

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
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For terms and conditions of sales, please visit:
www.abracon.com

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ABRACON IS
ISO9001-2015
CERTIFIED

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Options and Part Identification (left blank if standard)

ABM11AIG- **MHz** - - - -

Frequency in MHz	Load Capacitance (pF)	Custom ESR if other than standard	Packaging
Please specify the frequency in MHz. (e.g. 16.384MHz)	Blank: 10pF If not standard, please specify CL in pF or S for series	R □: Specify a value in Ω (e.g.: R80)	Blank: Bulk T: 1k pcs / reel T3: 3k pcs / reel

Operating Temp.	Freq. Tolerance	Freq. Stability
Blank: -40°C to +125°C	Blank: ± 50 ppm	Blank: ± 100 ppm
N: -30°C to +85°C	4: ± 30 ppm	R: ± 150 ppm
D: -40°C to +85°C	3: ± 25 ppm	Z: ± 50 ppm
J: -40°C to +105°C	2: ± 20 ppm	P: ± 45 ppm (*)
V: -40°C to +150°C (*)	7: ± 15 ppm	F: ± 40 ppm (*)
	1: ± 10 ppm	H: ± 35 ppm (*)
		Y: ± 30 ppm (*)
		W: ± 25 ppm (*)
		X: ± 20 ppm (*)
		G: ± 15 ppm (*)

(*) Contact Abracon for Availability

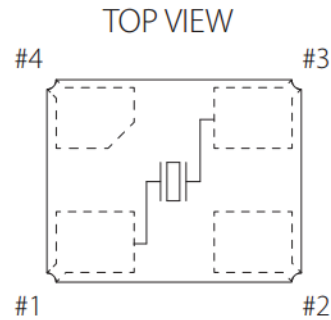
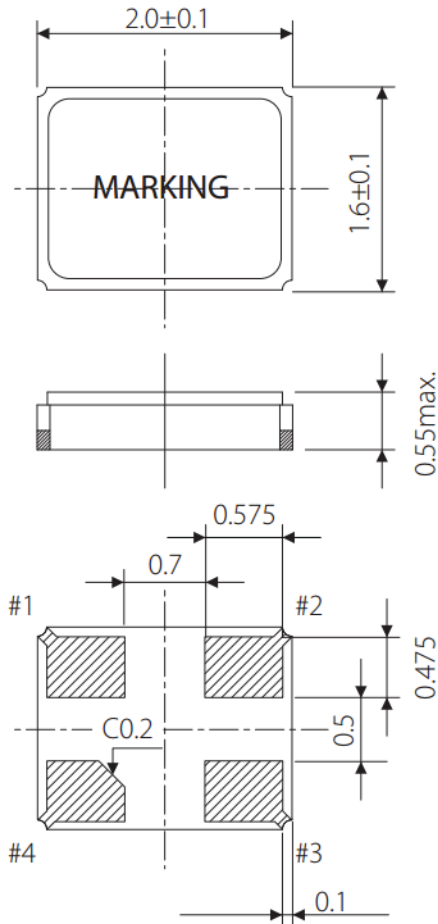
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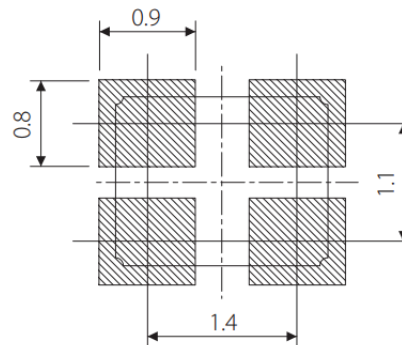
Mechanical Dimensions



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.

