

# Surface Mount Microprocessor Crystal



12.5 x 4.85 x 5.1mm

**ABSM3B**

RoHS / RoHS II Compliant

Pb in glass exemption 7 (c)-I per RoHS II 2011/65/EU Annex

Moisture Sensitivity Level – MSL – N/A

(The ABSM3A Series is a Hermetically Sealed device and not moisture sensitive)

## FEATURES:

- Excellent all-purpose surface-mount crystal.
- Four pad land pattern compatible with common plastic molded designs.

## APPLICATIONS:

- Home electronics
- Computers, modems, and communications
- Clock applications
- Microprocessors

## STANDARD SPECIFICATIONS:

| Parameters                                                                 | Minimum                                 | Typical | Maximum | Units | Notes                                      |
|----------------------------------------------------------------------------|-----------------------------------------|---------|---------|-------|--------------------------------------------|
| Frequency Range                                                            | 3.579545                                |         | 60      | MHz   |                                            |
| Operation Mode                                                             | 3.579545MHz ~ 30.00MHz: Fundamental, AT |         |         |       | Standard                                   |
|                                                                            | 30.01MHz ~ 39.99MHz: Fundamental, BT    |         |         |       | Standard                                   |
|                                                                            | 40.00MHz ~ 60.00MHz: 3 <sup>rd</sup> OT |         |         |       | Standard                                   |
|                                                                            | 40.00MHz ~ 48.00MHz: Fundamental, BT    |         |         |       | Option “FB”                                |
| Operating Temperature                                                      | -10                                     |         | +60     | °C    | See options                                |
| Storage Temperature                                                        | -40                                     |         | +85     | °C    |                                            |
| Frequency Tolerance                                                        | -50                                     |         | +50     | ppm   | See options                                |
| Frequency Stability over the Operating Temperature ( ref. to +25°C ± 3 °C) | -100                                    |         | +100    | ppm   | See options                                |
| Equivalent series resistance (R1)                                          |                                         |         | 150     | Ω     | 3.579545MHz ~ 3.999MHz                     |
|                                                                            |                                         |         | 120     |       | 4.000 MHz ~ 4.999MHz                       |
|                                                                            |                                         |         | 90      |       | 5.000MHz ~ 6.999MHz                        |
|                                                                            |                                         |         | 50      |       | 7.000MHz ~ 14.999MHz                       |
|                                                                            |                                         |         | 40      |       | 15.000MHz ~ 48.000MHz (Fund.)              |
|                                                                            |                                         |         | 80      |       | 40.000MHz ~ 60.000MHz (3 <sup>rd</sup> OT) |
| Shunt capacitance (C0)                                                     |                                         |         | 7.0     | pF    |                                            |
| Load capacitance (CL)                                                      | 18                                      |         |         | pF    | See options                                |
| Drive Level                                                                |                                         | 100     | 1000    | μW    |                                            |
| Aging (per year) @25°C ± 3 °C                                              | -5                                      |         | +5      | ppm   |                                            |
| Insulation Resistance                                                      | 500                                     |         |         | MΩ    | @100Vdc±15V                                |

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

ABSM3  B -  MHz -  -  -  -  -  -  -

| Height max.<br>(mm) |
|---------------------|
| Blank: 5.1          |
| 2: 4.5              |
| 3: 3.8              |

| Frequency in MHz |
|------------------|
| e.g. 14.31818MHz |
| 26.000MHz        |

| Load Capacitance (pF)                                                    |
|--------------------------------------------------------------------------|
| Please specify CL in pF or<br>S for series (10pF min) if<br>not standard |

| Custom ESR if other than<br>standard                                                  |
|---------------------------------------------------------------------------------------|
| R <input type="text"/>                                                                |
| <input type="checkbox"/> : Specify a value in $\Omega$ if<br>not standard (e.g.: R40) |

| Operating Temp.       |
|-----------------------|
| Blank: -10°C to +60°C |
| E: 0°C to +70°C       |
| B: -20°C to +70°C     |
| C: -30°C to +70°C     |
| N: -30°C to +85°C     |
| D: -40°C to +85°C     |

| Freq. Tolerance     |
|---------------------|
| Blank: $\pm 50$ ppm |
| 1: $\pm 10$ ppm     |
| 7: $\pm 15$ ppm     |
| 2: $\pm 20$ ppm     |
| 3: $\pm 25$ ppm     |
| 4: $\pm 30$ ppm     |

| Freq. Stability      |
|----------------------|
| Blank: $\pm 100$ ppm |
| U: $\pm 10$ ppm(*)   |
| G: $\pm 15$ ppm(**)  |
| X: $\pm 20$ ppm      |
| W: $\pm 25$ ppm      |
| Y: $\pm 30$ ppm      |
| H: $\pm 35$ ppm      |
| Z: $\pm 50$ ppm      |

| Packaging     |
|---------------|
| Blank: Bulk   |
| T: 1kpcs/reel |

| Mode                                           |
|------------------------------------------------|
| Blank: Standard                                |
| FB: Fund BT for<br>40MHz $\leq$ F $\leq$ 48MHz |

(\*) -10°C to 60°C only.

