

# CERAMIC SMD MICROPROCESSOR CRYSTAL

ABM2

RoHS/RoHS II Compliant

Pb in glass (exempt per RoHS II 2011/65/EU Annex (5))



Typical 8.0 x 4.5 x 1.4mm

Moisture Sensitivity Level (MSL) –This product is Hermetically Sealed and not Moisture Sensitive -MSL = N/A: Not Applicable

## FEATURES:

- Low in height; suitable for thin equipment
- Glass sealed package assures high reliability and high temperature operation
- Tight tolerance and stability available
- Suitable for RoHS compliant reflow
- Low cost glass sealed crystal solution

## APPLICATIONS:

- High density applications
- Modems, communication and test equipment
- PMCIA, Wireless applications
- Microprocessor crystals

## STANDARD SPECIFICATIONS:

| Parameters                                                         | Minimum | Typical | Maximum | Units | Notes                                    |
|--------------------------------------------------------------------|---------|---------|---------|-------|------------------------------------------|
| FrequencyRange                                                     | 8.000   | -----   | 100.000 |       | Fundamental                              |
| Operation mode                                                     | 8.000   | -----   | 40.000  | MHz   | Fundamental AT-cut (Standard)            |
|                                                                    | 40.001  | -----   | 100.000 |       | 3 <sup>rd</sup> OT AT -cut (Standard)    |
|                                                                    | 40.001  | -----   | 60.000  |       | Fundamental AT-cut (See options)         |
|                                                                    |         |         |         |       |                                          |
| Operating Temperature                                              | -10     | -----   | +60     | °C    | See options                              |
| Storage Temperature                                                | -40     | -----   | +85     | °C    |                                          |
| Frequency Tolerance@ +25°C                                         | -50     | -----   | +50     | ppm   | See options                              |
| FrequencyStability over the Operating Temperature ( ref. to +25°C) | -50     | -----   | +50     | ppm   | See options                              |
| Equivalent series resistance                                       | -----   | -----   | 100     | Ω     | 8.000 – 10.000MHz (Fundamental)          |
|                                                                    | -----   | -----   | 60      |       | 10.001 – 15.999MHz (Fundamental)         |
|                                                                    | -----   | -----   | 50      |       | 16.000 – 60.000MHz (Fundamental)         |
|                                                                    | -----   | -----   | 70      |       | 40.000 – 100.000MHz (3 <sup>rd</sup> OT) |
| Shunt capacitance (C0)                                             | -----   | -----   | 7       | pF    | -----                                    |
| Load capacitance (CL)                                              | -----   | 18      | -----   | pF    | See options                              |
| Drive Level                                                        | -----   | 10      | 100     | μW    |                                          |
| Aging @ 25°C ±3°C                                                  | -----   | -----   | ±5      | ppm   | First year                               |
| Insulation Resistance                                              | 500     | -----   | -----   | MΩ    | @ 100Vdc                                 |

