



**THE DATASHEET OF  
ABM3B-24.000MHZ-R60-D-1-W-T**



# CERAMIC SMD CRYSTAL

ABM3B



5.0 X 3.2 X 1.1mm

ABM3B



RoHS  
Compliant

## FEATURES:

- Fundamental mode.
- Suitable for reflow.
- Tight Stability available.
- Ceramic package and metal lid assures high precision and reliability.
- Seam sealing.

## APPLICATIONS:

- Cellular telephones, Pagers.
- Communication and Test equipment.
- High Density applications.
- PCMCIA and wireless applications.

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ABM3B Series
Frequency Range	8.0MHz - 50.0MHz (Fundamental) 50.1MHz - 125MHz (3rd overtone)
Operation Mode	<b>Fundamental or 3rd overtone</b>
Operating Temperature	- 10°C to + 60°C (see options)
Storage Temperature	- 40°C to + 85°C
Frequency Tolerance @ 25°C	± 50 ppm max. (see options)
Frequency Stability over the Operating Temperature (Ref to + 25°C)	± 50 ppm max. (see options)
Equivalent Series Resistance	See table 1
Shunt Capacitance C0	7 pF max.
Load Capacitance CL	18 pF (see options)
Drive Level	100 µW max., 10 µW typical
Aging (First Year) @ 25°C ± 3°C	± 5ppm max.
Insulation Resistance	500 MΩ min at 100Vdc ± 15 V

TABLE 1- Standard ESR

Frequency (MHz)	ESR(Ω) max	Frequency (MHz)	ESR( Ω max)
8.000 - 9.999 (Fund.)	200	16.000 - 50.000 (Fund.)	50
10.000 -11.999 (Fund.)	100	50.001 - 80.000 (3rd OT)	60
12.000 - 15.999 (Fund.)	70	80.001 - 125.000 (3rd OT)	80

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## OPTIONS AND PART IDENTIFICATION: (Left blank if standard)

ABM3B  -  MHz -  -  -  -  -  -

**Height (mm)**

Blank: 1.1mm max  
1: 0.8mm max

**Frequency in MHz**

e.g. 8.000MHz  
14.31818MHz  
26.000MHz  
125.000MHz

**Load Capacitance**

Please specify CL(6 to 32pF) in pF or S for Series  
Please contact ABRACON for values under 6pF

**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  
J\*\*\*\*: -40°C ~ +105°C  
K\*\*\*\*: -40°C ~ +125°C  
L\*: -55°C ~ +125°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

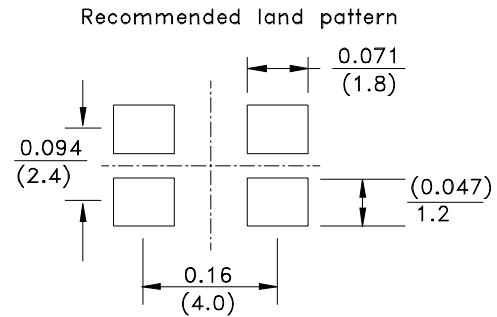
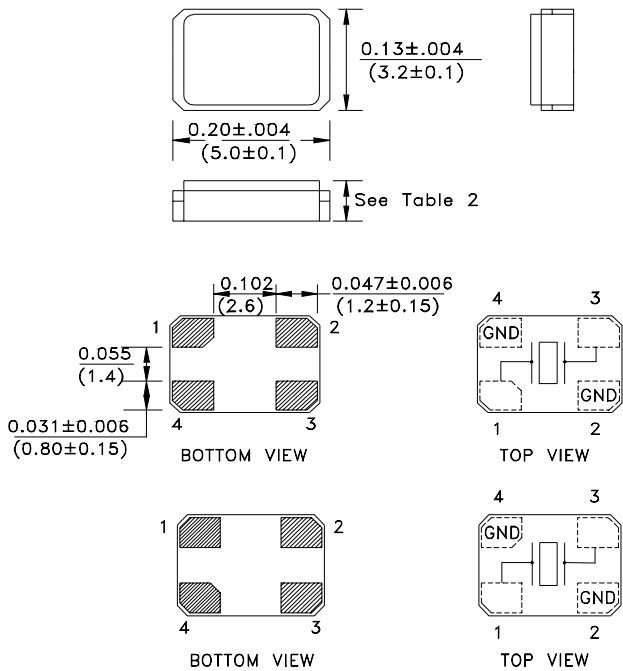
(\*) Option Z only  
(\*\*) Standard temp or options E and B only  
(\*\*\*) Standard temp or options E, B, C and N only  
(\*\*\*\*) Freq. stability ±50ppm and ±100ppm only. Contact ABRACON for tighter freq. stability.

