

# ABM3-25.000MHZ-D2Y-T Datasheet

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|                              |  |
|------------------------------|--|
| DiGi Electronics Part Number | ABM3-25.000MHZ-D2Y-T-DG                                |
| Manufacturer                 | <a href="#">Abracon LLC</a>                            |
| Manufacturer Product Number  | ABM3-25.000MHZ-D2Y-T                                   |
| Description                  | CRYSTAL 25.0000MHZ 18PF SMD                            |
| Detailed Description         | 25 MHz $\pm$ 20ppm Crystal 18pF 30 Ohms 2-SMD, No Lead |

This model ABM3-25.000MHZ-D2Y-T is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

ABM3-25.000MHZ-D2Y-T

Series:

ABM3

Type:

MHz Crystal

Frequency Stability:

±30ppm

Load Capacitance:

18pF

Operating Mode:

Fundamental

Ratings:

-

Package / Case:

2-SMD, No Lead

Height - Seated (Max):

0.051" (1.30mm)

Manufacturer:

Abracon LLC

Product Status:

Active

Frequency:

25 MHz

Frequency Tolerance:

±20ppm

ESR (Equivalent Series Resistance):

30 Ohms

Operating Temperature:

-40°C ~ 85°C

Mounting Type:

Surface Mount

Size / Dimension:

0.197" L x 0.126" W (5.00mm x 3.20mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Affected

HTSUS:

8541.60.0060

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99

# Ceramic SMD Crystal

**ABM3**

Request Samples



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5.0 x 3.2x 1.3 mm  
RoHS/RoHS II Compliant  
MSL Level = N/A

## Features

- AT-cut fundamental or 3rd OT mode
- Suitable for RoHS reflow profile
- Tight Stability available  $\pm 10$ ppm
- Ceramic package hermetically glass sealed assures high precision and reliability

## Applications

- Communication and test equipment
- PCMCIA and wireless applications

## Key Electrical Specifications

| Parameters  | Minimum                                 | Typical | Maximum | Units      | Notes   |
|---|---|---------|---------|------------|---|
| Frequency Range   | 8.000                                   |         | 54.000  | MHz        | Fundamental                                   |
|   | 54.100                                  |         | 80.000  |            | 3 <sup>rd</sup> Overtone                      |
| Operation Mode  | Fundamental or 3 <sup>rd</sup> Overtone |         |         |            |   |
| Operating Temperature   | -10                                     |         | +60     | °C         | See options                                   |
| Storage Temperature   | -40                                     |         | +90     | °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)                                   |   |         | 140     | $\Omega$   | $8.000 \leq F < 9.000$ (Fund)                 |
|   |   |         | 120     |            | $9.000 \leq F < 10.000$ (Fund)                |
|   |   |         | 60      |            | $10.000 \leq F < 16.000$ (Fund)               |
|   |   |         | 40      |            | $16.000 \leq F < 20.000$ (Fund)               |
|   |   |         | 30      |            | $20.000 \leq F < 30.000$ (Fund)               |
|   |   |         | 25      |            | $30.000 \leq F \leq 54.000$ (Fund)            |
|   |   |         | 60      |            | $54.000 < F \leq 80.000$ (3 <sup>rd</sup> OT) |
| Shunt capacitance (C0)  |   |         | 7       | pF         |   |
| Load capacitance (CL)   | 18                                      |         |         | pF         | Standard (See options if other than STD)      |
| Drive Level   |   | 10      | 100     | $\mu$ W    |   |
| Aging   | -5                                      |         | +5      | ppm        | @25°C $\pm$ 3°C<br>First year                 |
| Insulation Resistance   | 500                                     |         |         | M $\Omega$ | @ 100Vdc $\pm$ 15V                            |