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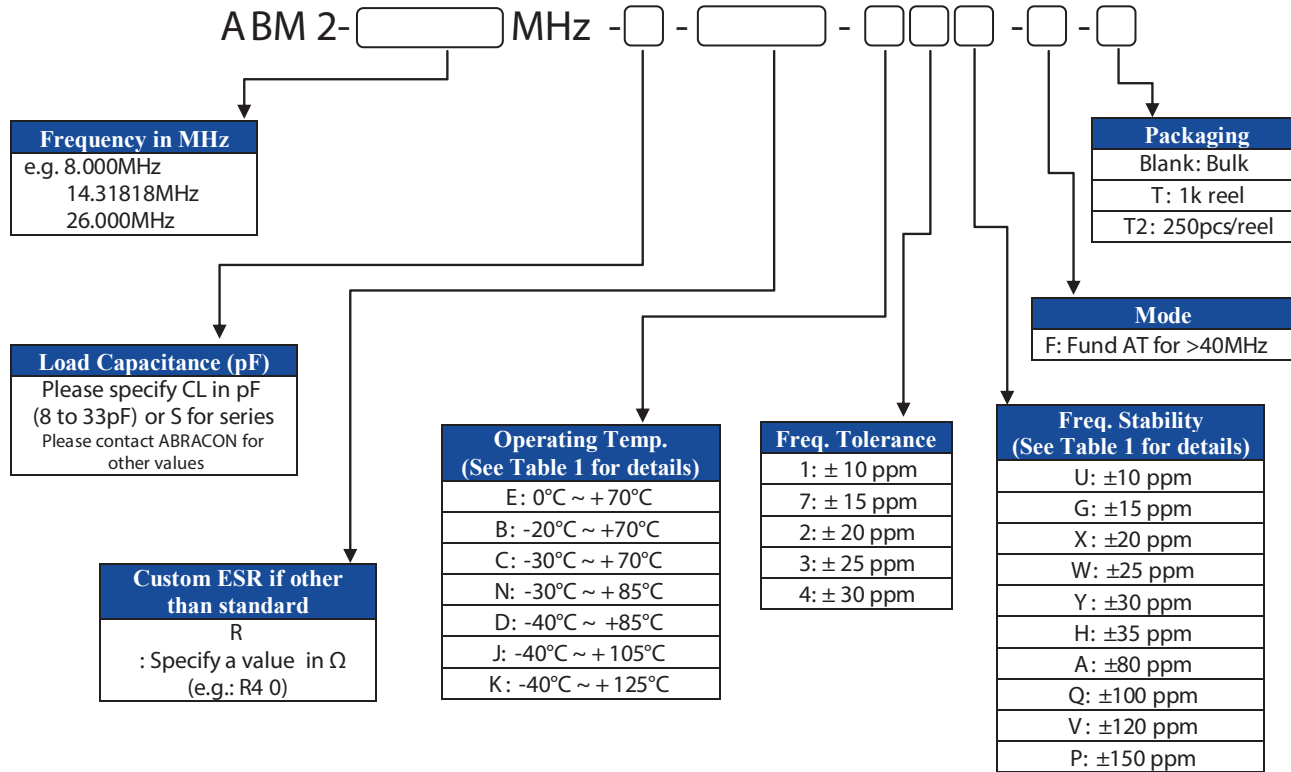
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## OPTIONS AND PART IDENTIFICATION: (Left blank if standard)



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

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

| Operating Temp.    | Freq. Stability |                 |                 |                 |                 |                 |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                    | U: $\pm 10$ ppm | G: $\pm 15$ ppm | X: $\pm 20$ ppm | W: $\pm 25$ ppm | Y: $\pm 30$ ppm | H: $\pm 35$ ppm |
| 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  |                 |                 |                 |                 |                 |                 |

| Operating Temp.    | Freq. Stability   |                 |                  |                  |                  |
|--------------------|-------------------|-----------------|------------------|------------------|------------------|
|                    | Std: $\pm 50$ ppm | A: $\pm 80$ ppm | Q: $\pm 100$ ppm | V: $\pm 120$ ppm | P: $\pm 150$ ppm |
| 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  |                   |                 | √                | √                | √                |

Note: \*: Availability depends on frequency.

