

Automotive & Industrial Grade Miniature Ceramic Base SMD Crystal



ABM11AIG



2.0 x 1.6 x 0.55 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	16.000		60.000	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)			150	Ω	16.000 – 19.999 MHz
			100		20.000 – 23.999 MHz
			80		24.000 – 25.999 MHz
			60		26.000 – 40.999 MHz
			50		41.000 – 60.000 MHz
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	@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

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ISO9001-2015
CERTIFIED

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Options and Part Identification (left blank if standard)

ABM11AIG- MHz - - - -

Frequency in MHz
Please specify the frequency in MHz.
(e.g. 16.384MHz)

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)

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

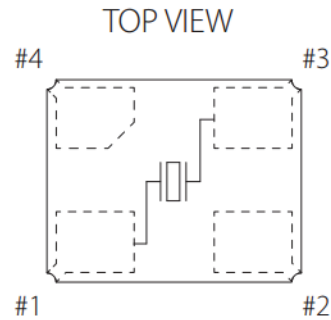
Freq. Tolerance
Blank: ± 50 ppm
4: ± 30 ppm
3: ± 25 ppm
2: ± 20 ppm
7: ± 15 ppm
1: ± 10 ppm

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 (*)

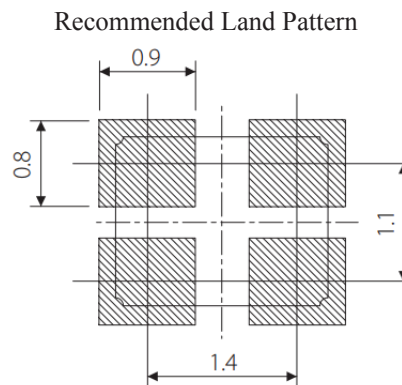
(*) Contact Abracon for Availability



Mechanical Dimensions



(*) Electrically connected to lid



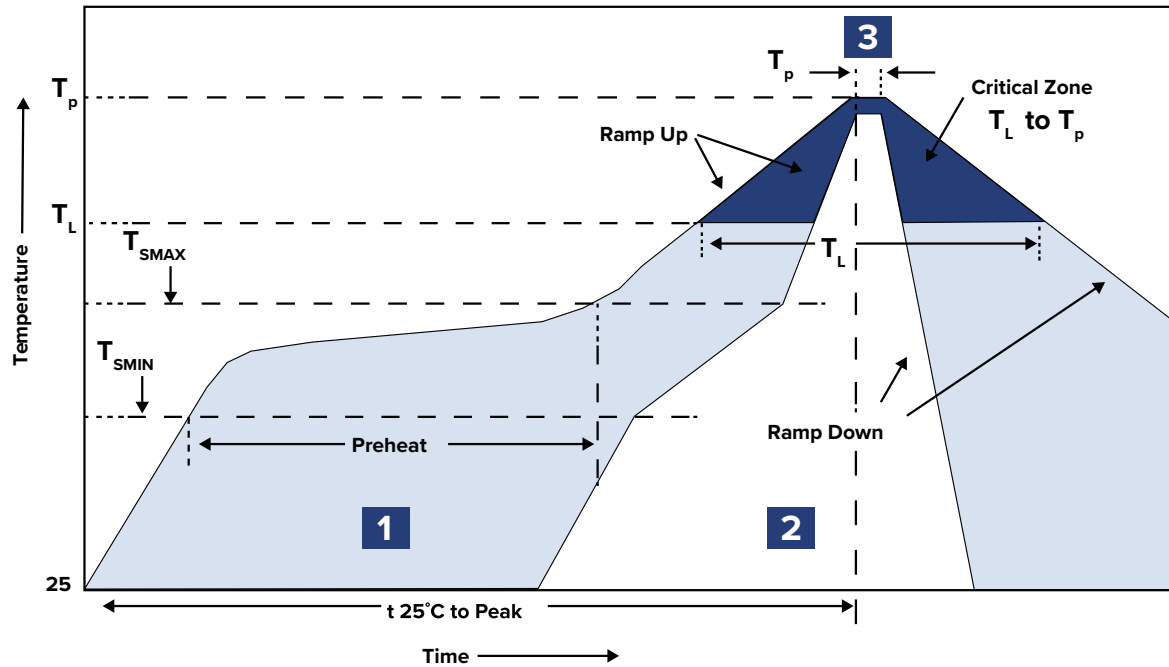
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Reflow Profile



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

ABM11AIG

The diagram shows a square integrated circuit with the label 'ABM11AIG' on the left and a pinout diagram on the right. The pinout diagram is a square with four yellow squares at the corners, representing the connection points for the device.



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