**Packaging**

Blank: Bulk  
T: 1k pcs per reel  
T2: 250 pcs per reel

## OUTLINE DIMENSIONS:

Please see Table 2 below for height and chamfer information.



Chamfer on PIN 1 (Default)

Table 2

	Height (mm)	Chamfer PIN #
ABM3B	1.1mm max	#1 (Default), #4 (See Note)
ABM3B1	0.8mm max	#1 (Default), #4 (See Note)

Chamfer on PIN 4 (See Note)

Note: Due to the availability of raw materials, this part may be manufactured with the chamfer on pin 4. Be advised that this does not affect the electrical characteristics of the crystal in any way.

Dimension : Inches (mm)



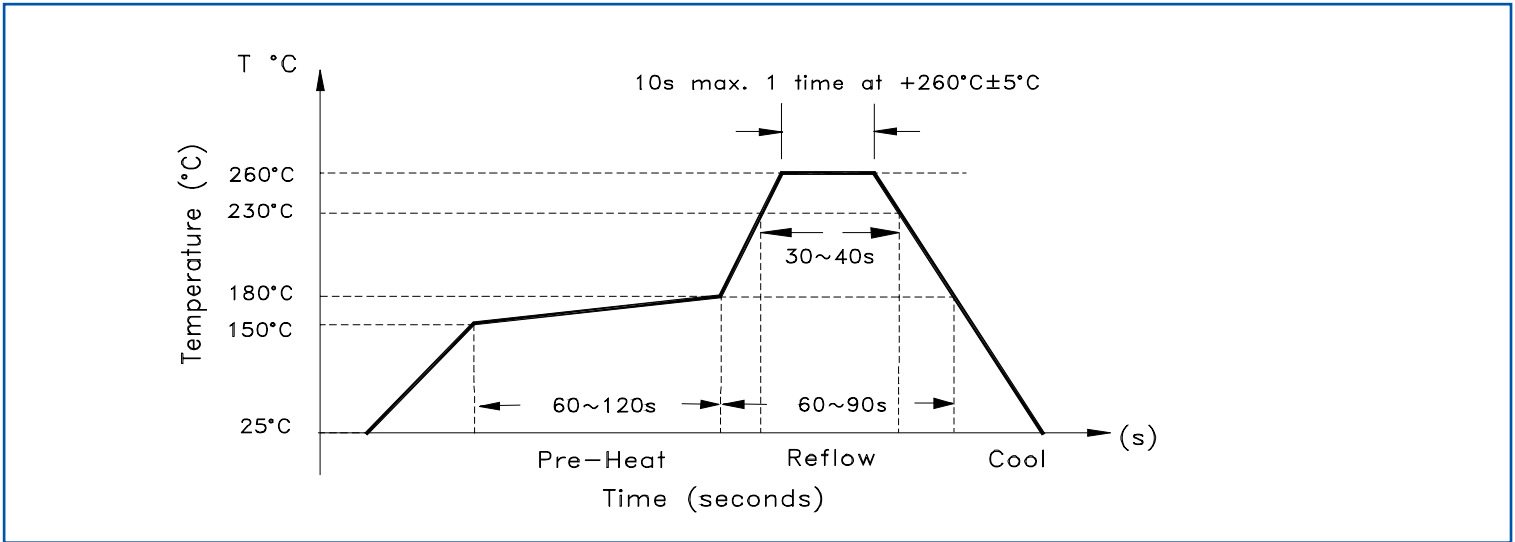
5.0 X 3.2 X 1.1mm

ABM3B



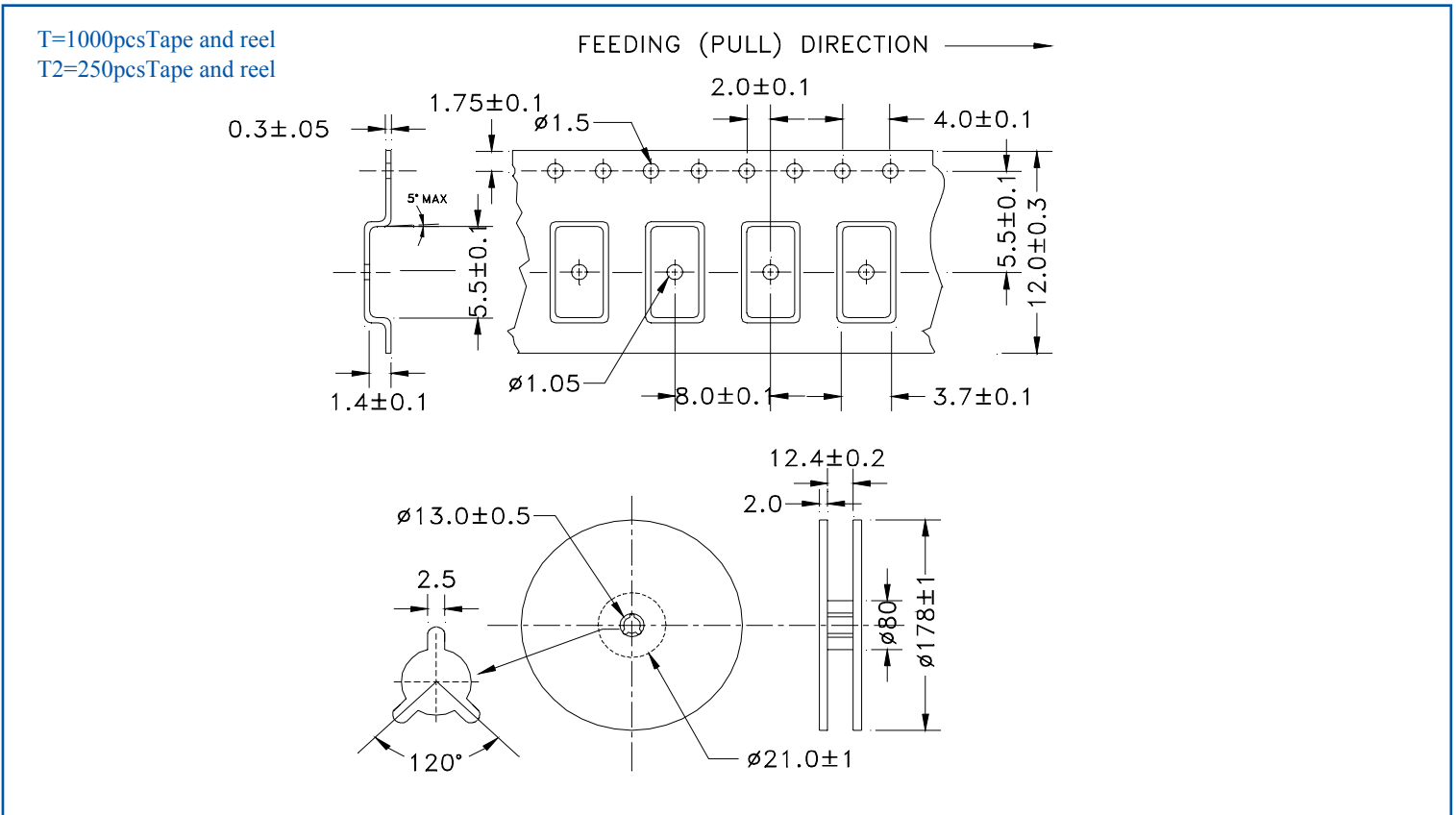
RoHS  
Compliant

## REFLOW PROFILE:



## TAPE & REEL:

T=1000pcsTape and reel  
T2=250pcsTape and reel



Dimension : mm

**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.

ABRACON IS  
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- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management