# CERAMIC SMD ULTRA MINIATURE QUARTZ CRYSTAL





2.0 x 1.6 x 0.59 mm

# ABM11

### > FEATURES:

- 2.0 x 1.6 x 0.9mm ultra miniature package.
- IR reflow capable.
- Seam sealed ceramic package with metal lid assures high precision and reliability.

# > APPLICATIONS:

- Cellular telephones, Pagers.
- Communication and Test equipment.

RoHS

Compliant

- High Density applications.
- PCMCIA and wireless applications.

# **STANDARD SPECIFICATIONS:**

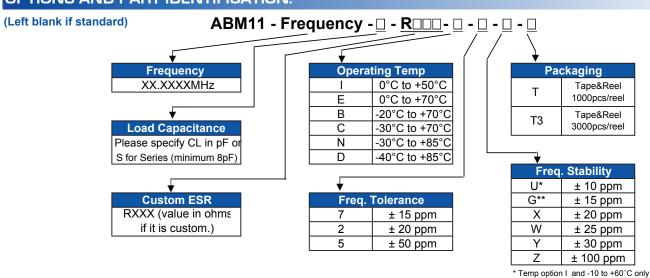
PARAMETERS	
ABRACON P/N	ABM11 Series
Frequency Range	20.000 MHz to 50.000 MHz
Operation Mode	Fundamental
Operating Temperature	-10°C to +60°C (see options)
Storage Temperature	-40°C to +85°C
Frequency Tolerance*	± 30 ppm max. (see options)
Frequency Stability over the Operating Temperature	
(Ref to + 25°C)	± 50 ppm max. (see options)
Equivalent Series Resistance	See table 1
Shunt Capacitance C0	7 pF max.
Load Capacitance CL	10 pF (see options)
Drive Level	100 μW max., 10 μW typical
Aging @ 25° C per year:	± 5ppm max.
Insulation Resistance	$500~\text{M}\Omega$ min at $100\text{Vdc} \pm 15~\text{Vdc}$

**TABLE 1- Standard ESR** 

Frequency (MHz)	$ESR(\underline{\Omega})$ max
20.000 - 23.999	120
24.000 - 29.999	100
30.000 - 37.999	80
38.000 - 50.000	60

(Note)\*: Tolerance and Temp stability do not include Mechanical, Environmental, and Aging frequency shift.

# **OPTIONS AND PART IDENTIFICATION:**



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



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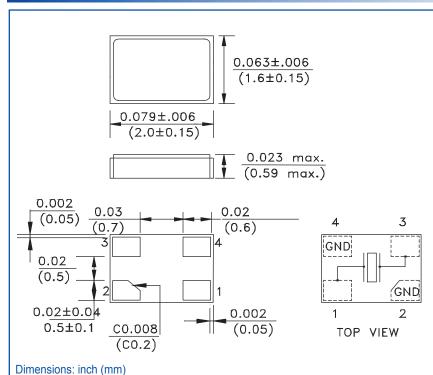


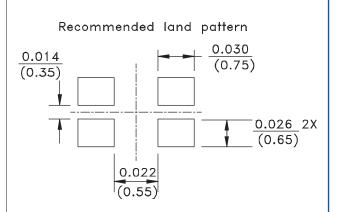


2.0 x 1.6 x 0.59 mm

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# **OUTLINE DRAWING:**



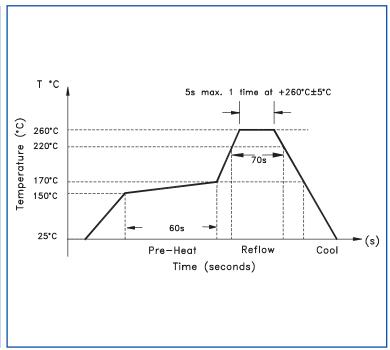


**Note:** Due to the availability of raw materials, this part may be manufactured with the chamfer on pin 1 or 4. Be advised that this does not affect the electrical characteristics of the crystal in any way.

# > TAPE & REEL:

# T: 1000pcs/reel T3: 3000pcs/reel FEEDING (PULL) DIRECTION 1.75±0.1 2.0±0.1 0.3±.05 1.75±0.1 0.65±0.1 9.0±1.0 4.0±0.1 9.0±1.0 4.0±0.1 9.0±1.0 9.0±1.0 9.0±1.0

# **REFLOW PROFILE:**





Need a test socket for the ABM11 Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, **click here. P/N AXS-2016-04-04C** 

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ABRACON IS ISO 9001 / QS 9000 CERTIFIED

**Dimensions: mm** 



 $\emptyset 20.2 \pm 1$