# Ceramic SMD Crystal

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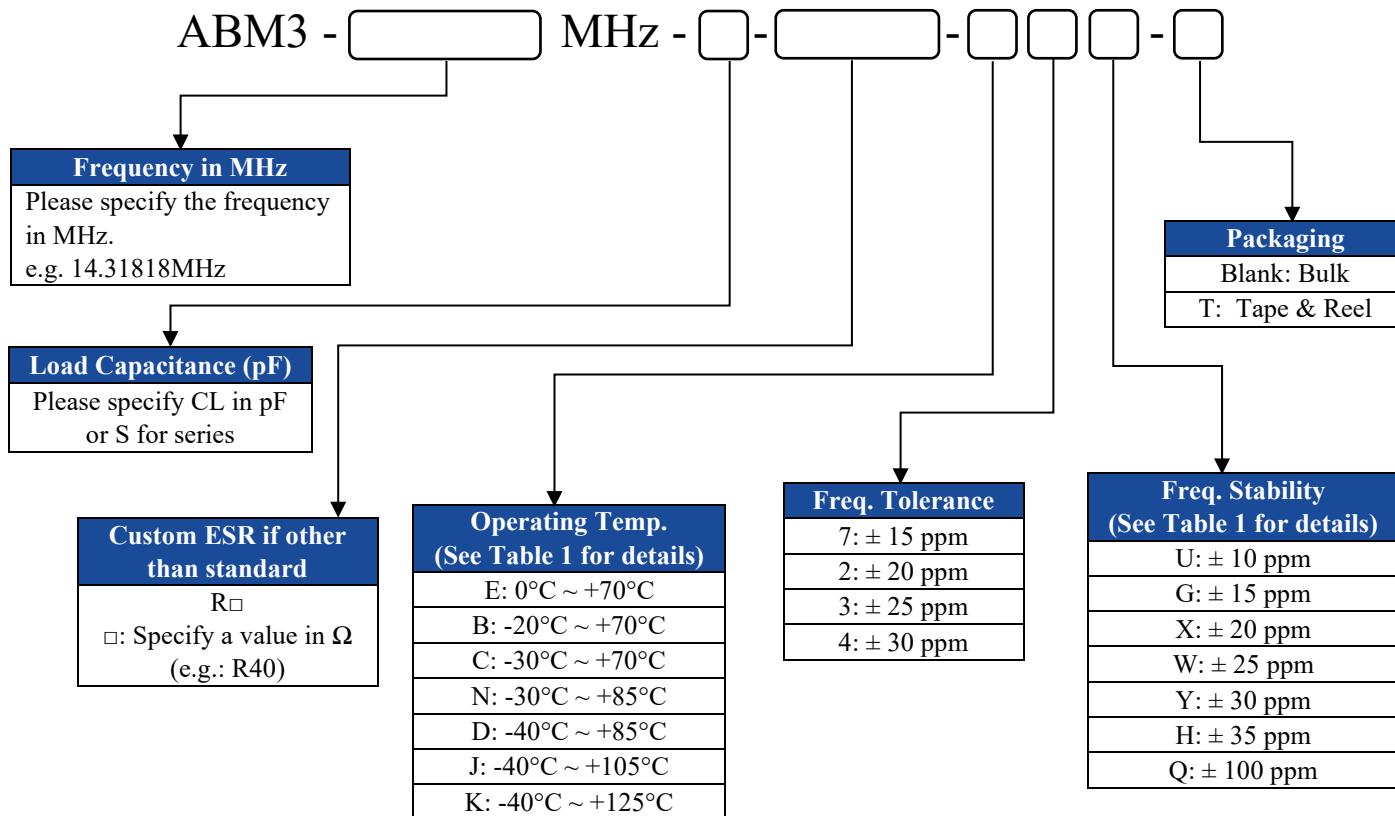


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5.0 x 3.2x 1.3 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = N/A

## Options and Part Identification (left blank if standard)



Note: See Table 1 for the availability of Operating Temp. and Freq. Stability combinations.

