

# MINIATURE CERAMIC SMD CRYSTAL



4.0 x 2.5 x 0.8mm

ABM9



RoHS  
Compliant

## FEATURES:

- Low in height; suitable for thin equipment.
- Available +/-10ppm stability -10 ~ +60°C
- Tight tolerance and stability available.
- Suitable for RoHS compliant reflow

## APPLICATIONS:

- High density applications.
- Modems, communication and test equipment.
- PCMCIA, Wireless applications

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	12.000	-----	32.000*	MHz	*Contact Abracon for availability of F>32MHz
Operation Mode	Fundamental, AT			-----	
Operating Temperature	-10	-----	+60	°C	See options
Storage Temperature	-40	-----	+105	°C	
Frequency Tolerance @+25°C	-50	-----	+50	ppm	See options
Frequency Stability over the Operating Temperature ( ref. to +25°C)	-50	-----	+50	ppm	See options
Equivalent series resistance (R1)	See table 1 below			Ω	
Shunt capacitance (C0)	-----	-----	7.0	pF	
Load capacitance (CL)	-----	18.0	-----	pF	See options
Drive Level	-----	10	100	μW	
Aging	-5	-----	+5	ppm	@25°C±3°C, First year
Insulation Resistance	500	-----	-----	MΩ	@ 100Vdc ± 15V

TABLE 1- Standard ESR

Frequency (MHz)	ESR(Ω) max
12.000 -23.999	80
24.000 -32.000	60

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ABM9 - [ ] MHz - [ ] - [ ] - [ ] [ ] [ ] - [ ]

**Frequency in MHz**  
Please specify the frequency in MHz.  
e.g. 16.000MHz

**Load Capacitance (pF)**  
Please specify CL in pF or S for series

**Custom ESR if other than standard**  
R [ ]  
□: Specify a value in Ω (e.g.: R40)

**Operating Temp.**  
E: 0°C ~ +70°C  
B: -20°C ~ +70°C  
C: -30°C ~ +70°C  
N: -30°C ~ +85°C  
D: -40°C ~ +85°C

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

**Packaging**  
Blank: Bulk  
T: Tape & Reel

**Freq. Stability**  
U: ± 10 ppm(\*)  
G: ± 15 ppm  
X: ± 20 ppm  
W: ± 25 ppm  
Y: ± 30 ppm  
H: ± 35 ppm  
Z: ± 100 ppm (#)

(\*) -10°C to +60°C only.  
(#) for extended temperatures  
Contact ABRACON for tighter freq. stability.

ABRACON IS  
ISO 9001: 2008  
CERTIFIED



**ABRACON  
CORPORATION**

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-800 | [www.abracon.com](http://www.abracon.com)

