



**THE DATASHEET OF  
ABM3AIG-25.000MHZ-8-1R-T**



# 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
- 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	Minimum	Typical	Maximum	Units	Notes
Frequency Range	8.000		50.000	MHz	
Operation Mode	Fundamental				
Operating Temperature	-40		+125	°C	Option "K"; See options
Storage Temperature	-40		+125	°C	
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 – 9.999MHz
			100		10.000 – 15.999MHz
			60		16.000 – 19.999MHz
			50		20.000 – 50.000MHz
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	@ 100Vdc ± 15V

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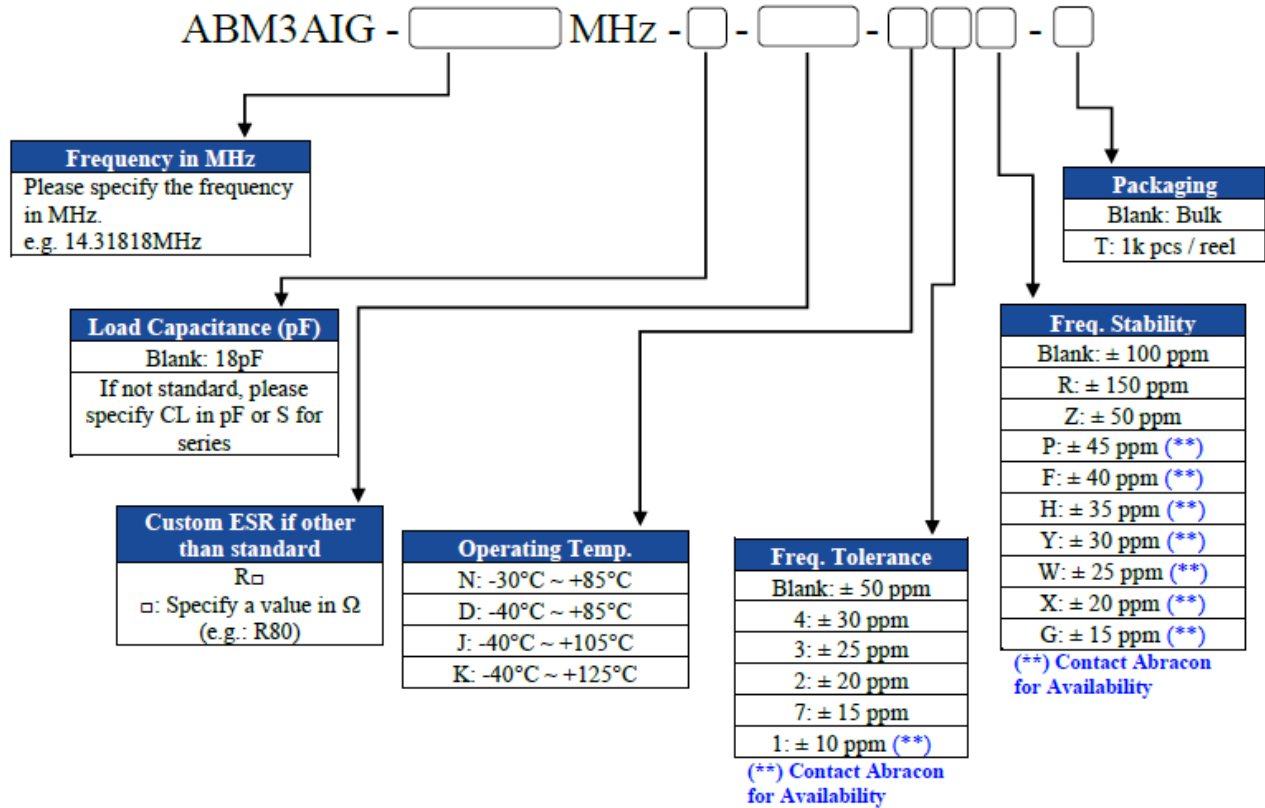


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## Options and Part Identification (left blank if standard)