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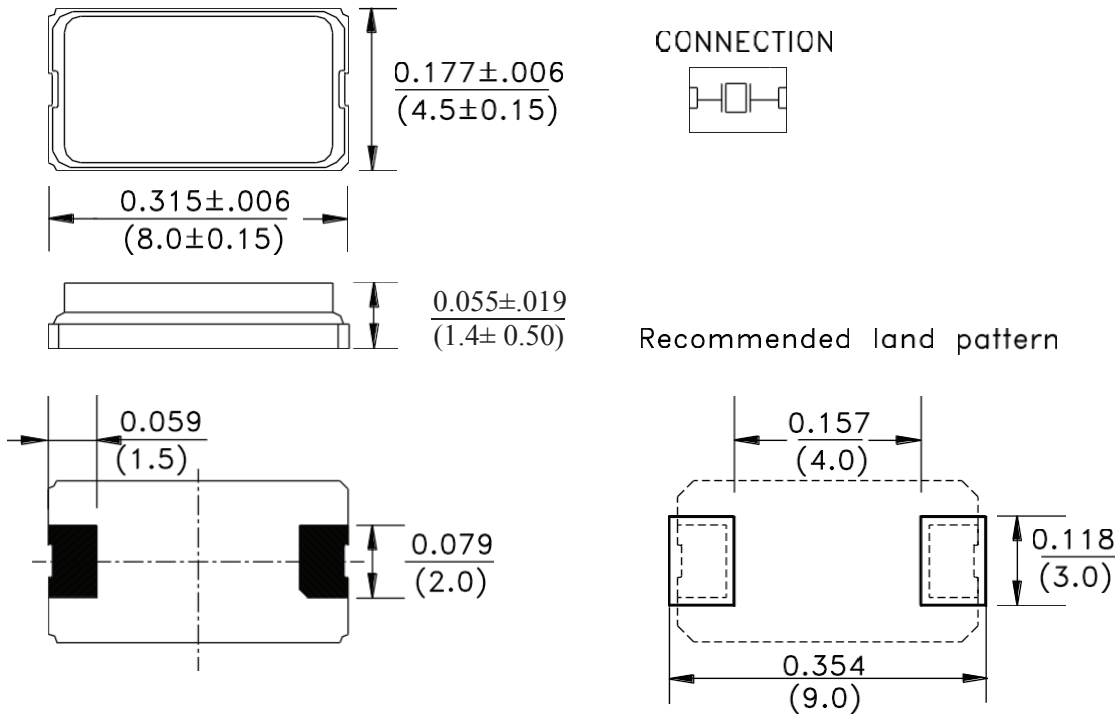
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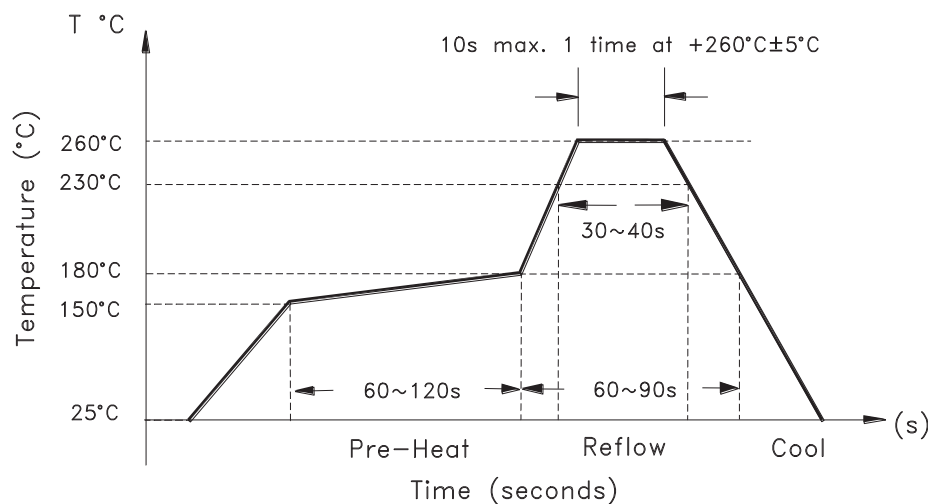
## OUTLINE DIMENSION:



Note: Due to the availability of raw materials, the chamfer may not appear on the both pads. Be advised that this does not affect the electrical characteristics of the crystal in any way.

