

# CERAMIC SMD CRYSTAL

**ABM3**Pb in Glass, exemption 7C-I per RoHS II Directive  
2011/65/EU Annex | **RoHS/RoHS II Compliant.**

Smaller package alternative for ABM7 series

**ABM3**

5.0 X 3.2 X 1.3mm

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

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

**APPLICATIONS:**

- Cellular telephones, pagers
- Communication and test equipment
- PCMCIA and wireless applications

**STANDARD 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                            |

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2011/65/EU Annex | **RoHS/RoHS II Compliant.**



5.0 X 3.2 X 1.3mm

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

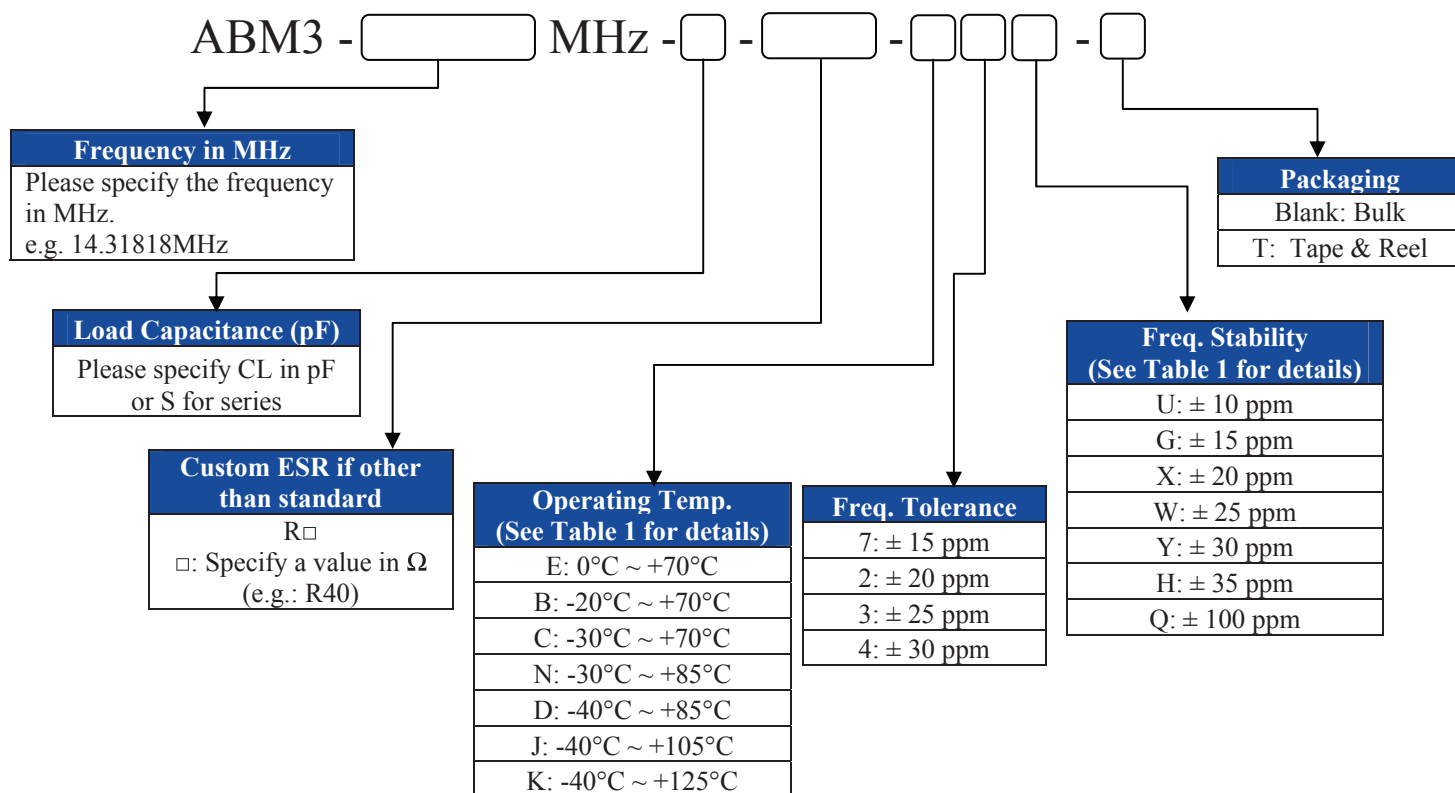


Table 1 Available Combinations of Operating Temp. and Freq. Stability

| 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  |                 |          |          |          |          |          | √          | √         |

