



THE DATASHEET OF ABM9-12.000MHZ-9-B1U-T

MINIATURE CERAMIC SMD CRYSTAL

ABM9



RoHS
Compliant



4.0 x 2.5 x 0.8mm

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

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.

Packaging
Blank: Bulk
T: Tape & Reel

ABRACON IS
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**ABRACON
CORPORATION**

Visit www.abracon.com for Terms & Conditions of Sale
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8000 | www.abracon.com

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Technical drawing of the 1000 Series connector showing top, side, and end views with dimensions:

- Top View:** Shows a rectangular connector with rounded corners. The width is dimensioned as $0.16 \pm .008$ (4.0 $\pm$ 0.2). The height is dimensioned as $0.098 \pm .008$ (2.5 $\pm$ 0.2).
- Side View:** Shows the profile of the connector, indicating a flat top surface.
- End View:** Shows the connector from the end, with a height dimensioned as 0.032 max. (0.8).

0.079
(2.0)

0.04 ± 0.006
(1.0 ± 0.015)

0.067
(1.7)

1 2

4 3

BOTTOM VIEW

TOP VIEW

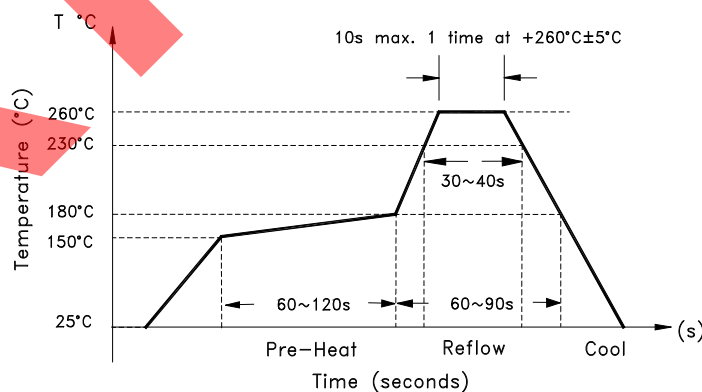
Recommended land pattern

Dimensions: inches (mm)

REFLOW PROFILE:

Technical drawing of a mechanical part with dimensions and a red diagonal line. The drawing includes a side view and a top view. The side view shows a part with a central hole of diameter $\phi 1.0$ and a series of holes along the top edge. Dimensions include 0.3 ± 0.05 , 1.75 ± 0.1 , 1.5 , 2.0 ± 0.1 , 4.0 ± 0.1 , 4.4 ± 0.1 , 5.5 ± 0.05 , 12 ± 0.2 , 1.0 ± 0.1 , 4.0 ± 0.1 , 2.9 ± 0.1 , and 5° MAX . The top view shows a circular part with a central hole of diameter $\phi 13.0 \pm 0.5$ and a hole of diameter $\phi 21.0 \pm 1$. Dimensions include 2.5 , 12.4 , 2.0 , $\phi 8.0$, $\phi 178 \pm 1$, and 120° . A red diagonal line is drawn across the drawing.

Dimension : mm



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