



2.0 x 1.6 x 0.55mm

## ABM11AIG

**Pb** RoHS / RoHS II Compliant

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

### FEATURES:

- PPAP ready and supported
- TS16949 certified production lines
- Ultra-miniature size and low profile package: 2.0 x 1.6 x 0.55mm
- AEC-Q200 qualified
- Hermetically sealed ceramic package assures high precision and reliability
- Extended operating temperature range: -40°C to +125°C
- RoHS compliant and Pb free

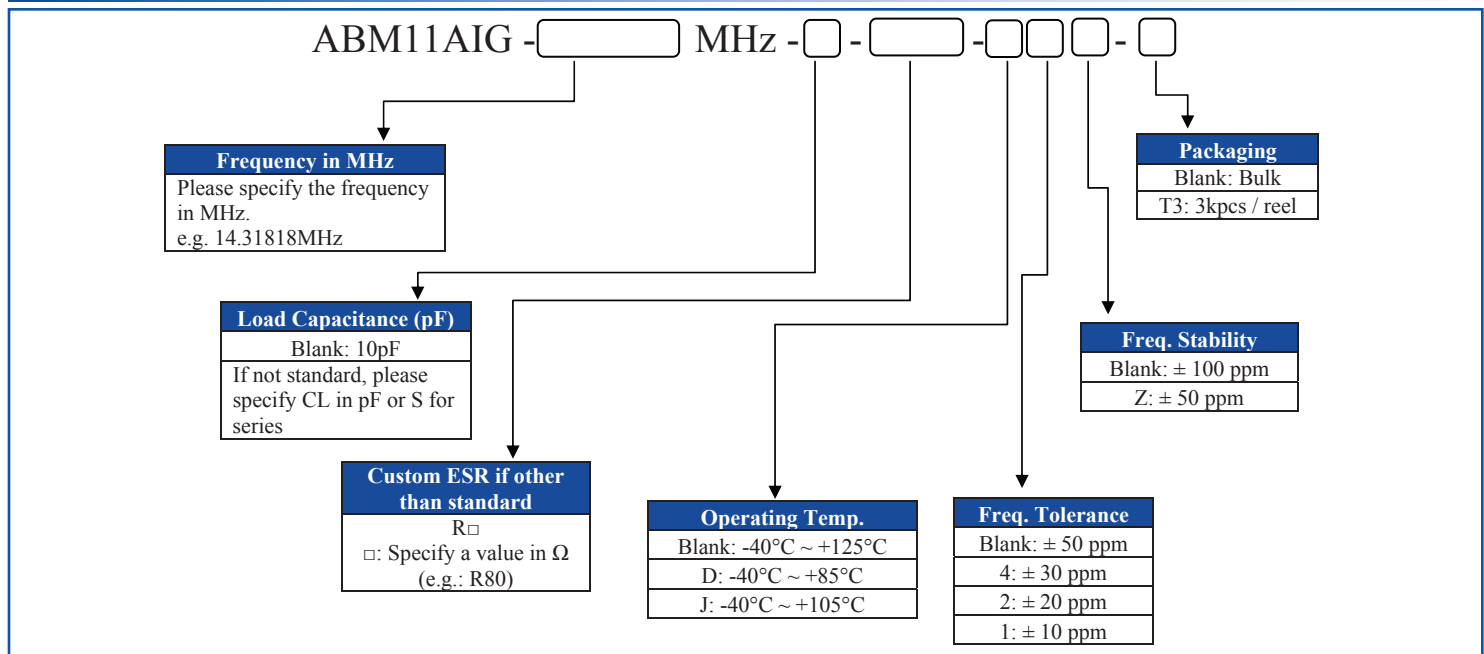
### APPLICATIONS:

- Navigation
- Car entertainment system
- COTS Military
- Test equipment
- Industrial control
- Medical Electronics (non-life dependent)
- Comfort control
- Instrument panel
- Telematics
- Industrial automation

### STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	16.000		50.000	MHz	
Operation Mode	Fundamental				
Operating Temperature	-40		+125	°C	See options
Storage Temperature	-40		+125	°C	
Frequency Tolerance @+25°C	-50		+50	ppm	See options
Frequency Stability over the Operating Temperature ( ref. to +25°C)	-100		+100	ppm	See options
Equivalent series resistance (R1)			150	Ω	16.000~19.999MHz
			100		20.000~29.999 MHz
			80		30.000~37.999 MHz
			60		38.000~50.000 MHz
Shunt capacitance (C0)			5.0	pF	
Load capacitance (CL)	10			pF	Standard (See options if other than STD)
Drive Level		10	100	μW	
Aging	-5		+5	ppm	@25°C±3°C First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

