Automotive & Industrial Grade Ceramic Base SMD Crystal

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.

ABRACON LLC
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

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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)

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

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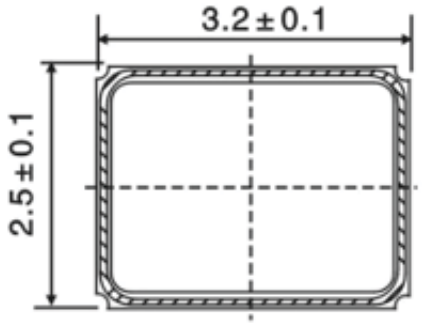
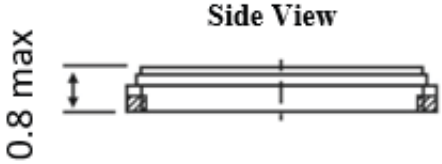
Mechanical Dimensions

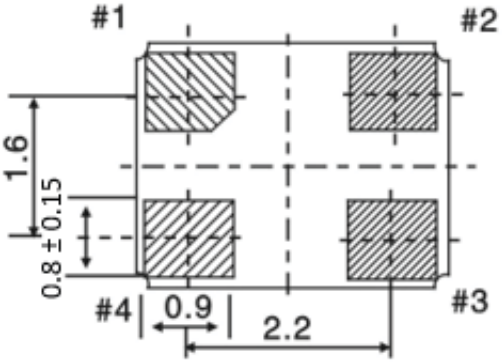
Top View



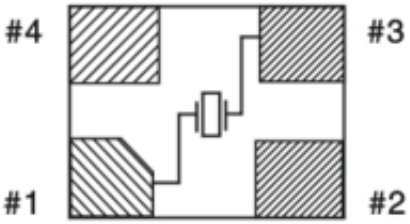
Side View



Bottom View

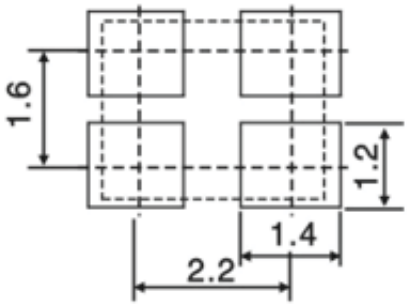


Top View



Pin #1: Crystal
Pin #2: GND (*)
Pin #3: Crystal
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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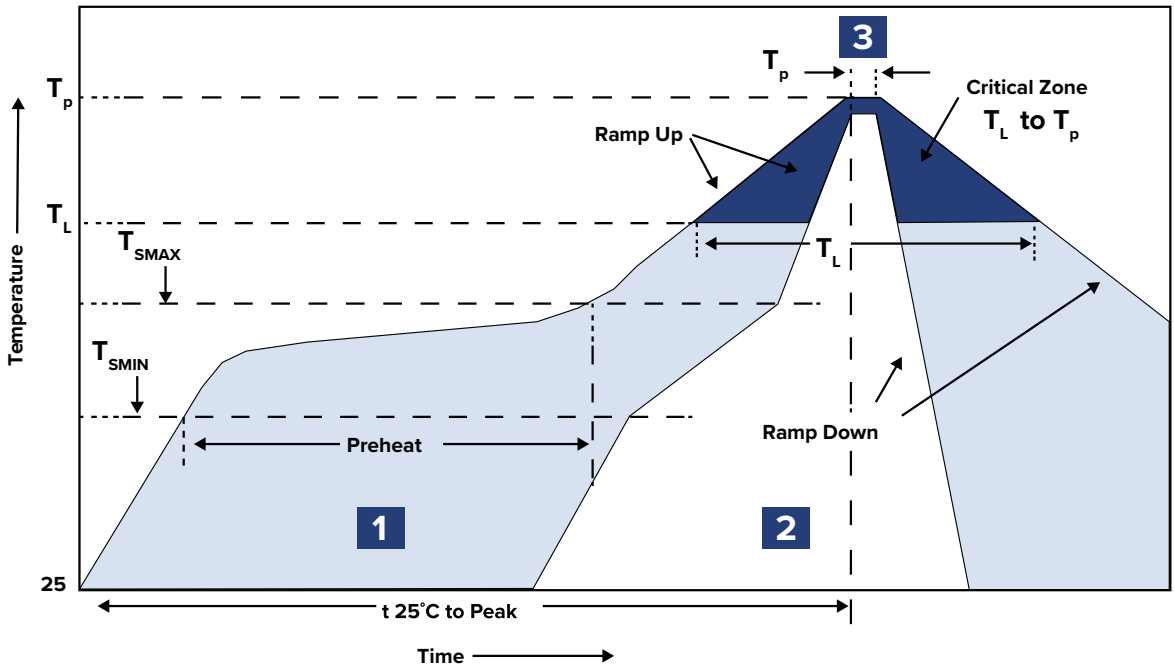
Reflow Profile



