Automotive & Industrial Grade Glass-Sealed Ceramic Base SMD Crystal

ABM3AIG

Features
- AEC-Q200 Qualified
- Automotive Grade 0: -40°C to +150°C
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Hermetically Glass-sealed Ceramic Package
- RoHS/RoHS II Compliant

Applications
- Infotainment Systems
- Keyless Entry & Startup
- GPS & Navigation
- Comfort control
- ADAS (Advanced Driver Assistance Systems)
- Vehicle to Vehicle Communication
- LiDAR (Light Detection and Ranging)
- In-vehicle Networking
- Powertrain & Drive Control
- Power Control & Conversion
- Industrial Control & Automation

Electrical Specifications

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>8.000</td>
<td></td>
<td>50.000</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Operation Mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance @ +25°C</td>
<td></td>
<td></td>
<td></td>
<td>ppm</td>
<td>Option “blank”; See options</td>
</tr>
<tr>
<td>Frequency Stability over the Operating Temperature (ref. to +25°C)</td>
<td></td>
<td></td>
<td></td>
<td>ppm</td>
<td>Option “blank”; See options</td>
</tr>
<tr>
<td>Equivalent series resistance (R1)</td>
<td></td>
<td></td>
<td></td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Load capacitance (CL)</td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
<td>Option “blank”; See options</td>
</tr>
<tr>
<td>Drive Level</td>
<td></td>
<td></td>
<td></td>
<td>μW</td>
<td></td>
</tr>
<tr>
<td>Aging</td>
<td></td>
<td></td>
<td></td>
<td>ppm</td>
<td>@25°C± 3°C First year</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td></td>
<td></td>
<td></td>
<td>MΩ</td>
<td>@100 Vdc ± 15V</td>
</tr>
</tbody>
</table>

Pb in glass (exempt 7(c) - I per RoHS II 2011/65/EU Annex)

5.0 x 3.2 x 1.3 mm

RoHS/RoHS II Compliant

MSL = N/A: Not Applicable

REVISED: 06-13-19

ABRACON IS ISO9001-2015 CERTIFIED
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Options and Part Identification (left blank if standard)

ABM3AIG- MHz - - - - -

Frequency in MHz
Please specify the frequency in MHz.
(e.g. 14.31818MHz)

Load Capacitance (pF)
Blank: 18pF
If not standard, please specify CL in pF or S for series

Custom ESR if other than standard
R □: Specify a value in Ω (e.g.: R80)

Operating Temp.
Blank: -40°C to +150°C
N: -30°C to +85°C
D: -40°C to +85°C
J: -40°C to +105°C
K: -40°C to +125°C

Freq. Tolerance
Blank: ± 50 ppm
1: ± 10 ppm
2: ± 20 ppm
3: ± 25 ppm
4: ± 30 ppm
7: ± 15 ppm
R □: Specify a value in ppm

Freq. Stability
Blank: ± 100 ppm
R: ± 150 ppm
Z: ± 50 ppm
P: ± 45 ppm (*)
F: ± 40 ppm (*)
H: ± 35 ppm (*)
Y: ± 30 ppm (*)
W: ± 25 ppm (*)
X: ± 20 ppm (*)
G: ± 15 ppm (*)

(*) Contact Abracon for Availability
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Mechanical Dimensions

**Top View**

**Side View**

**Bottom View**

**Recommended Land Pattern**

Alternative Bottom Packaging #1

Bottom View

**Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5.0 ± 0.15</td>
</tr>
<tr>
<td>B</td>
<td>3.2 ± 0.15</td>
</tr>
<tr>
<td>C</td>
<td>1.3 ± 0.25</td>
</tr>
<tr>
<td>D</td>
<td>Ø 0.3</td>
</tr>
<tr>
<td>E</td>
<td>2.0</td>
</tr>
<tr>
<td>F</td>
<td>2.4</td>
</tr>
<tr>
<td>G</td>
<td>2.0</td>
</tr>
<tr>
<td>H</td>
<td>5.6</td>
</tr>
<tr>
<td>J</td>
<td>2.4</td>
</tr>
<tr>
<td>K</td>
<td>0.40 x 45°</td>
</tr>
<tr>
<td>M</td>
<td>2.0</td>
</tr>
<tr>
<td>N</td>
<td>2.4</td>
</tr>
</tbody>
</table>
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Reflow Profile

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Temperature</th>
<th>Time</th>
</tr>
</thead>
</table>
| 1    | Preheat / Soak    | T_{SMIN} \sim T_{SMAX}  
150°C \sim 180°C | 60 ~ 120 sec. |
| 2    | Reflow            | T_p = 230°C          | 30 ~ 40 sec. |
| 3    | Peak heat         | T_p = 260°C\pm5°C   | 10 sec. MAX |
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Packaging

1000 pcs/reel

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Dimensions: mm