal connection
- #4 GND

Top view

Pad #2 & #4 connected with the metal cap

Example for solder pattern

Do not design any conductive path between the pattern

Dimensions: mm

REVIEW PROFILE:

T (°C)

230°C

260°C

260°C ± 5°C

30-40s

5s max, 1 time at 260°C ± 5°C

10s max, 1 time at 260°C ± 5°C

60-120s

60-90s

60-120s

Pre-Heat

Reflow

Cool

Time (seconds)

TAPE & REEL:

1000pcs/reel

FEEDING (PULL) DIRECTION

0.3±0.05

1.75±0.1

1.5 max.

1.05±0.05

2.0±0.1

4.0±0.1

3.5±0.1

8.0±0.3

Dimensions: mm

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Revised: 04.10.12

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