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

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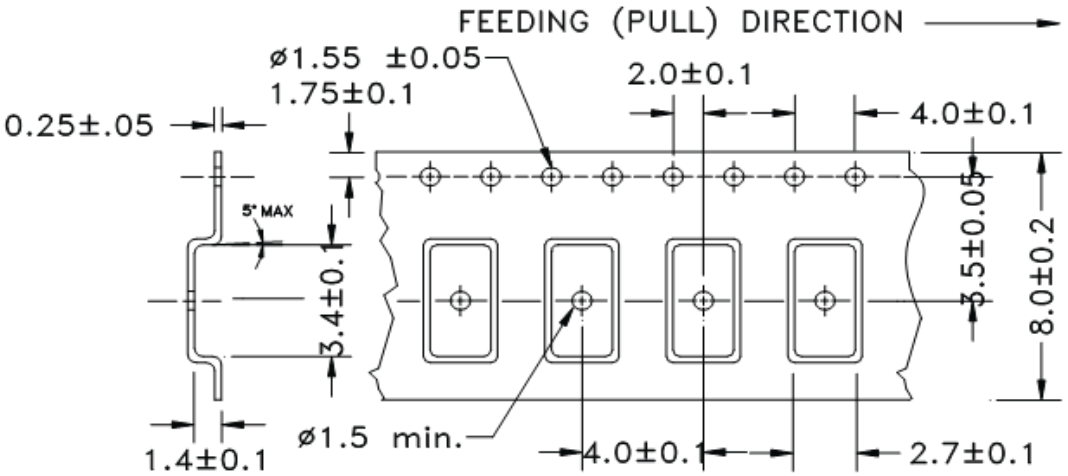
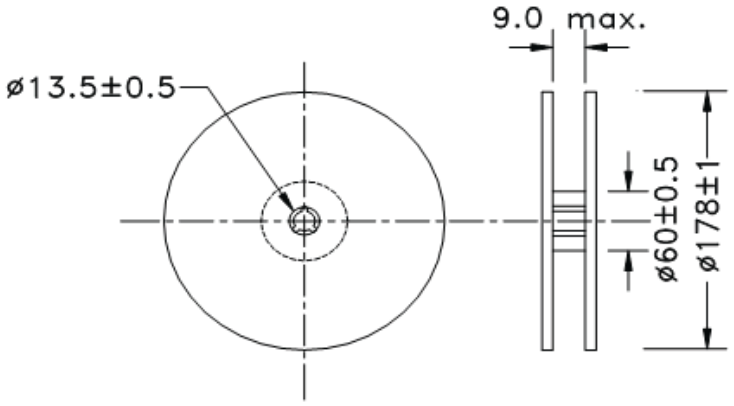
Packaging