Table 1 Available Combinations of Operating Temp. and Freq. Stability

| Operating Temp.    | Freq. Stability |          |          |          |          |          |            |           |
|--------------------|-----------------|----------|----------|----------|----------|----------|------------|-----------|
|                    | U:±10ppm        | G:±15ppm | X:±20ppm | W:±25ppm | Y:±30ppm | H:±35ppm | Std:±50ppm | Q:±100ppm |
| Std: -10°C ~ +60°C | √               | √        | √        | √        | √        | √        | √          | √         |
| 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  |                 |          |          |          |          |          | √          | √         |



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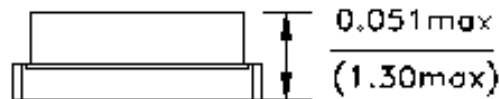
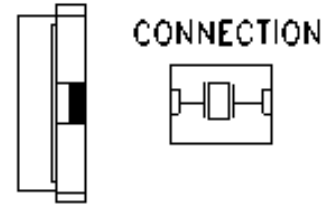
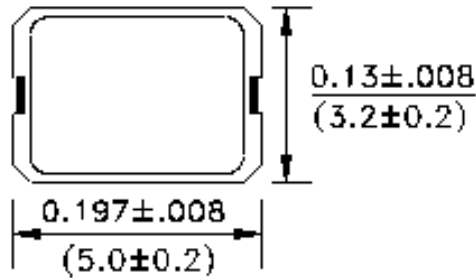


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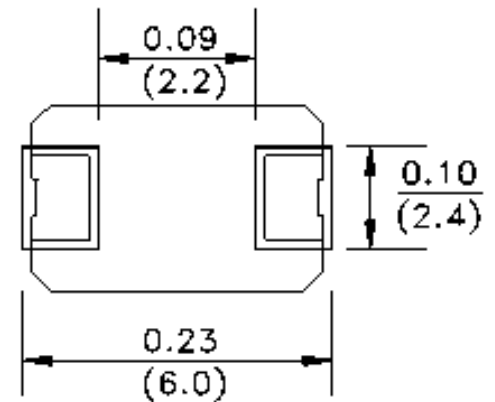
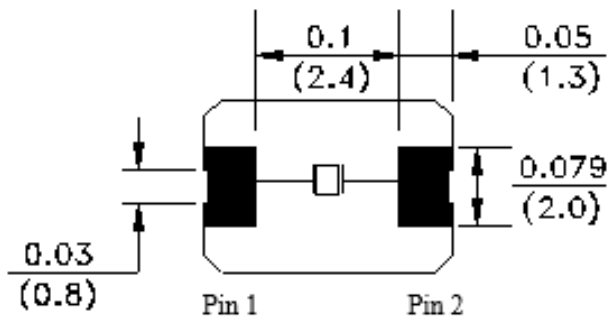


5.0 x 3.2x 1.3 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = N/A

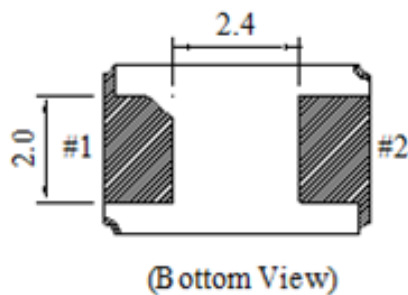
## Mechanical Dimensions



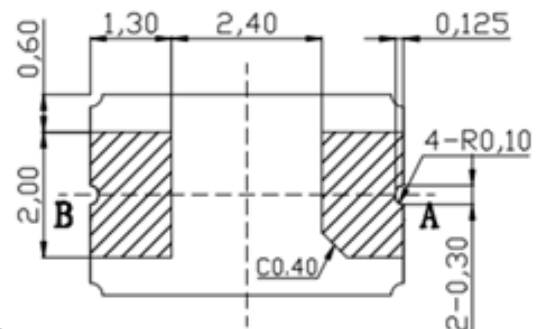
## Recommended land pattern



## Alternative bottom packaging 1:



## Alternative bottom packaging 2:



Dimensions: inches (mm)

