

# Automotive & Industrial Grade Glass-Sealed Ceramic Base SMD Crystal



ABM3AIG

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

## 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

| Parameters                                                          | Min.        | Typ. | Max.   | Units | Notes                       |
|---------------------------------------------------------------------|-------------|------|--------|-------|-----------------------------|
| Frequency Range                                                     | 8.000       |      | 50.000 | MHz   |                             |
| Operation Mode                                                      | Fundamental |      |        |       |                             |
| Operating Temperature                                               | -40         |      | +150   | °C    | Option "blank"; See options |
|                                                                     | -40         |      | +125   |       | Option "K"; See options     |
| Storage Temperature                                                 | -40         |      | +150   | °C    | Option "blank"              |
|                                                                     | -40         |      | +125   |       | Options "K, J, D, N"        |
| Frequency Tolerance @ +25°C                                         | -50         |      | +50    | ppm   | Option "blank"; See options |
| Frequency Stability over the Operating Temperature ( ref. to +25°C) | -100        |      | +100   | ppm   | Option "blank"; See options |
|                                                                     | -150        |      | +150   |       | Option "R"; See options     |
| Equivalent series resistance (R1)                                   |             |      | 150    | Ω     | 8.000 – 9.999 MHz           |
|                                                                     |             |      | 100    |       | 10.000 – 15.999 MHz         |
|                                                                     |             |      | 60     |       | 16.000 – 19.999 MHz         |
|                                                                     |             |      | 50     |       | 20.000 – 50.000 MHz         |
| Shunt capacitance (C0)                                              |             |      | 3.0    | pF    |                             |
| Load capacitance (CL)                                               | 18          |      |        | pF    | Option "blank"; See options |
| Drive Level                                                         |             | 10   | 100    | μW    |                             |
| Aging                                                               | -2          |      | +2     | ppm   | @25°C ± 3°C First year      |
| Insulation Resistance                                               | 500         |      |        | MΩ    | @100 Vdc ± 15V              |

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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  $\Omega$  (e.g.: R80)

**Packaging**  
Blank: Bulk  
T: 1k pcs / reel

**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:  $\pm 50$  ppm  
4:  $\pm 30$  ppm  
3:  $\pm 25$  ppm  
2:  $\pm 20$  ppm  
7:  $\pm 15$  ppm  
1:  $\pm 10$  ppm

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

(\*) Contact Abracon for Availability

# Automotive & Industrial Grade Glass-Sealed Ceramic Base SMD Crystal



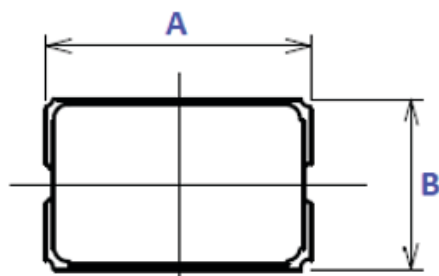
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## Mechanical Dimensions

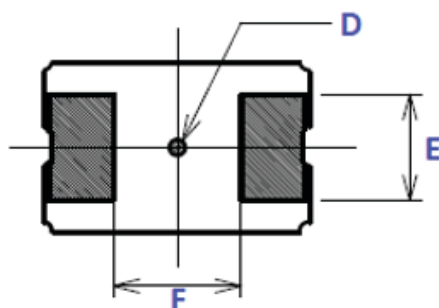
Top View



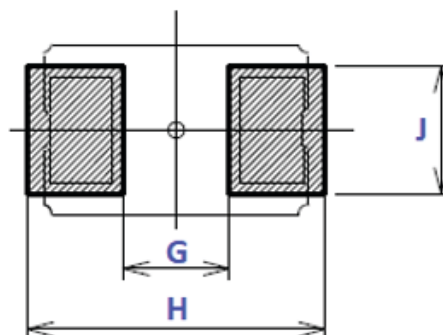
Side View



Bottom View

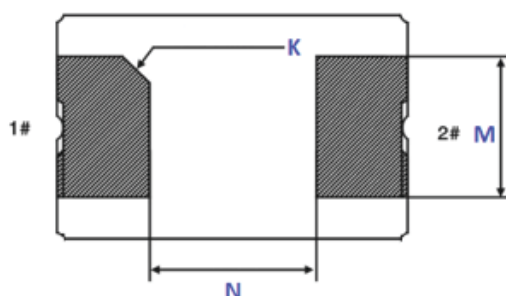


Recommended Land Pattern



Alternative Bottom Packaging #1

Bottom View



Dimensions

| Dimensions |            |
|------------|------------|
| A          | 5.0 ± 0.15 |
| B          | 3.2 ± 0.15 |
| C          | 1.3 ± 0.25 |
| D          | Ø 0.3      |
| E          | 2.0        |
| F          | 2.4        |
| G          | 2.0        |
| H          | 5.6        |
| J          | 2.4        |
| K          | 0.40 x 45° |
| M          | 2.0        |
| N          | 2.4        |

