

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8AAIG Series

Request Samples



Check Inventory



3.2 x 2.5 x 0.9 mm
RoHS/RoHS II Compliant
 Pb in ceramic, exemption (7c-1)
 MSL Level = N/A

Features

- AEC-Q200 Qualified
- Automotive Grade 1: -40°C to +125°C
- Automotive Grade 0: -40°C to +150°C
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Hermetically Glass-sealed Ceramic Package
- RoHS/RoHS II Exemption

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	8.000		54.000	MHz	
Operation Mode	Fundamental				
Operating Temperature ^[Note 1]	-40		+125	°C	Option “blank”; See options
	-40		+150		Option “V”; See options
Storage Temperature	-40		+125	°C	Options “blank, J, D”
	-40		+150		Option “V”
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)			500	Ω	8.000 – 9.799MHz
			120		9.800 – 12.000MHz
			50		12.001 – 54.000MHz
Shunt capacitance (C0)			2.0	pF	
Load capacitance (CL)	8			pF	Option “blank”; See options
Drive Level		10	200	μW	
Aging	-3		+3	ppm	@25°C±3°C First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

Note 1: Operating temperature range option -40°C ~ +150°C only available in select frequencies and electrical performance options. Please contact Abracon for availability.



5101 Hidden Creek Ln Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-14-23

ABRACON IS
 ISO9001-2015
 CERTIFIED

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8AAIG Series

Request Samples



Check Inventory



3.2 x 2.5 x 0.9 mm
RoHS/RoHS II Compliant
 Pb in ceramic, exemption (7c-1)
 MSL Level = N/A

Options and Part Identification (left blank if standard)

ABM8AAIG - [] MHz - [] - [] - [] - [] - []

Frequency in MHz

Please specify the frequency in MHz.
 e.g. 16.384MHz

Load Capacitance (pF)

Blank: 8pF
 If not standard, please specify CL
 in pF or S for series

Packaging

Blank: Bulk
 T3: 3k pcs / reel

Freq. Stability

Blank: ± 100 ppm
R: ± 150 ppm
Z: ± 50 ppm
Y: ± 30 ppm

Contact Abracon
 for Availability

Custom ESR if other than standard

Blank = Standard
 Custom = Rxx or Rxxx
 Specify an xx or xxx
 value in Ω
 (e.g.: R40 or R100)

Operating Temp.

Blank: -40°C ~ +125°C (**)
D: -40°C ~ +85°C
J: -40°C ~ +105°C (***)
V: -40°C ~ +150°C (*)

(*) Only offered @ Freq. Stability
 Option R
 (**) Only offered @ Freq. Stability
 Option Blank and R.
 (***) Only offered @ Freq.
 Stability Option Z, Blank, and R.
 (*) Contact Abracon
 for Availability

Freq. Tolerance

Blank: ± 50 ppm
1: ± 30 ppm
2: ± 15 ppm



5101 Hidden Creek Ln Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
 www.abracon.com

REVISED: 02-14-23

ABRACON IS
 ISO9001-2015
 CERTIFIED

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8AAIG Series

Request Samples

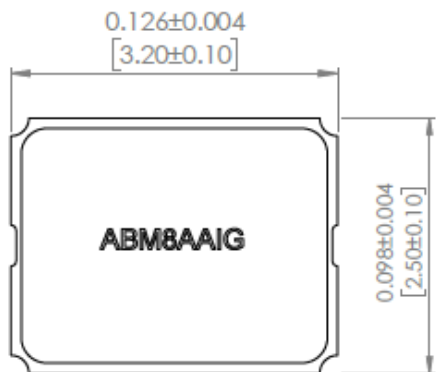


Check Inventory

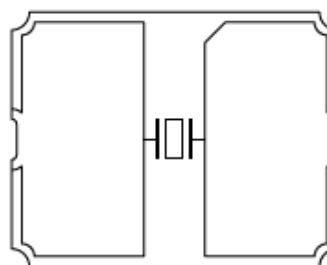


3.2 x 2.5 x 0.9 mm
RoHS/RoHS II Compliant
Pb in ceramic, exemption (7c-1)
MSL Level = N/A