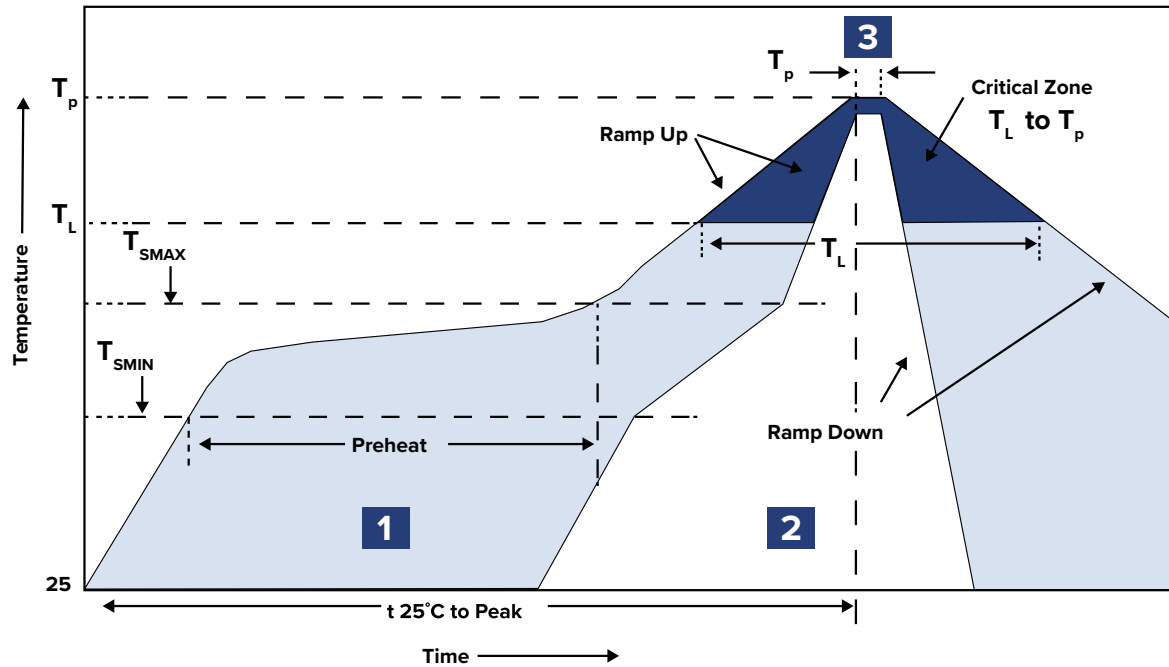
Dimensions: mm

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Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ $150^\circ\text{C} \sim 180^\circ\text{C}$	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



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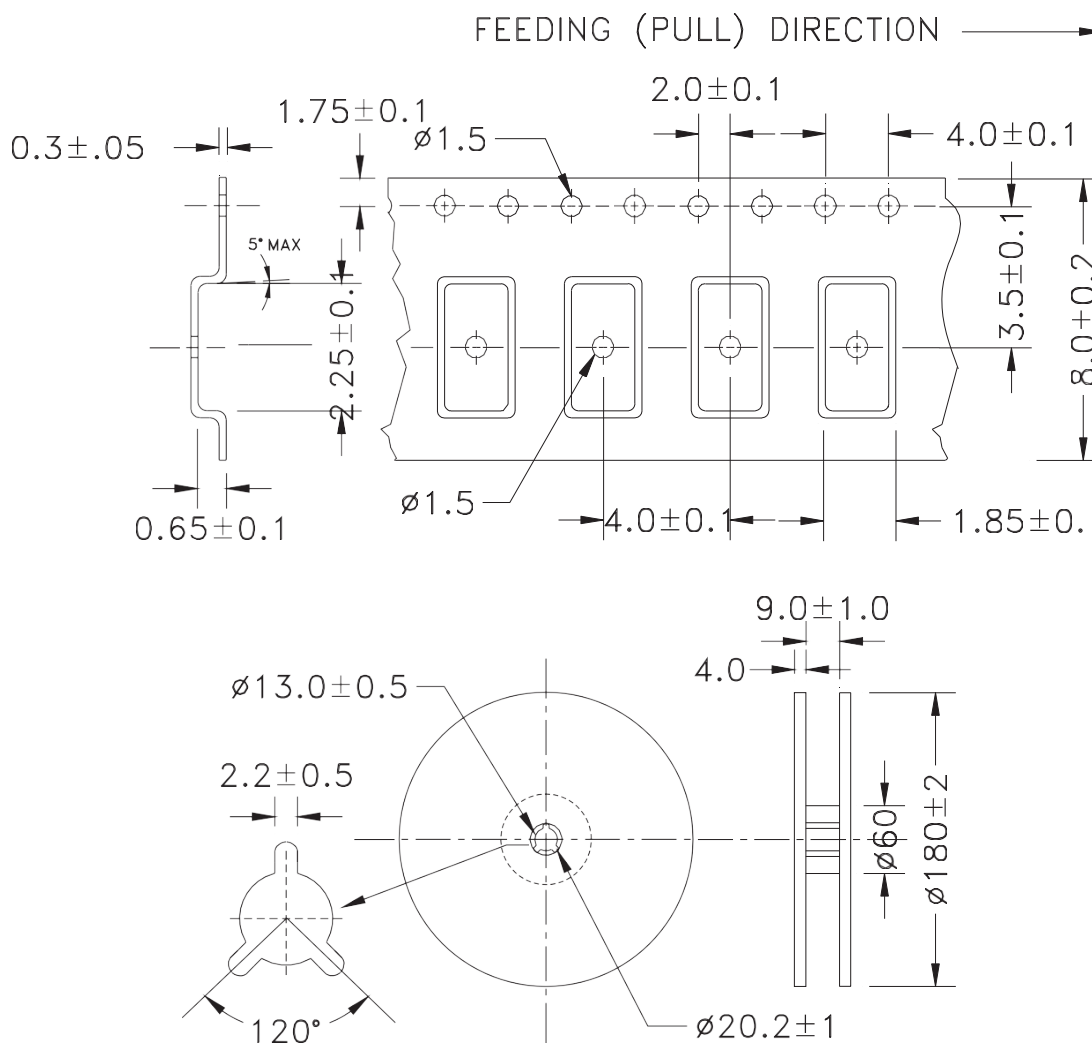
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Packaging

Tape and Reel:

T: 1,000pcs/reel

T3: 3,000pcs/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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