Revised: 04.07.11

# MINIATURE CERAMIC SMD CRYSTAL



ABM9

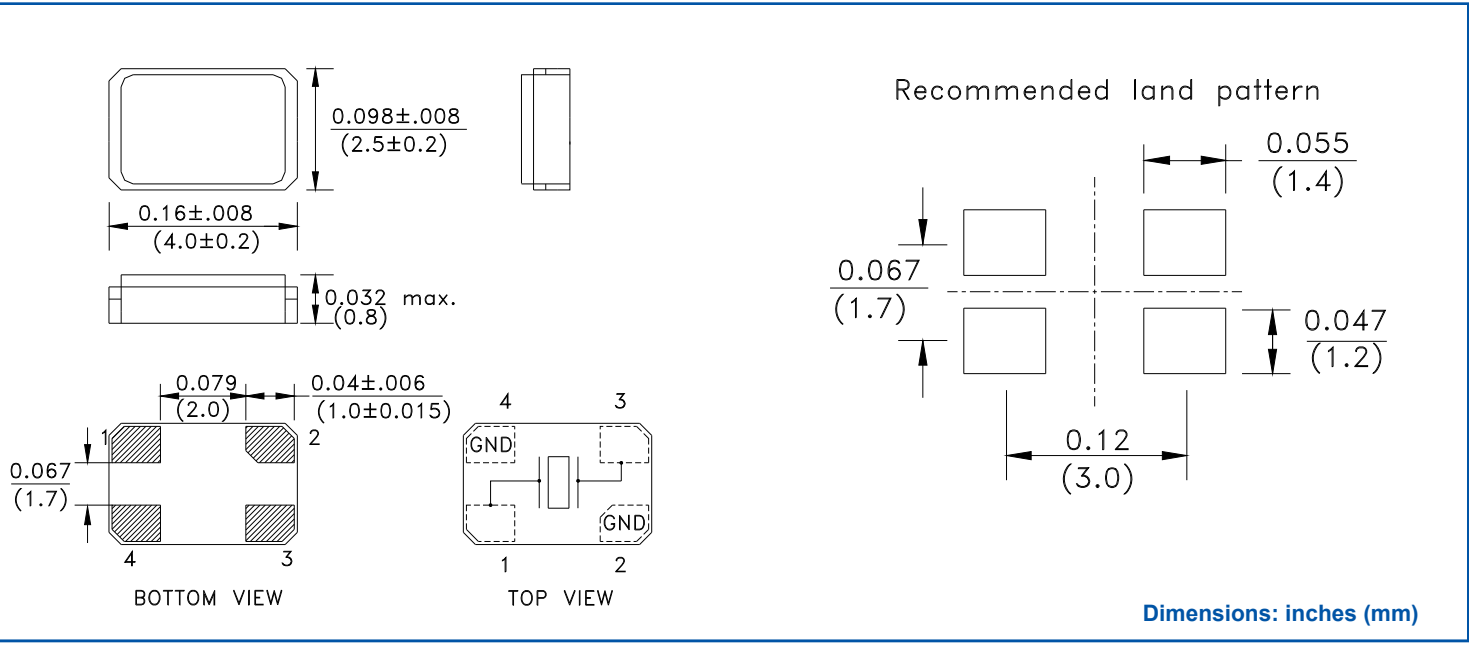
4.0 x 2.5 x 0.8mm

ABM9



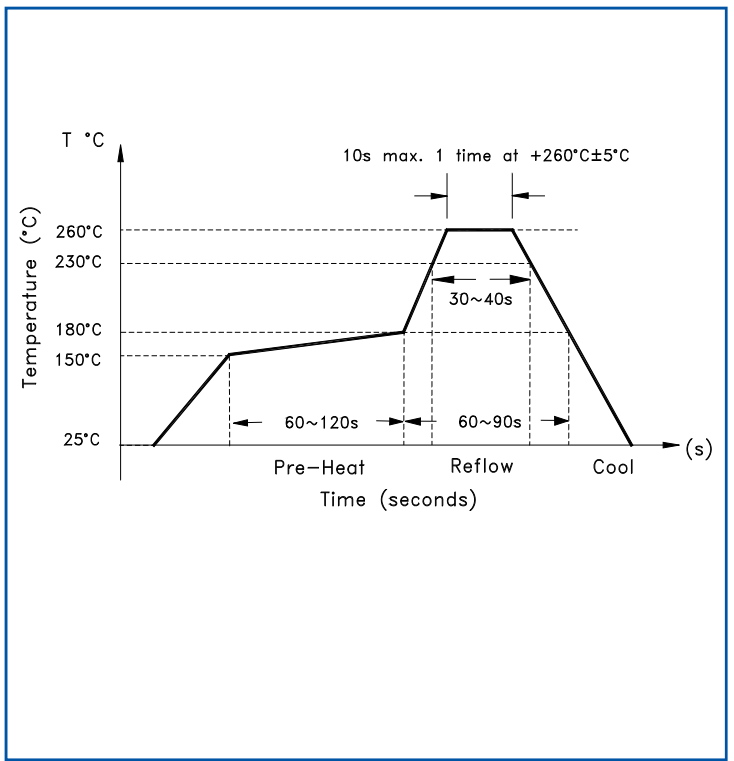
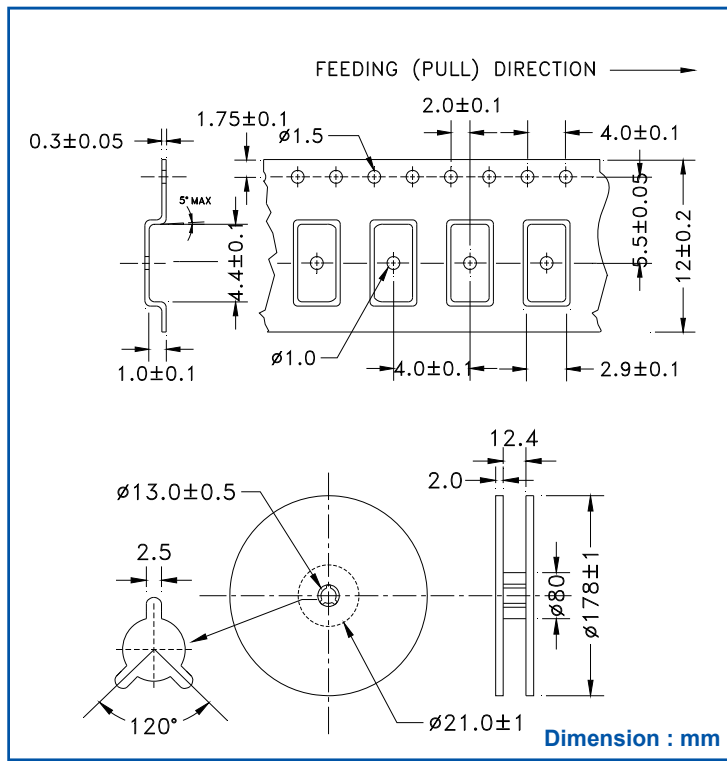
RoHS  
Compliant

## OUTLINE DRAWING:



## TAPE & REEL: Tape and reel (1,000pcs)

## REFLOW PROFILE:



**ATTENTION:** Abracon Corporation'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-dependant 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 Corporation is required. Please contact Abracon Corporation for more information.



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale  
 30332 Esperanza, Rancho Santa Margarita, California 92688  
 tel 949-546-8000 | fax 949-546-800 | [www.abracon.com](http://www.abracon.com)

Revised: 04.07.11