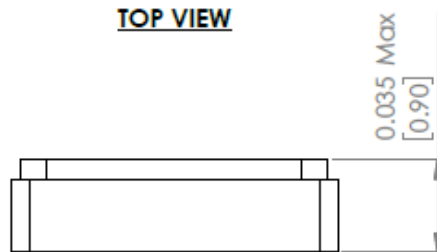
Mechanical Dimensions



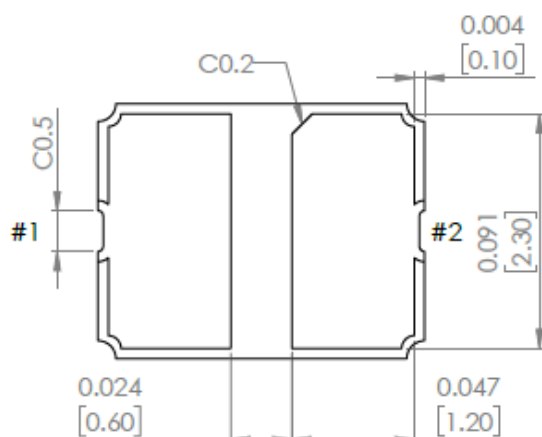
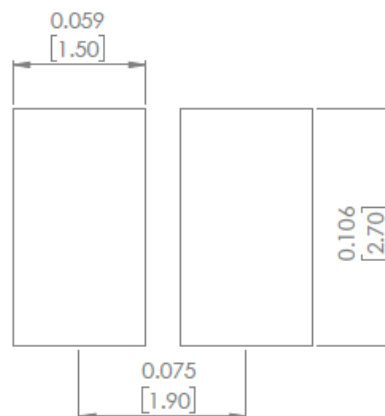
CONNECTION



Pin#1: Crystal Pin#2: Crystal



Recommended Land Pattern



Dimensions: mm

Sealing Method = Glass Sealed



5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-14-23

ABRACON IS
ISO9001-2015
CERTIFIED

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8AAIG Series

Request Samples



Check Inventory



3.2 x 2.5 x 0.9 mm
 RoHS/RoHS II Compliant
 Pb in ceramic, exemption (7c-1)
 MSL Level = N/A

Reflow Profile [JEDEC J-STD-020]

