

ABM8AIG-8.000MHZ-1Z-T Datasheet

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DiGi Electronics Part Number	ABM8AIG-8.000MHZ-1Z-T-DG
Manufacturer	Abracon LLC
Manufacturer Product Number	ABM8AIG-8.000MHZ-1Z-T
Description	CRYSTAL 8.0000MHZ 18PF SMD
Detailed Description	8 MHz \pm 10ppm Crystal 18pF 500 Ohms 4-SMD, No Lead

This model ABM8AIG-8.000MHZ-1Z-T is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

ABM8AIG-8.000MHZ-1Z-T

Series:

ABM8AIG

Type:

MHz Crystal

Frequency Stability:

±50ppm

Load Capacitance:

18pF

Operating Mode:

Fundamental

Ratings:

AEC-Q200

Package / Case:

4-SMD, No Lead

Height - Seated (Max):

0.031" (0.80mm)

Manufacturer:

Abracon LLC

Product Status:

Active

Frequency:

8 MHz

Frequency Tolerance:

±10ppm

ESR (Equivalent Series Resistance):

500 Ohms

Operating Temperature:

-40°C ~ 125°C

Mounting Type:

Surface Mount

Size / Dimension:

0.126" L x 0.098" W (3.20mm x 2.50mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.60.0050

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99

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.



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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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Automotive & Industrial Grade Ceramic Base SMD Crystal

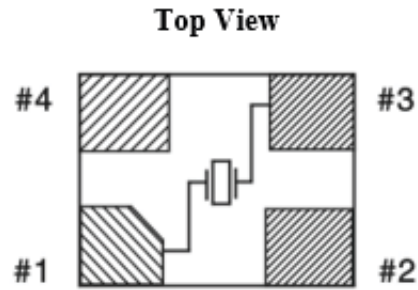
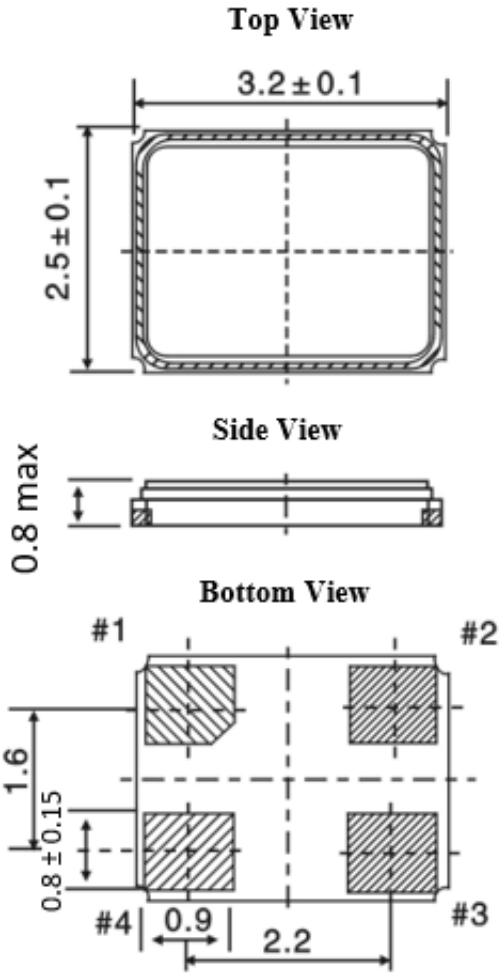


ABM8AIG



3.2 x 2.5 x 0.8 mm
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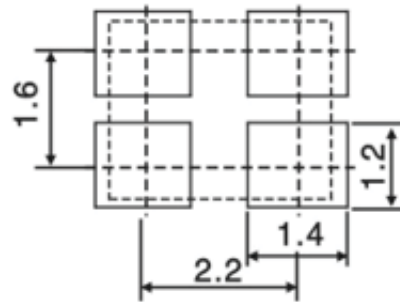
Mechanical Dimensions