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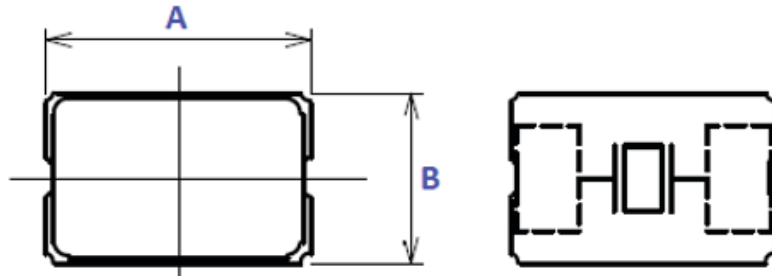
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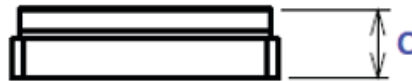
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## Mechanical Dimensions

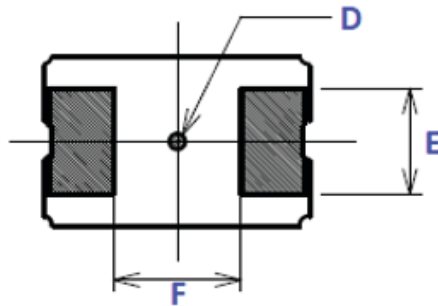
Top View



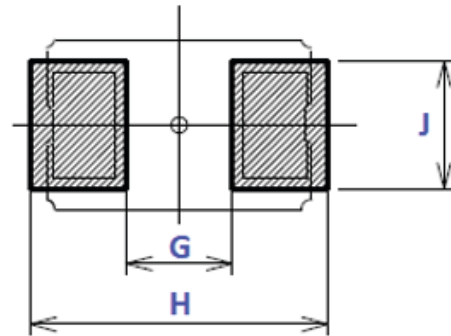
Side View



Bottom View

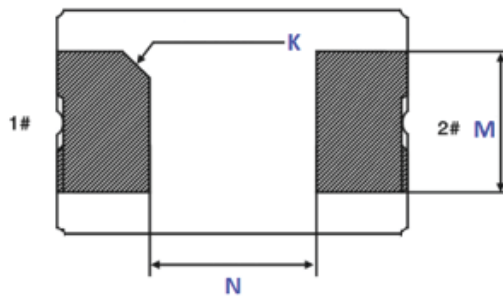


Recommended Land Pattern



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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## Reflow Profile

