

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8GAIG Series

Request Samples



Check Inventory



3.2 x 2.5 x .08 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Features

- AEC-Q200 Qualified
- Automotive Grade 1: -40°C to +125°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

Key Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	10.000		54.000	MHz	
Operation Mode	Fundamental				
Operating Temperature	-40		+125	°C	Option “blank”; 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
Equivalent series resistance (R1)			200	Ω	10.000 – 12.000MHz
			100		12.000 – 15.999MHz
			80		16.000 – 19.999MHz
			60		20.000 – 54.000MHz
Shunt capacitance (C0)			2.0	pF	
Load capacitance (CL)	10			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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Options and Part Identification (left blank if standard)

ABM8GAIG - MHz - - - -

Frequency in MHz

Please specify the frequency in MHz.
e.g. 14.31818MHz

Load Capacitance (pF)

Blank: 10pF
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 ~ +125°C
N: -30°C ~ +85°C
D: -40°C ~ +85°C
J: -40°C ~ +105°C

Freq. Tolerance

Blank: ± 50 ppm
4: ± 30 ppm
3: ± 25 ppm
2: ± 20 ppm
7: ± 15 ppm
1: ± 10 ppm

Packaging

Blank: Bulk
T3: 3k pcs / reel

Freq. Stability

Blank: ± 100 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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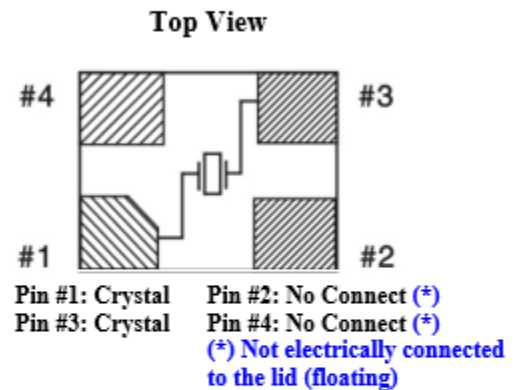
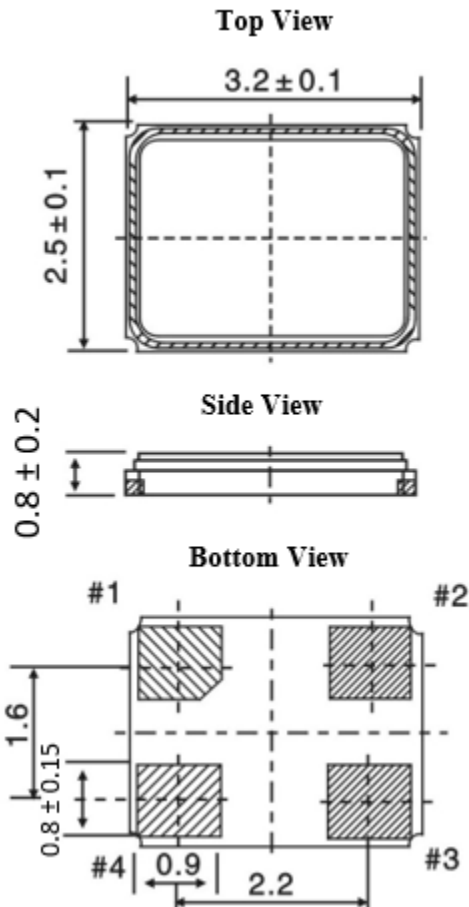
Check Inventory



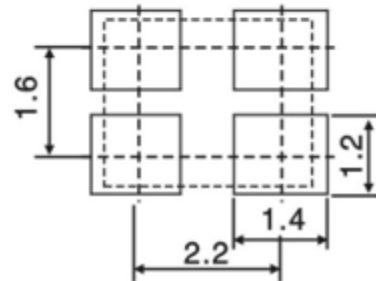
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Mechanical Dimensions



Recommended Land Pattern



Note: Due to availability of raw materials, this part may be manufactured with the chamfer on pin 1 or pin 4. Be advised that this does not affect the electrical characteristics of the crystal in any way.

Dimensions: mm

Sealing Method = Glass Sealing

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Reflow Profile [JEDEC J-STD-020]