Sealing Method = Glass Sealing



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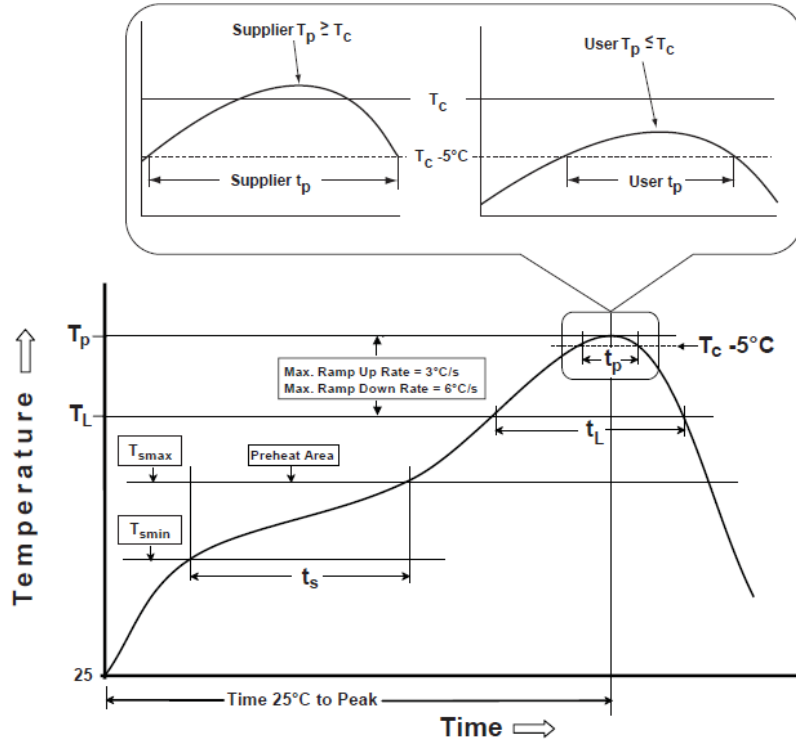


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**5.0 x 3.2x 1.3 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = N/A**

## Reflow Profile [JEDEC J-STD-020]



**Table 1**

**SnPb Eutectic Process Classification Temperatures ( $T_c$ )**

| Package Thickness | Volume mm <sup>3</sup> <350 | Volume mm <sup>3</sup> ≥350 |
|-------------------|-----------------------------|-----------------------------|
| <2.5 mm           | 235 °C                      | 220 °C                      |
| ≥2.5 mm           | 220 °C                      | 220 °C                      |

**Table 2**

**Pb-Free Process Classification Temperatures ( $T_c$ )**

| Package Thickness | Volume mm <sup>3</sup> <350 | Volume mm <sup>3</sup> 350-2000 | Volume mm <sup>3</sup> >2000 |
|-------------------|-----------------------------|---------------------------------|------------------------------|
| <1.6 mm           | 260 °C                      | 260 °C                          | 260 °C                       |
| 1.6 mm - 2.5 mm   | 260 °C                      | 250 °C                          | 245 °C                       |
| >2.5 mm           | 250 °C                      | 245 °C                          | 245 °C                       |

| Profile Feature   | Sn-Pb Eutectic Assembly | Pb-Free Assembly   |
|---|-------------------------|--------------------|
| Preheat / soak  |                         |                    |
| Temperature minimum ( $T_{smin}$ )  | 100°C                   | 150°C              |
| Temperature maximum ( $T_{smax}$ )  | 150°C                   | 200°C              |
| Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )                                       | 60 - 120 sec.           | 60 - 120 sec.      |
| Average ramp-up rate ( $T_{smax}$ to $T_p$ )                                      | 3°C/sec. max            | 3°C/sec. max       |
| Liquidous temperature ( $T_L$ )   | 183°C                   | 217°C              |
| Time at liquidous ( $t_L$ )   | 60 - 150 sec.           | 60 - 150 sec.      |
| Peak package body temperature ( $T_p$ )*  | <b>see Table 1</b>      | <b>see Table 2</b> |
| Time ( $t_p$ )** within 5°C of the specified classification temperature ( $T_c$ ) | 20 sec.                 | 30 sec.            |
| Ramp-down rate ( $T_p$ to $T_{smax}$ )  | 6°C/sec. max            | 6°C/sec. max       |
| Time 25°C to peak temperature   | 6 min. max              | 8 min. max         |
| Reflow cycles   | 2 max                   | 2 max              |

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

\*\*Tolerance for time at peak profile temperature ( $t_p$ ) is defined as supplier minimum and a user maximum.