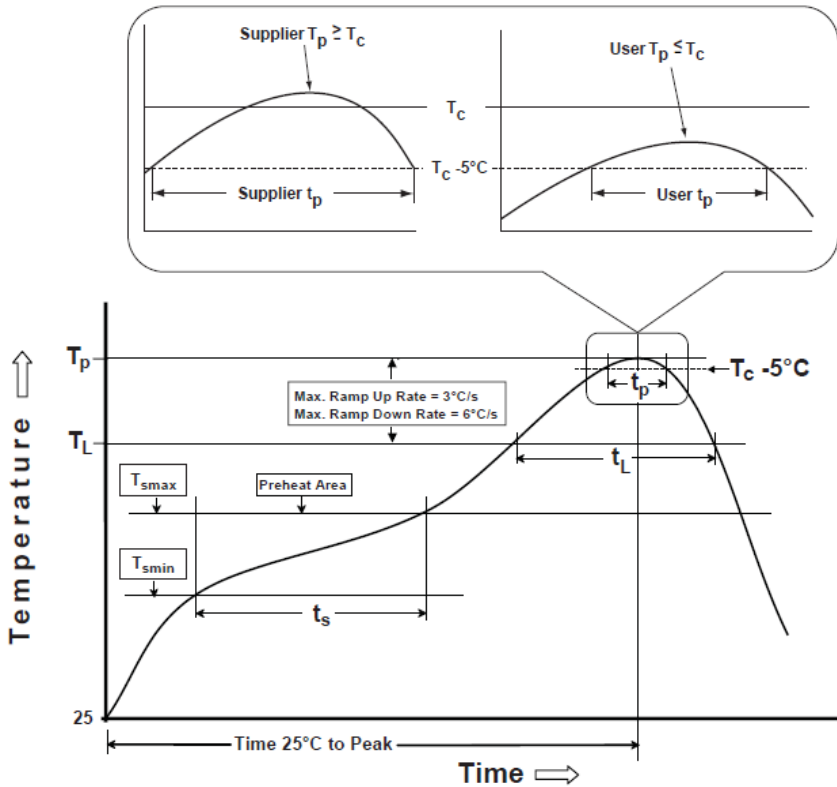


Table 1

SnPb Eutectic Process Classification Temperatures ( $T_c$ )		
Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> >350
<2.5 mm	235 °C	220 °C
>2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures ( $T_c$ )			
Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum ( $T_{smin}$ )	100°C	150°C
Temperature maximum ( $T_{smax}$ )	150°C	200°C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3°C/sec. max	3°C/sec. max
Liquidous temperature ( $T_L$ )	183°C	217°C
Time at liquidous ( $t_L$ )	60 - 150 sec.	60 - 150 sec.
Peak package body temperature ( $T_p$ )*	see Table 1	see Table 2
Time ( $t_p$ )** within 5°C of the specified classification temperature ( $T_c$ )	20 sec.	30 sec.
Ramp-down rate ( $T_p$ to $T_{smax}$ )	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

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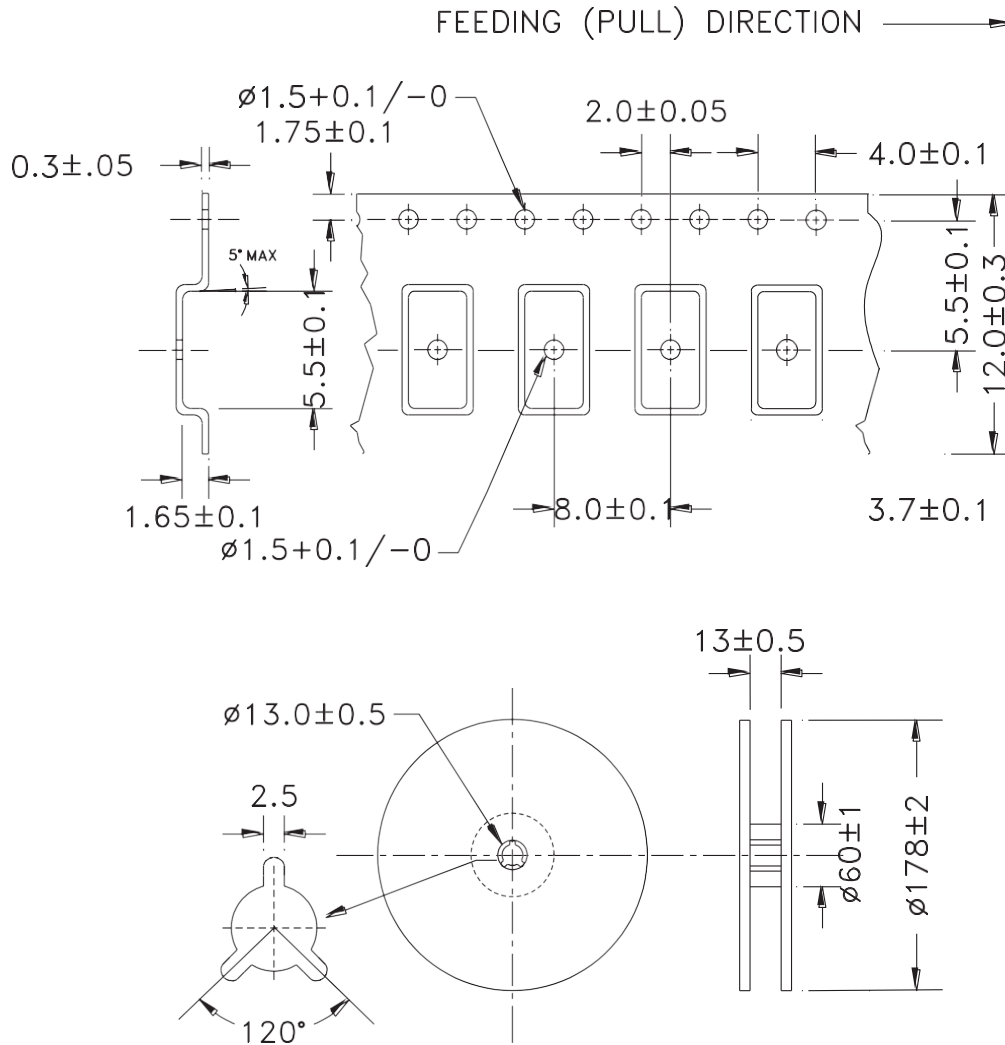
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## Packaging

1000 pcs/reel



Dimensions: mm

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