

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)

ABM10 - MHz - - - - -

Frequency in MHz
Please specify the frequency in MHz.
e.g. 16.000MHz

Load Capacitance (pF)
Please specify CL in pF or S for series (8pF min.)

Custom ESR if other than standard
R□
□: Specify a value in Ω (e.g.: R40)

Freq. Tolerance
1: ± 10 ppm
7: ± 15 ppm
3: ± 25 ppm
4: ± 30 ppm

Packaging
Blank: Bulk
T: 1000pcs/reel
T3: 3000pcs/reel

Operating Temp.	± 10 ppm	± 15 ppm	± 20 ppm	± 30 ppm	± 50 ppm	± 100 ppm
0°C ~ +50°C	I10	I15	I20	I30	I50	I100
-10°C ~ +60°C	A10	A15	A20	STD*	A50	A100
-20°C ~ +70°C	E10	E15	E20	E30	E50	E100
-30°C ~ +70°C	C10	C15	C20	C30	C50	C100
-30°C ~ +85°C	N10	N15	N20	N30	N50	N100
-40°C ~ +85°C	X	X	D20	D30	D50	D100
-40°C ~ +105°C	X	X	X	X	J50	J100
-40°C ~ +125°C	X	X	X	X	K50	K100

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

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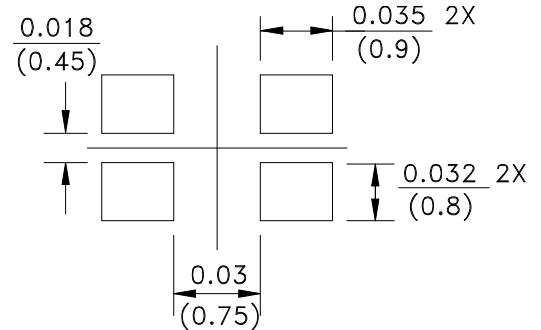
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The image shows the ABM10 chip and its packaging. On the left is a square, silver-colored chip with the text "ABM10" printed on it. On the right is a black, rectangular package with four gold-colored pins visible on its sides.

 RoHS/RoHS II Compliant

OUTLINE DRAWING:



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)

REFLOW PROFILE:

[illegible]

Figure 1 is a typical reflow profile graph. The y-axis represents Temperature in degrees Celsius (°C), ranging from 25°C to 260°C. The x-axis represents Time in seconds (s). The profile is divided into three main phases: Pre-Heat, Reflow, and Cool. The Pre-Heat phase starts at 25°C and ramps up to 150°C, with a time interval of 60~120s. The Reflow phase starts at 150°C, ramps up to 260°C, and then stays at 260°C for 30~40s. The Cool phase starts at 260°C and ramps down to 25°C, with a time interval of 60~90s. A note indicates that the maximum temperature at 260°C±5°C should be maintained for 10s max. 1 time.



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