# MINIATURE CERAMIC SMD CRYSTAL

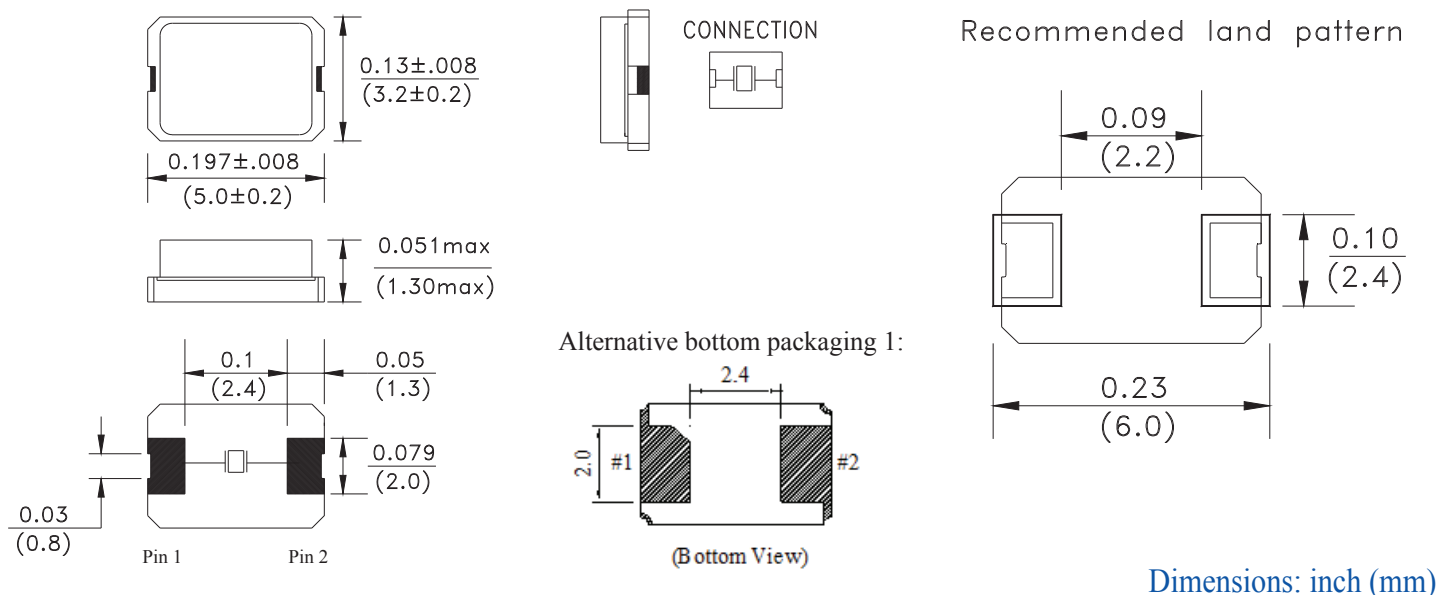
ABM3

|                                                                    |                                |
|--------------------------------------------------------------------|--------------------------------|
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|--------------------------------------------------------------------|--------------------------------|

### ABM3

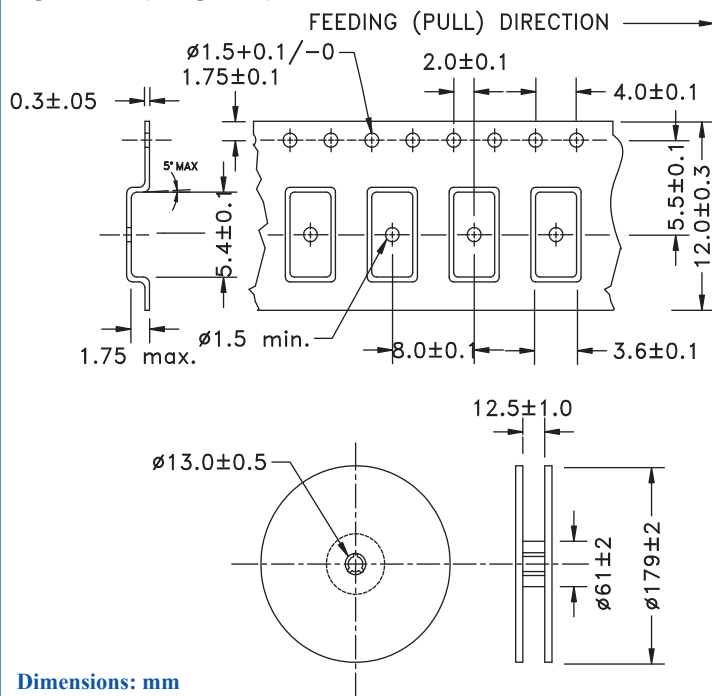
5.0 X 3.2 X 1.3mm

## ➤ OUTLINE DRAWING:

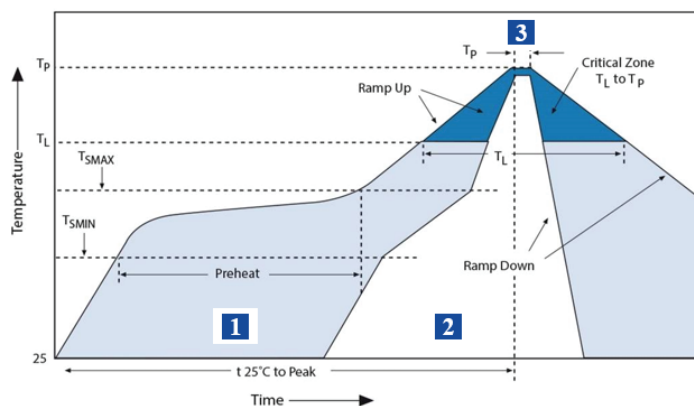


## ▶ TAPE & REEL:

**Tape and reel (1,000pcs/reel)**



## REFLOW PROFILE



| Zone | Description    | Temperature                                                        | Time          |
|------|----------------|--------------------------------------------------------------------|---------------|
| 1    | Preheat / Soak | $T_{MIN} - T_{MAX}$<br>$150^{\circ}\text{C} - 180^{\circ}\text{C}$ | 60 ~ 120 sec. |
| 2    | Reflow         | $T_L$<br>$230^{\circ}\text{C}$                                     | 30 ~ 40 sec.  |
| 3    | Peak heat      | $T_P$<br>$260^{\circ}\text{C} \pm 5^{\circ}\text{C}$               | 10 sec. MAX.  |

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