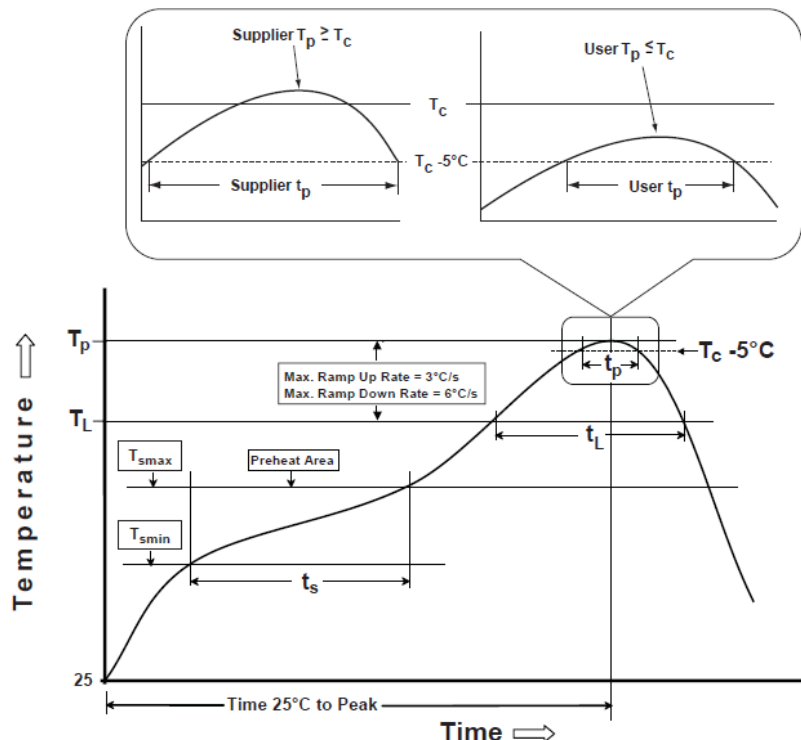


Table 1

SnPb Eutectic Process
Classification Temperatures (T_c)

Package Thickness	Volume mm^3 <350	Volume mm^3 ≥ 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^3 <350	Volume mm^3 350-2000	Volume mm^3 >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.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

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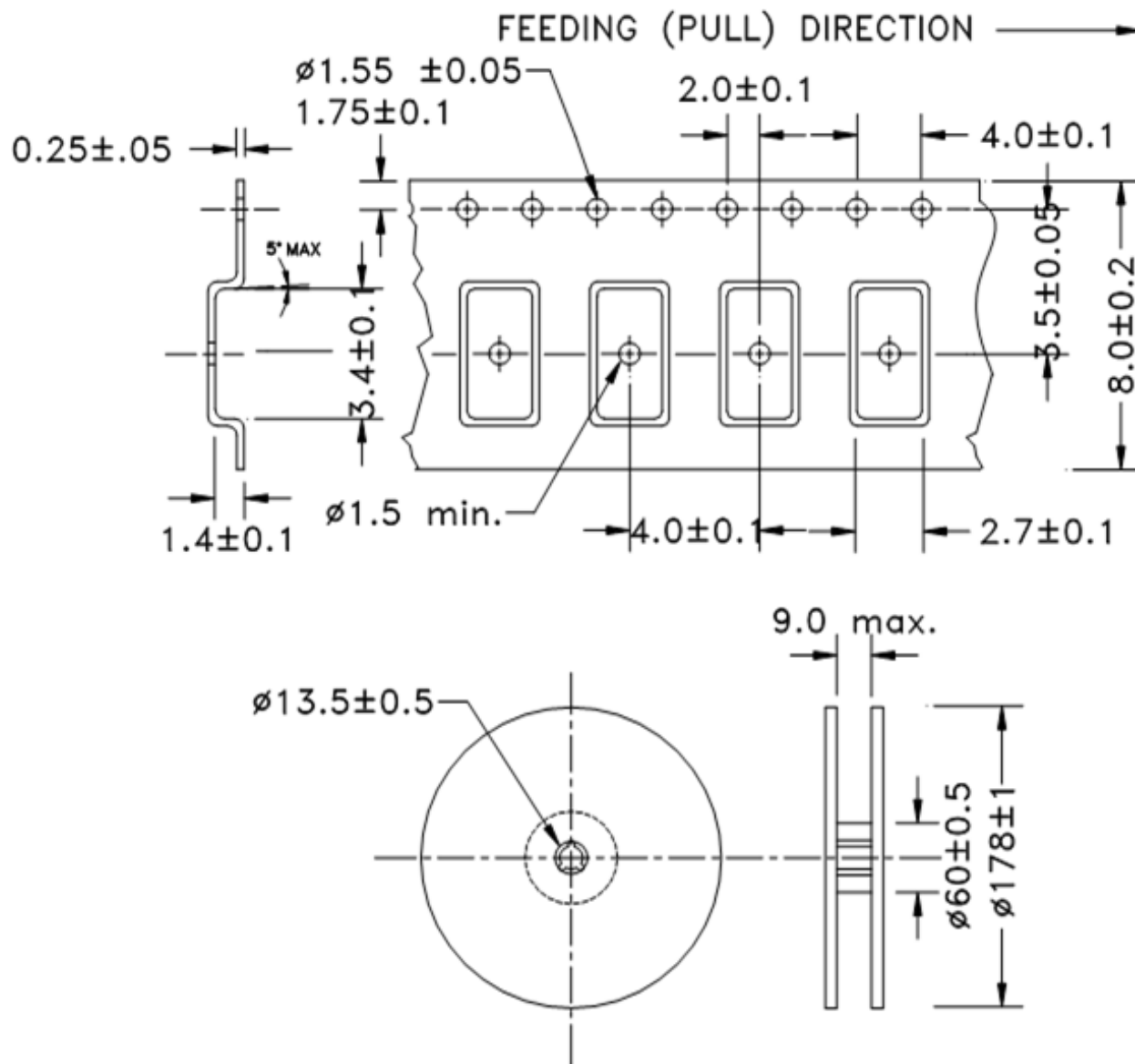


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Packaging

T3: 3000pcs/reel



Dimensions: mm

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.



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