

# CERAMIC SMD CRYSTAL



**ABM8**

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



**RoHS**  
Compliant

3.2 x 2.5 x 0.8mm

## FEATURES:

- Seam sealed package assures high reliability
- Tight tolerance and stability available
- Suitable for RoHS reflow

## APPLICATIONS:

- High density applications
- Modems, communication and test equipment
- PCMCIA, Wireless applications

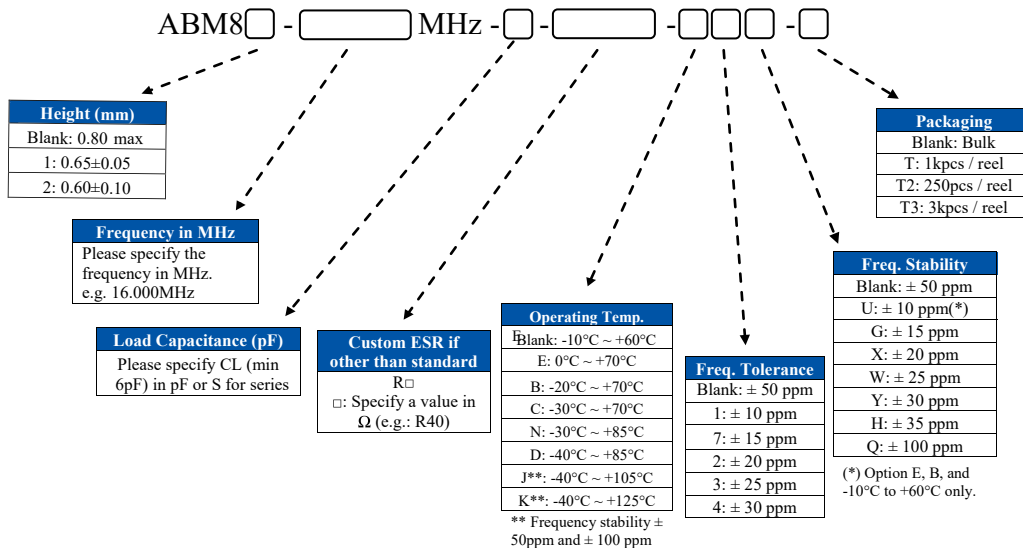
## STANDARD SPECIFICATIONS:

| Parameters  | Minimum  | Typical | Maximum  | Units | Notes  |
|---|--|---------|----------|-------|--|
| Frequency Range   | 8.000  |         | 125.000* | MHz   | Contact Abracon for available F<10MHz                              |
| Operation Mode  | Fundamental  |         |          |       | 8MHz - 54MHz   |
|   | 3rd Overtone<br>(Standard Frequencies: 64, 66, 66.6666, 75, 80, 98.304, 100, 125MHz) |         |          |       | 64MHz - 125MHz<br>Please contact Abracon for available frequencies |
| Operating Temperature   | -10  |         | +60      | °C    | Standard<br>(see options if other than STD)                        |
| Storage Temperature   | -55  |         | +125     | °C    |  |
| Frequency Tolerance @+25°C  | -50  |         | +50      | ppm   | Standard<br>(see options if other than STD)                        |
| Frequency Stability over the Operating Temperature ( ref. to +25°C) | -50  |         | +50      | ppm   | Standard<br>(see options if other than STD)                        |
| Equivalent series resistance (R1)                                   | See table 1 below  |         |          | Ω     |  |
| Shunt capacitance (C0)  |  |         | 3.0      | pF    |  |
| Load capacitance (CL)   |  | 18.0    |          | pF    | Standard (See options if other than STD)                           |
| Drive Level   |  | 10      | 100      | μW    |  |
| Aging   | -2   |         | +2       | ppm   | @25°C±3°C<br>First year  |
| Insulation Resistance   | 500  |         |          | MΩ    | @ 100Vdc ± 15V   |

TABLE 1- Standard ESR

| Frequency (MHz)        | ESR(Ω) max | Frequency (MHz)           | ESR(Ω) max |
|------------------------|------------|---------------------------|------------|
| 8.000-9.999 (Fund)     | 400        | 30.000 - 39.999 (Fund)    | 40         |
| 10.000 -11.999 (Fund)  | 200        | 40.000 - 54.000 (Fund)    | 35         |
| 12.000 -15.999 (Fund)  | 120        | 64.000 - 80.000 (3rd OT)  | 120        |
| 16.000 -19.999 (Fund)  | 70         | 98.304 - 125.000 (3rd OT) | 80         |
| 20.000 - 29.999 (Fund) | 50         |                           |            |

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



# CERAMIC SMD CRYSTAL



3.2 x 2.5 x 0.8mm

## ABM8



### OUTLINE DRAWING:

**Recommended land pattern**

(0.7) (1.3) (1.05) (1.0)

**Table 2**

| Height (mm) |             |
|-------------|-------------|
| ABM8        | 0.80 max    |
| ABM81       | 0.65+/-0.05 |
| ABM82       | 0.60+/-0.10 |

**Note:** Due to material availability, the chamfer could be located on pin #1, 3, or 4. Be advised that the chamfer location has no impact on the electrical performance of the device.

Dimensions: mm

### TAPE & REEL:

- Option "-T" : Tape and reel (1,000pcs/reel) : ABM8, ABM82  
Tape and reel (3,000pcs/reel) : ABM81
- Option "-T2" : Tape and reel (250pcspcs/reel) : ABM8
- Option "-T3" : Tape and reel (3,000pcs/reel) : ABM8, ABM82 only

FEEDING (PULL) DIRECTION →

Dimensions: mm

### REFLOW PROFILE:

Temperature vs. Time graph showing Preheat, Ramp Up, Peak heat, and Ramp Down phases.

| Zone | Description | Temperature                               | Time          |
|------|-------------|---|---------------|
| 1    | Preheat     | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 180°C | 60 ~ 120 sec. |
| 2    | Reflow      | $T_L$<br>230°C                            | 30 ~ 40 sec.  |
| 3    | Peak heat   | $T_P$<br>260°C±5°C                        | 10 sec. MAX   |

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