Dimensions: inches (mm)

## REFLOW PROFILE:



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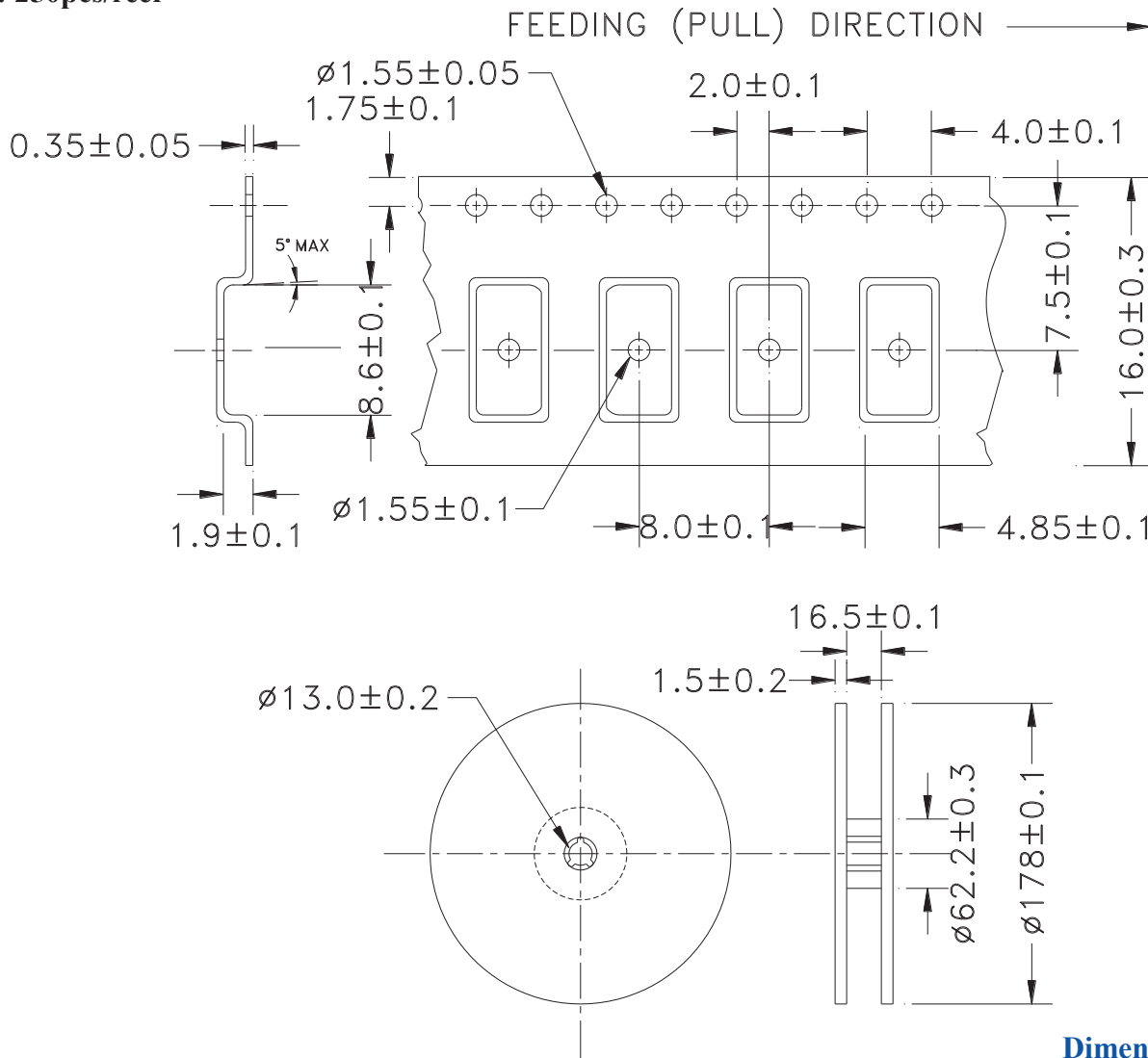


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## TAPE & REEL:

T: 1000pcs/reel

T2: 250pcs/reel



Dimensions: mm

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