(\*\*) Temp. option E, B, C, N and -10 to +60°C only

**Note: Fundamental BT frequency stability  $\pm 100$  ppm max. at -10°C to 60°C only**

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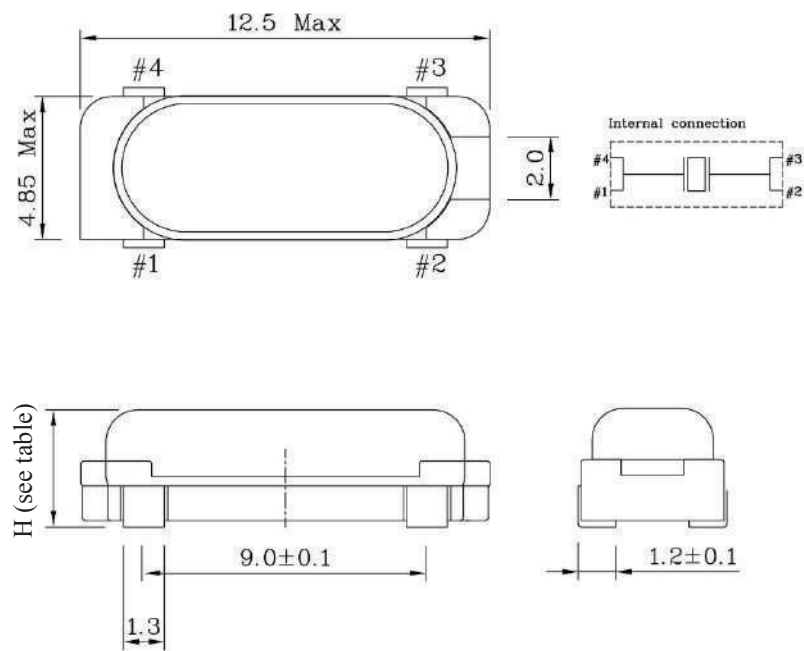
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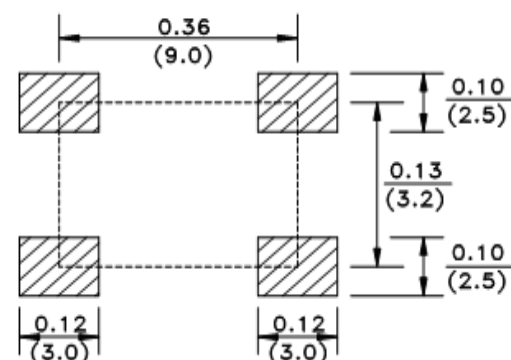


12.5 x 4.85 x 5.1mm

## OUTLINE DIMENSION:



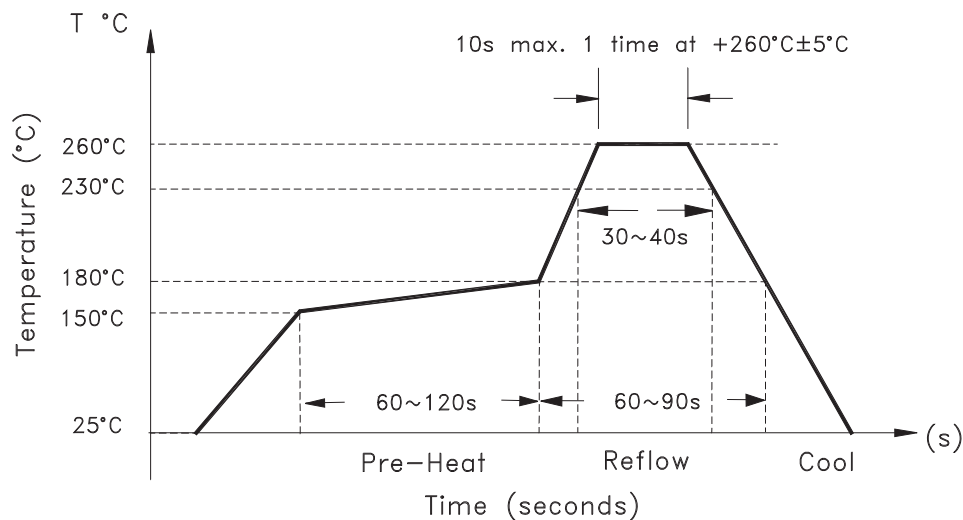
## Recommended land pattern



| P/N     | Height max. (mm) |
|---------|------------------|
| ABSM3B  | 5.1              |
| ABSM32B | 4.5              |
| ABSM33B | 3.8              |

