



ABM8AIG



3.2 x 2.5 x 0.8 mm
RoHS/RoHS II Compliant
 MSL = N/A: Not Applicable

Features

- AEC-Q200 Qualified
- Automotive Grade 1: -40°C to +125°C
- Automotive Grade 0: -40°C to +150°C (Available Upon Request)
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Hermetically Seam-sealed Ceramic Package
- RoHS/RoHS II Compliant and Pb free

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		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 ^[Note 1]	-40		+125	°C	Option "blank, J, D, N"
	-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
	-150		+150		Option "R"; See options
Equivalent series resistance (R1)			500	Ω	8.000 – 9.999 MHz
			100		10.000 – 15.999 MHz
			70		16.000 – 19.999 MHz
			50		20.000 – 25.999 MHz
			40		26.000 – 39.999 MHz
			35		40.000 – 54.000 MHz
Shunt capacitance (C0)			2.0	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

Note 1: Operating temperature range option -40°C to +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: 06-13-19

ABRACON IS
 ISO9001-2015
 CERTIFIED

Automotive & Industrial Grade Ceramic Base SMD Crystal



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Options and Part Identification (left blank if standard)

ABM8AIG- 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)

Packaging
Blank: Bulk
T: 1k pcs / reel
T3: 3k pcs / reel

Operating Temp.
Blank: -40°C to +125°C
N: -30°C to +85°C
D: -40°C to +85°C
J: -40°C to +105°C
V: -40°C to +150°C (*)

(*) Contact Abracon for Availability

Freq. Tolerance
Blank: ± 50 ppm
4: ± 30 ppm
3: ± 25 ppm
2: ± 20 ppm
7: ± 15 ppm
1: ± 10 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 (*)

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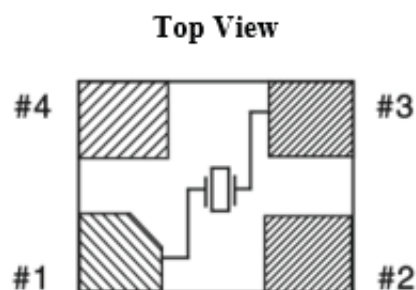
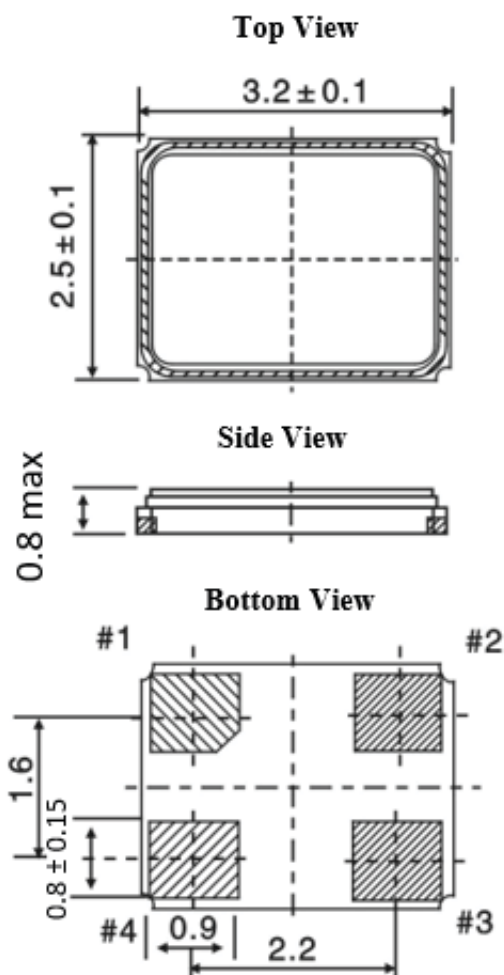


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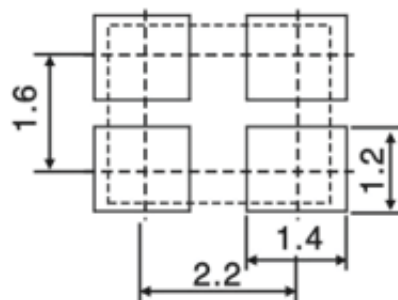
Mechanical Dimensions