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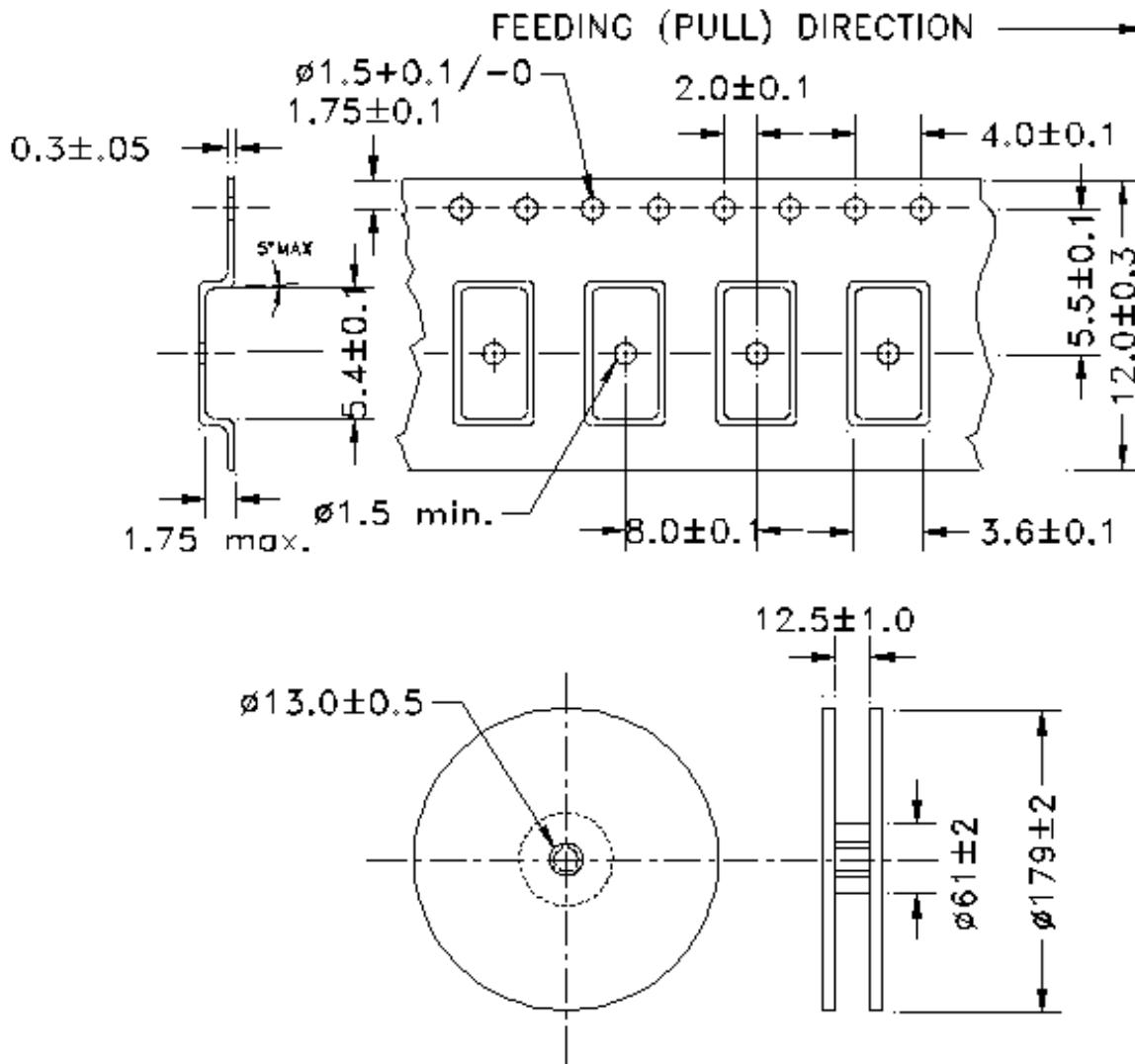
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5.0 x 3.2x 1.3 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = N/A

## Packaging

1000pcs/reel



**Dimensions: mm**

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