Tape and Reel:
T: 1,000pcs/reel
T3: 3,000pcs/reel





Dimensions: mm

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

ABM8AIG-33.000MHZ-12-2Z-T3 ABM8AIG-24.576MHZ-12-2Z-T3 ABM8AIG-40.000MHZ-12-2Z-T3 ABM8AIG-16.384MHZ-12-2Z-T3 ABM8AIG-28.63636MHZ-12-2Z-T3 ABM8AIG-19.6608MHZ-12-2-T3 ABM8AIG-19.6608MHZ-12-2Z-T3 ABM8AIG-24.576MHZ-12-2-T3 ABM8AIG-30.000MHZ-12-2Z-T3 ABM8AIG-30.000MHZ-12-2-T3 ABM8AIG-32.000MHZ-12-2-T3 ABM8AIG-13.560MHZ-12-2Z-T3 ABM8AIG-26.000MHZ-12-2Z-T3 ABM8AIG-33.000MHZ-12-2-T3 ABM8AIG-22.1184MHZ-12-2Z-T3 ABM8AIG-25.000MHZ-12-2-T3 ABM8AIG-27.000MHZ-12-2-T3 ABM8AIG-18.432MHZ-12-2Z-T3 ABM8AIG-10.000MHZ-12-2Z-T3 ABM8AIG-27.000MHZ-12-2Z-T3 ABM8AIG-26.000MHZ-12-2-T3 ABM8AIG-24.000MHZ-12-2-T3 ABM8AIG-20.000MHZ-12-2-T3 ABM8AIG-40.000MHZ-12-2-T3 ABM8AIG-50.000MHZ-12-2Z-T3 ABM8AIG-32.000MHZ-12-2Z-T3 ABM8AIG-18.432MHZ-12-2-T3 ABM8AIG-20.000MHZ-12-2Z-T3 ABM8AIG-22.1184MHZ-12-2-T3 ABM8AIG-50.000MHZ-12-2-T3 ABM8AIG-16.384MHZ-12-2-T3 ABM8AIG-14.7456MHZ-12-2Z-T3 ABM8AIG-25.000MHZ-12-2Z-T3 ABM8AIG-13.560MHZ-12-2-T3 ABM8AIG-13.000MHZ-12-2Z-T3 ABM8AIG-12.288MHZ-12-2-T3 ABM8AIG-12.288MHZ-12-2Z-T3 ABM8AIG-12.000MHZ-12-2Z-T3 ABM8AIG-16.000MHZ-12-2-T3 ABM8AIG-13.000MHZ-12-2-T3 ABM8AIG-16.000MHZ-12-2Z-T3 ABM8AIG-28.63636MHZ-12-2-T3 ABM8AIG-14.31818MHZ-12-2-T3 ABM8AIG-14.7456MHZ-12-2-T3 ABM8AIG-12.000MHZ-12-2-T3 ABM8AIG-10.000MHZ-12-2-T3 ABM8AIG-14.31818MHZ-12-2Z-T3 ABM8AIG-24.000MHZ-12-2Z-T3 ABM8AIG-12MHZ-T3 ABM8AIG-12.000MHz-12-D2Z-T ABM8AIG-12.000MHz-2-T ABM8AIG-12.000MHz-4-T ABM8AIG-12.000MHz-8-D4Z-T ABM8AIG-14.318MHz-8-T ABM8AIG-16.000MHz-12-2Z-T ABM8AIG-40.000MHz-12-D2Z-T ABM8AIG-40.000MHz-4-T ABM8AIG-25.000MHz-8-T ABM8AIG-25.000MHz-R40-4-T ABM8AIG-30.000MHz-12-D2Z-T ABM8AIG-32.000MHz-12-D2Z-T ABM8AIG-32.000MHz-8-2Z-T ABM8AIG-33.000MHz-12-D2Z-T ABM8AIG-16.000MHz-4-T ABM8AIG-16.000MHz-82Z-T ABM8AIG-20.000MHz-4-T ABM8AIG-20.000MHz-8-T ABM8AIG-24.000MHz-82Z-T ABM8AIG-24.000MHz-R40-4-T ABM8AIG-18.080MHZ-10-7Z-T ABM8AIG-48.000MHZ-4Z-T ABM8AIG-19.6608MHZ-12-2Z-T ABM8AIG-8.000MHZ-8-V1R-T ABM8AIG-20.000MHZ-12-1Z-T ABM8AIG-20.000MHZ-2Z-T ABM8AIG-16.000MHZ-8-1Z-T ABM8AIG-18.080MHZ-8-1Z-T ABM8AIG-24.576MHZ-12-1Z-T ABM8AIG-27.000MHZ-12-1Z-T ABM8AIG-12.000MHZ-1Z-T ABM8AIG-32.000MHZ-1Z-T ABM8AIG-8.000MHZ-1Z-T ABM8AIG-40.000MHZ-8-7Z-T