Dimensions: mm

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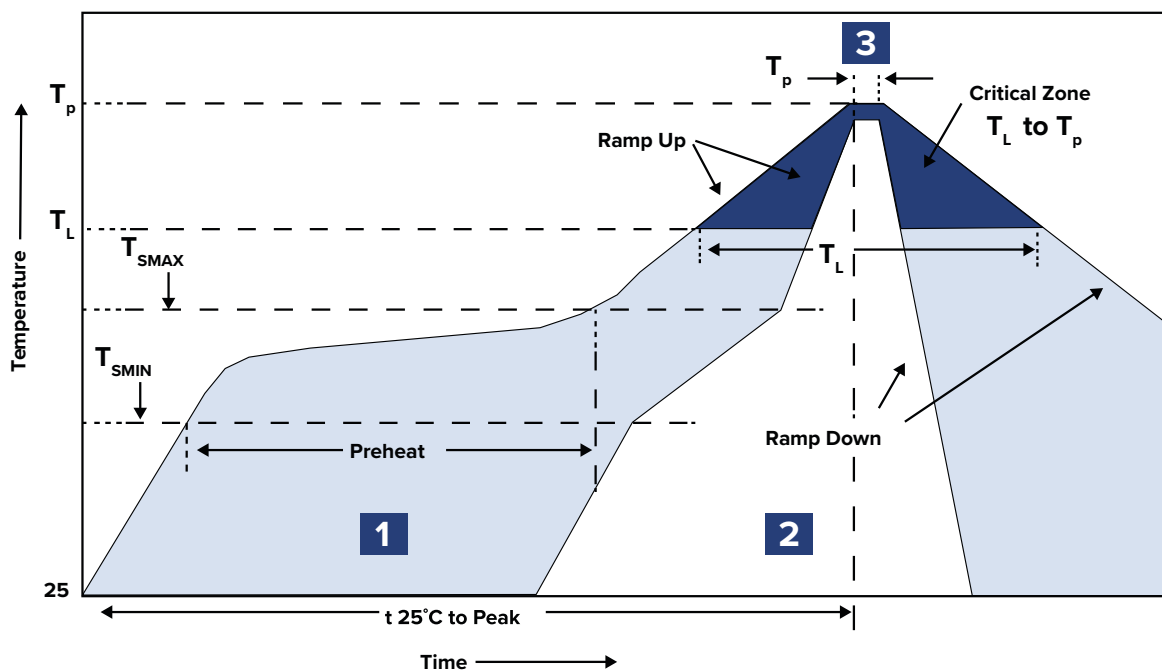


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## Reflow Profile



| Zone | Description    | Temperature                               | Time          |
|------|----------------|-------------------------------------------|---------------|
| 1    | Preheat / Soak | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 180°C | 60 ~ 120 sec. |
| 2    | Reflow         | $T_L$<br>230°C                            | 30 ~ 40 sec.  |
| 3    | Peak heat      | $T_P$<br>260°C ± 5°C                      | 10 sec. MAX   |

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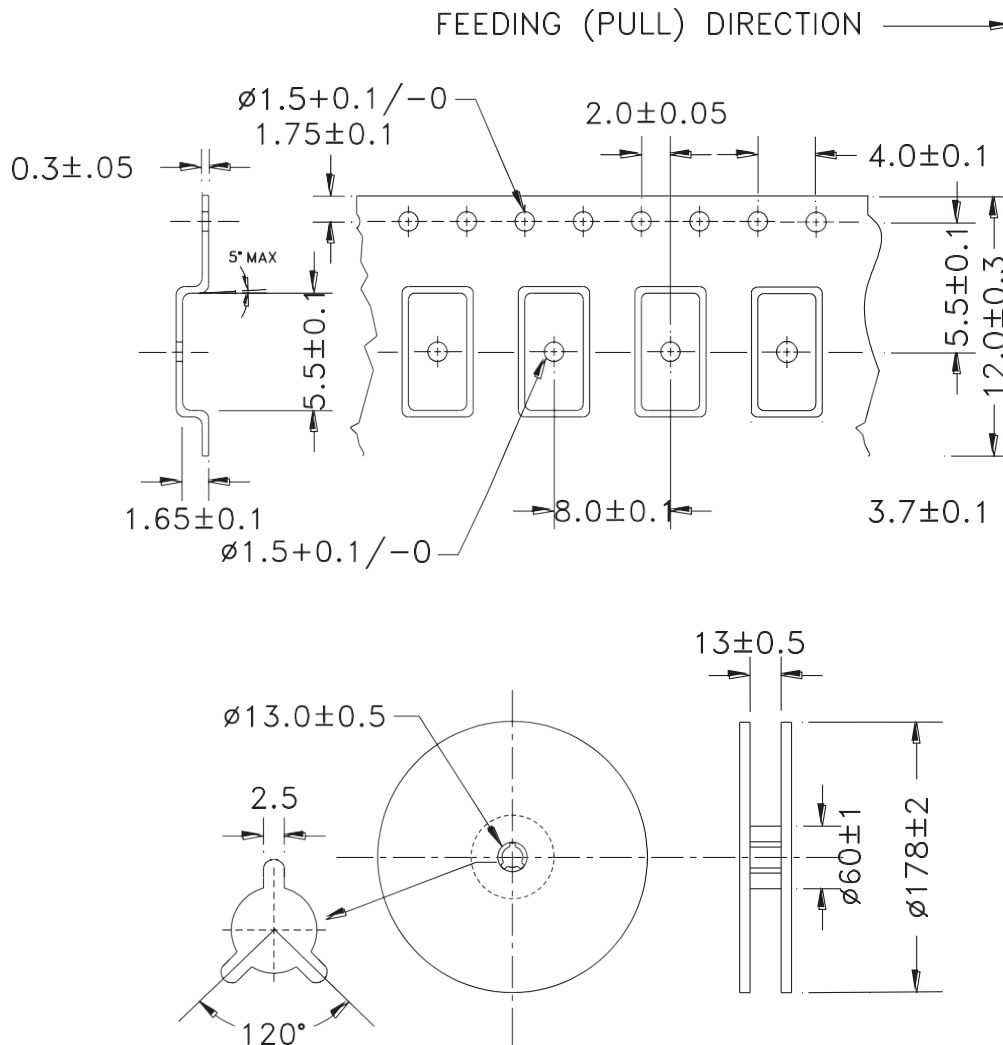
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## Packaging

1000 pcs/reel



Dimensions: mm

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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