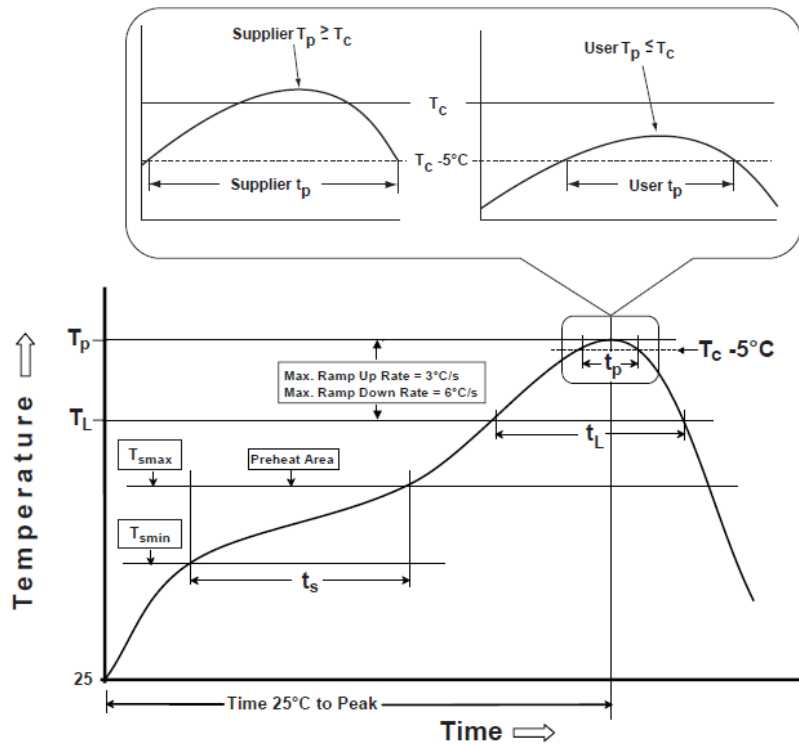


Table 1

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.

Automotive & Industrial Grade Ceramic SMD Crystal

ABM8AAIG Series

Request Samples

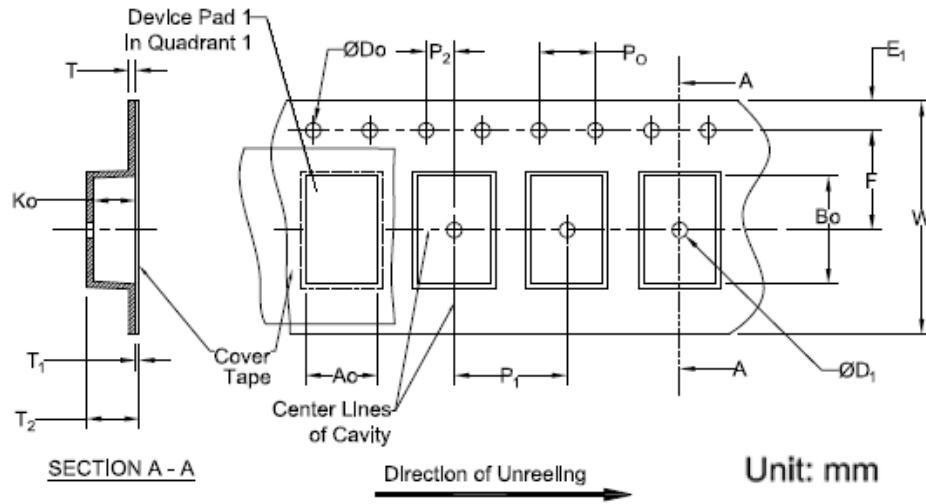


Check Inventory



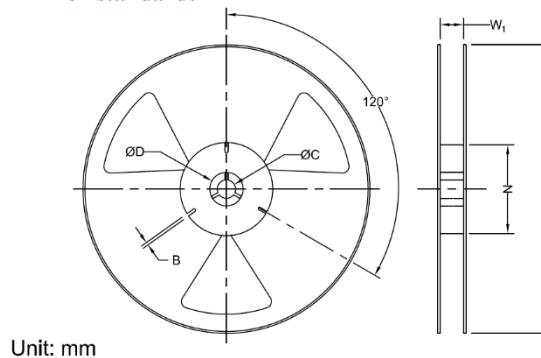
3.2 x 2.5 x 0.9 mm
RoHS/RoHS II Compliant
 Pb in ceramic, exemption (7c-1)
 MSL Level = N/A

Packaging



Tape Specifications (mm)						
Ao	Bo	Do	D ₁ (Min)	E ₁	F	Ko
*	*	1.55±0.05	1.0	1.75±0.1	3.5±0.01	*
P ₁	P ₂	Po	T (Max)	T ₁ (Max)	T ₂ (Max)	W
4.0±0.1	2.0±0.05	4.0±0.1	0.6	0.1	2.5	8 ± 0.3

* Note: Compliant to EIA-481 standards



Reel Specifications (mm)					
A	B (Min)	C	D (Min)	N	W1
178	1.5	13.2±0.01	20.2	60.2±0.01	8±0.01

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.



5101 Hidden Creek Ln Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 02-14-23

ABRACON IS
 ISO9001-2015
 CERTIFIED