### OPTIONS AND PART IDENTIFICATION:



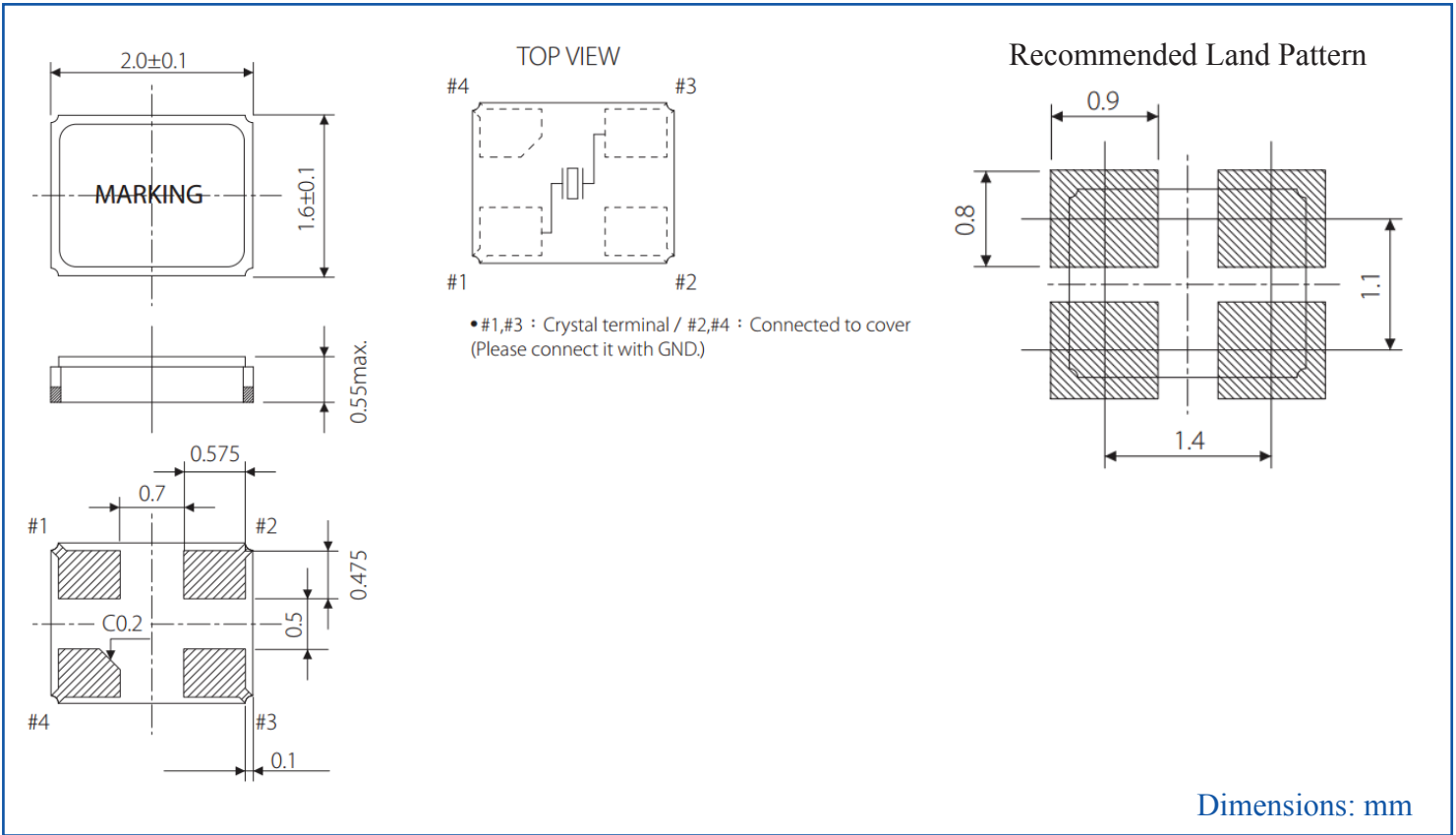


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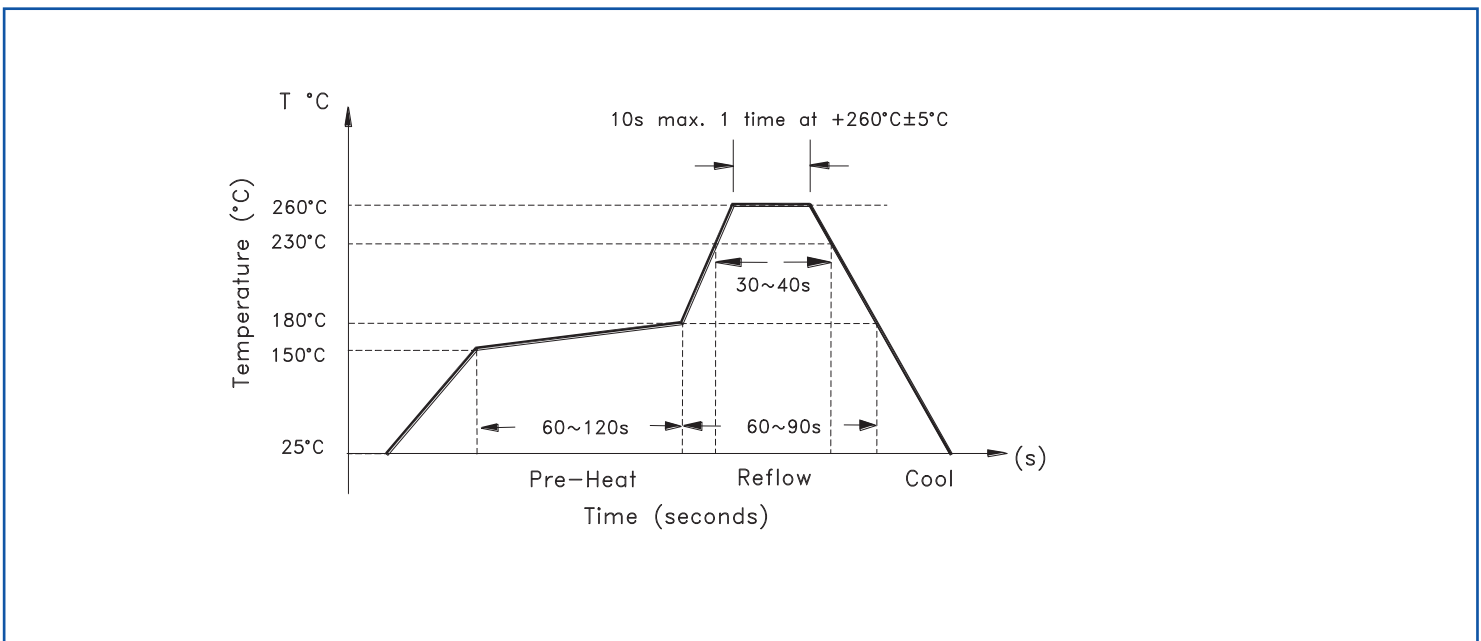
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## OUTLINE DIMENSIONS:



## REFLOW PROFILE:





# Pierce Analyzer System (PAS) Advanced Board Characterization Service

*Abracon PAS System enables us to offer Automotive, Medical, and Industrial application customers a comprehensive, automated assessment of the Pierce Oscillator loop, in concert with the customers selected Quartz Crystal. The PAS System Circuit Analysis report is ideally suited for PPAP documentation, design history reporting, and overall assurance of a reliable optimized circuit.*

## Features:

- Circuit characterization; providing best possible match between Quartz Crystal, oscillator loop and associated components
- Eliminates probability of oscillator start-up issues related to inadequate design or marginal component performance
- Eliminates production launch issues related to crystal oscillator based timing circuit
- Solves design margin uncertainty

## Deliverables: A detail Report encompassing:

### • Stand alone Quartz Crystal characteristics including:

- Motional parameters (Cm, Lm, ESR & C0)
- Narrow Band Frequency Response Plot
- Wide Band Frequency Response Plot
- Admittance versus Susceptance plot
- Frequency dependence versus load capacitance plot

### • Oscillator loop characteristics including:

- Initial frequency accuracy and drive level as seen by the crystal with measured ESR
- Worst case projected drive level with maximum specified ESR
- Safety Factor of the oscillator loop under both typical and maximum ESR
- Recommendation on proper component selection (C1, C2 & Rs when applicable) for best compromise with respect to Safety Factor and Frequency accuracy
- Recommendation on the Abracon Crystal part # with proper plating load and other key attributes to enable the most robust design, specific to the  $\mu$ controller/processor implemented

## Ordering information:

<b>PAS-BC1WK</b>	Analysis & Report with 1-week maximum lead-time
<b>PAS-BC2WK</b>	Analysis & Report with 2-week maximum lead-time
<b>PAS-BC3WK</b>	Analysis & Report with 3-week maximum lead-time

**For detailed information, click here:**



*For additional information, please contact at: [tech-support@abracon.com](mailto:tech-support@abracon.com)*