Pin #1: Crystal
Pin #3: Crystal

Pin #2: GND (*)
Pin #4: GND (*)
(*) Electrically connected to lid

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

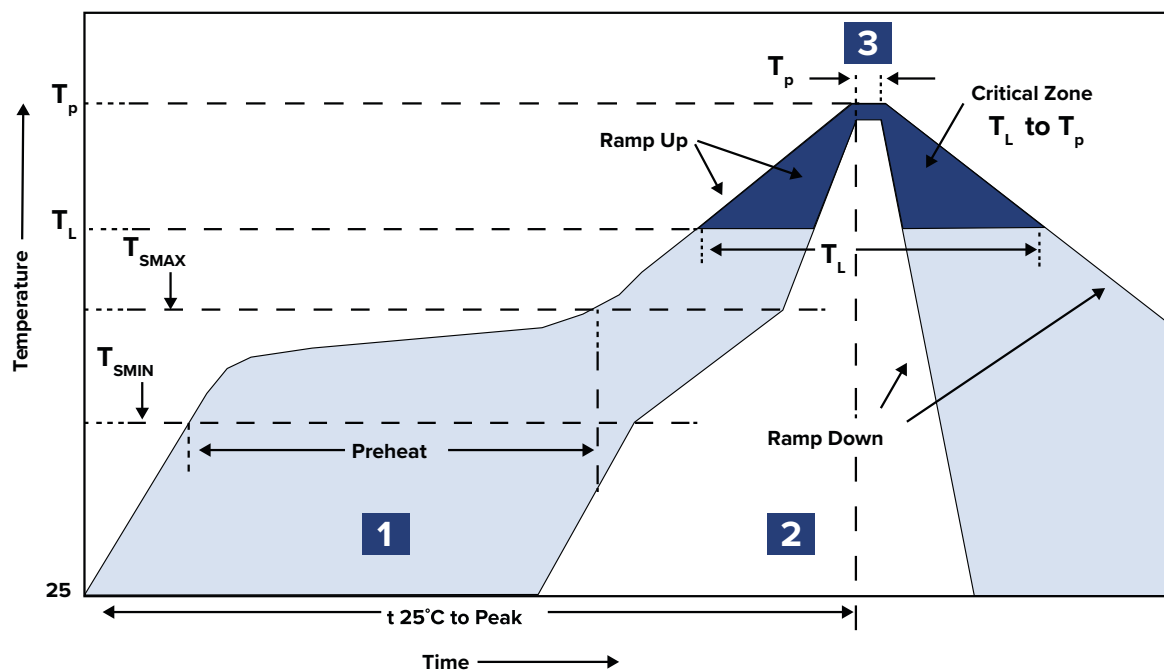


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Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ $150^{\circ}C \sim 180^{\circ}C$	60 ~ 120 sec.
2	Ramp Up	T_L $230^{\circ}C$	30 ~ 40 sec.
3	Peak heat	T_P $260^{\circ}C \pm 5^{\circ}C$	10 sec. MAX



Technical drawing of a mechanical part, showing front, top, and side views with dimensions.

Front View:

- Overall width: 8.0 ± 0.2
- Overall height: 3.5 ± 0.05
- Top edge features:
 - Left side: 0.25 ± 0.05
 - Top center: $\phi 1.55 \pm 0.05$
 - Top right: 1.75 ± 0.1
- Bottom edge features:
 - Left side: 1.4 ± 0.1
 - Bottom center: $\phi 1.5$ min.
 - Bottom right: 2.7 ± 0.1
- Internal features:
 - Four rectangular slots, each 4.0 ± 0.1 wide.
 - Five circular holes along the top edge, with a center-to-center distance of 2.0 ± 0.1 .
 - Four circular holes along the bottom edge, with a center-to-center distance of 4.0 ± 0.1 .
- Angle: 5° MAX

Top View:

- Overall diameter: $\phi 13.5 \pm 0.5$
- Central hole diameter: $\phi 1.5$ min.

Side View:

- Overall length: 9.0 max.
- Internal features:
 - Four rectangular slots, each 4.0 ± 0.1 wide.
 - Five circular holes along the top edge, with a center-to-center distance of 2.0 ± 0.1 .
 - Four circular holes along the bottom edge, with a center-to-center distance of 4.0 ± 0.1 .

FEEDING (PULL) DIRECTION is indicated by an arrow pointing to the right.

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