

CERAMIC SMD ULTRA MINIATURE QUARTZ CRYSTAL

ABM10

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

ABM10

2.5 x 2.0 x 0.5 mm

FEATURES:

- 2.5 x 2.0 x 0.5mm ultra miniature package
- Suitable for RoHS reflow profile
- Tight stability available ± 10 ppm over -10 to +60°C
- Seam sealed ceramic package assures high precision and reliability

APPLICATIONS:

- Blue-tooth, Wireless applications
- Computers, Modems, Microprocessors
- Communication, Test equipment
- High density applications
- PCMCIA
- Portable radios and MP3 players

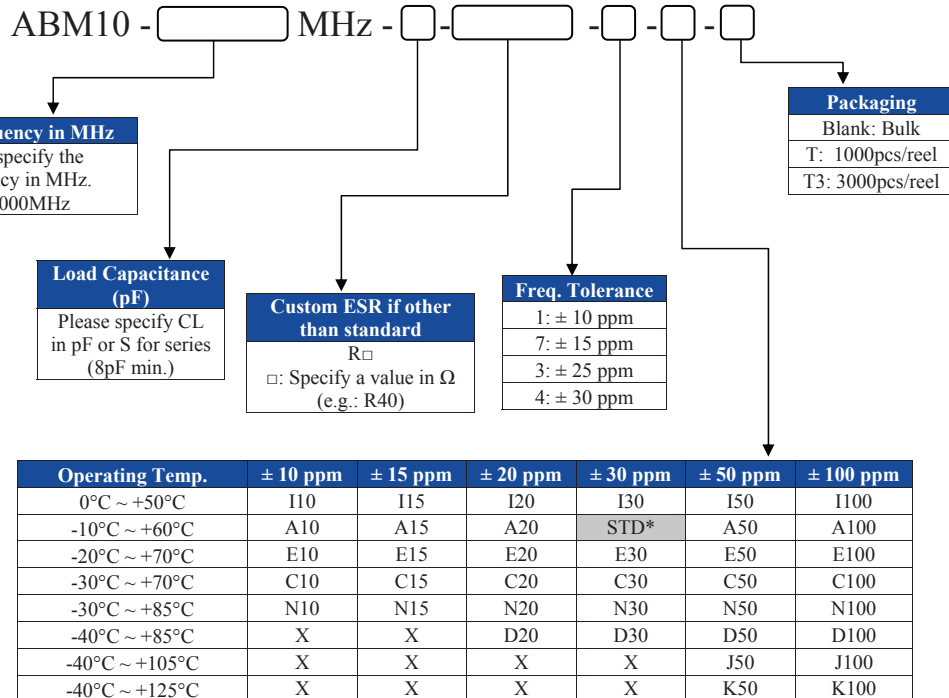
STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	12.000		55.000	MHz	Fundamental
Operation Mode	Fundamental				
Operating Temperature	-10		+60	°C	See options
Storage Temperature	-40		+125	°C	
Frequency Tolerance @+25°C			± 20	ppm	See options
Frequency Stability over the Operating Temperature (ref. to +25°C)			± 30	ppm	See options
Equivalent series resistance (R1)	See table 1 below			Ω	
Shunt capacitance (C0)			7	pF	
Load capacitance (CL)	10			pF	Standard (See options if other than STD)
Drive Level		10	100	μ W	
Aging@25°C $\pm 3^\circ$ C			± 5	ppm	First year
Insulation Resistance	500			M Ω	@ 100Vdc ± 15 V

Table 1 – standard ESR

Frequency (MHz)	ESR(Ω) max.
12.000 – 15.999	250
16.000 – 19.999	150
20.000 – 29.999	100
30.000 – 55.000	70

OPTIONS & PART IDENTIFICATION: (Left blank if standard)



* Please leave blank, as this is the standard/default spec. Contact Abracon for tighter frequency stability

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 **RoHS/RoHS II Compliant**

The mechanical drawing includes the following views and dimensions:

- Top View:** Shows the package footprint with dimensions:
 - Overall width: 0.079 ± 0.004 (2.0 ± 0.1)
 - Overall height: 0.098 ± 0.004 (2.5 ± 0.1)
 - Pin 1 location offset: 0.004 (0.1)
 - Pin 1 to Pin 2 distance: 0.0374 (0.95)
 - Pin 2 to Pin 3 distance: 0.0276 (0.7)
 - Pin 3 to Pin 4 distance: 0.004 (0.1)
 - Pin 4 to Pin 1 distance: 0.026 (0.65)
 - Pin 1 to Pin 4 distance: 0.024 (0.6)
 - Pin 1 to Pin 3 distance: 0.012 (0.3)
- Side View:** Shows the package height with dimensions:
 - Overall height: $0.02 + 0.008 - 0.004$ (0.5 ± 0.2)
 - Minimum height: -0.1
- Recommended Land Pattern:** Shows the recommended pad dimensions for the pins:
 - Pin 1 pad width: 0.018 (0.45)
 - Pin 2 pad width: 0.035 (0.9) 2X
 - Pin 3 pad width: 0.032 (0.8) 2X
 - Pin 4 pad width: 0.03 (0.75)

TOP VIEW

Note: From the top view (marking side), pin #1 is always located at the bottom left corner of the package. This is regardless of the location of the Chamfer, since due to material availability, the Chamfer could be located on pin#1, 2 or 4. Be advised that the Chamfer location has no impact on the electrical performance of the device.

Dimensions: inches (mm)

T: 1000pcs/reel
T3: 3000pcs/reel

FEEDING (PULL) DIRECTION →

Technical drawing of a reel tape showing dimensions and features:

- Top View Dimensions:
 - Overall Width: 8.0 ± 0.2
 - Overall Length: 2.25 ± 0.05
 - Feeding (Pull) Direction: Indicated by an arrow pointing right.
 - Internal Features:
 - Four rectangular slots, each 4.0 ± 0.1 wide and 3.5 ± 0.05 high.
 - Four circular holes, each $\phi 1.5$ in diameter.
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 - Four circular holes, each $\phi 1.5$ in diameter.
 - Edge Features:
 - Left edge: 0.25 ± 0.05 wide, 1.75 ± 0.1 high, with a 5° MAX chamfer.
 - Right edge: 4.0 ± 0.1 wide, 2.0 ± 0.05 high.
 - Bottom edge: 0.65 ± 0.05 wide, 1.7 ± 0.05 high.
- Side View Dimensions:
 - Overall Thickness: $8.0 \pm 1 / -0$
 - Internal Features:
 - Four rectangular slots, each 1.75 wide and 60 high.
 - Four circular holes, each $\phi 17.8 \pm 1$ in diameter.
- Detail View Dimensions:
 - Overall Width: 2.5
 - Angle: 120°
 - Overall Length: $\phi 22.0 \pm 1$

Dimensions: mm

The graph illustrates the temperature profile for the reflow soldering process. The Y-axis represents Temperature (°C) with markings at 25°C, 150°C, 180°C, 230°C, and 260°C. The X-axis represents Time (seconds) with markings for Pre-Heat, Reflow, and Cool. The profile shows a ramp up to 150°C, a dwell of 60~120s, a second ramp to 260°C, a dwell of 30~40s, and a final ramp down. A note indicates "10s max. 1 time at +260°C±5°C".



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