Dimensions: mm

## REFLOW PROFILE:



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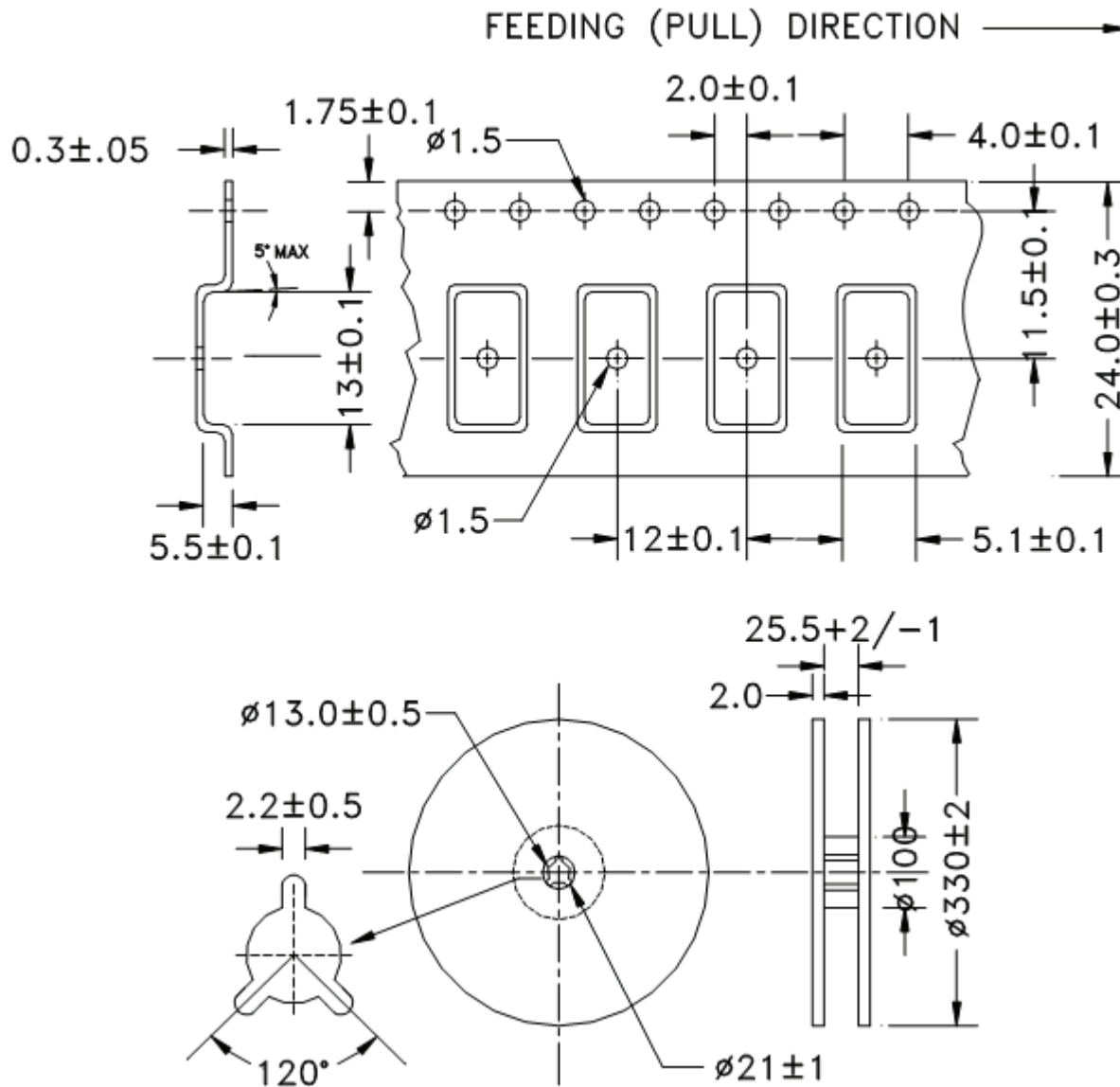
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## TAPE & REEL:

T=Tape and Reel (1000pcs/reel)



Dimensions: mm

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