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

Automotive & Industrial Grade Ceramic Base SMD Crystal

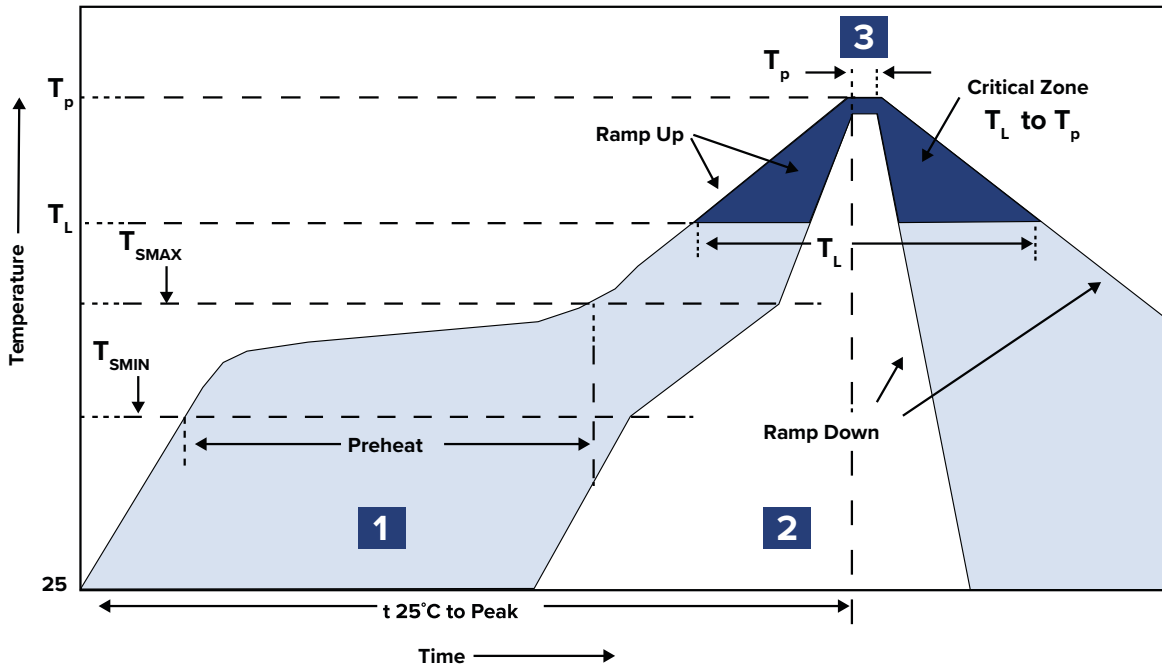


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Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ 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

Automotive & Industrial Grade Ceramic Base SMD Crystal



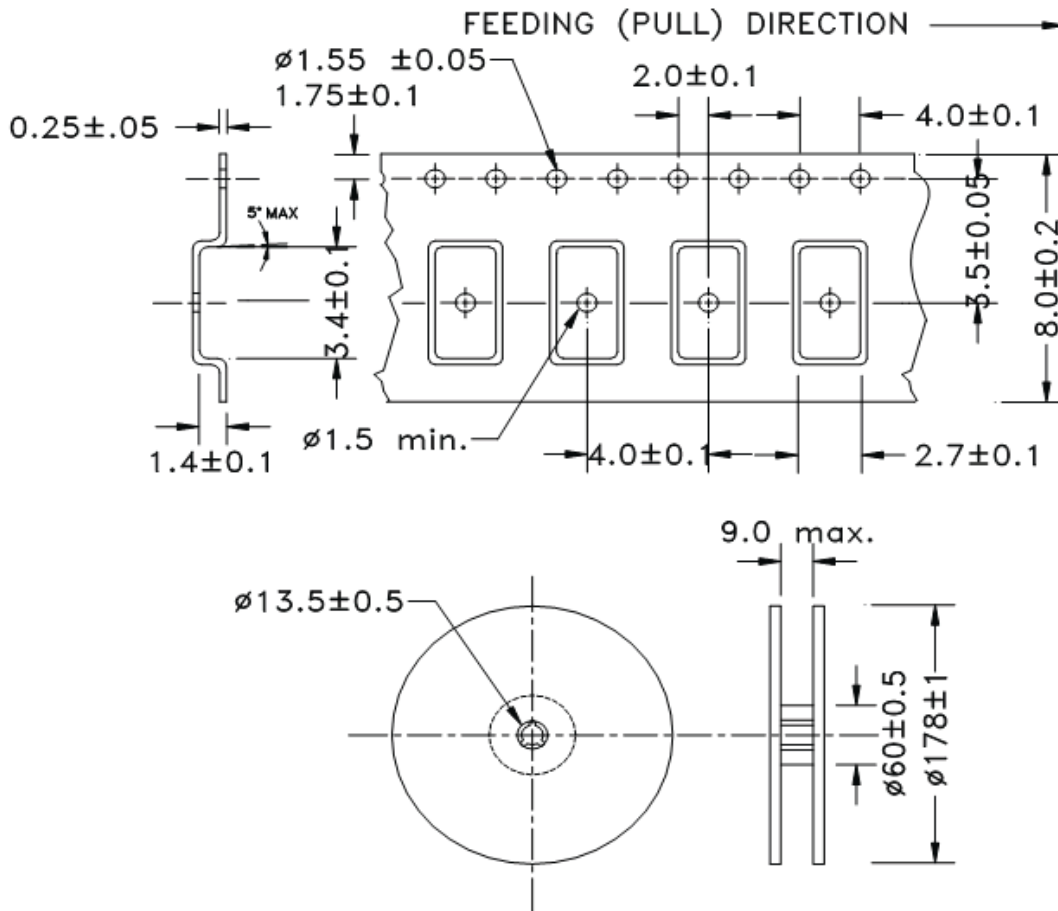
ABM8AIG



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Packaging

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



Dimensions: mm

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