

# CERAMIC SURFACE MOUNT LOW PROFILE QUARTZ CRYSTALS

ABMM2



6.0 x 3.6 x 1.2 mm

ABMM2

RoHS/RoHS II Compliant

## FEATURES:

- Suitable for RoHS compliant reflow
- Low height 1.2 mm max
- Seam sealed ceramic package assures high reliability
- Available tight tolerance and stability

## APPLICATIONS:

- Computers, Modems, Microprocessors
- Communication, Test equipment
- PCMCIA

## STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		7.3728		100.00	MHz	
Operation Mode	7.3728 – 30.00MHz	Fundamental				Standard
	30.01 – 100.00MHz	3 <sup>rd</sup> Overtone				Standard
	30.01 – 50.00MHz	Fundamental				See options
Operating Temperature		-10		+60	°C	See options
Storage Temperature		-40		+85	°C	
Frequency Tolerance @+25°C		-20		+20	ppm	See options
Frequency Stability over the Operating Temperature ( ref. to +25°C)		-20		+20	ppm	See options
Equivalent series resistance (R1)		See table 1 below			Ω	
Shunt capacitance (C0)				7.0	pF	
Load capacitance (CL)			18.0		pF	Standard (See options if other than STD)
Drive Level			100	500	μW	
Aging		-2		+2	ppm	@25°C±3°C First year
Insulation Resistance		500			MΩ	@ 100Vdc ± 15V

**TABLE 1- Standard ESR**

Frequency (MHz)	ESR(Ω) max
7.3728 -7.999 (Fund)	140
8.000 -10.000 (Fund)	72
10.001 -20.000 (Fund)	50
20.001 – 50.000 (Fund)	40
30.001 – 47.999 (3 <sup>rd</sup> OT)	60
48.000 – 100.000 (3 <sup>rd</sup> OT)	80

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## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ABMM2 -  MHz -  -  -  -  -  -

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

**Packaging**  
Blank: Bulk  
T: 1000pcs / reel  
T2: 250pcs / reel

**Load Capacitance (pF)**  
Please specify CL in pF (8 to 33pF) or S for series  
Please contact Abracon for other values

**Oscillation Mode**  
Blank: Standard  
F; fund. AT for F>30MHz

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

**Freq. Tolerance**  
1: ± 10 ppm  
7: ± 15 ppm

Operating Temp.	Frequency Stability (ppm)				
	±10	±20	±30	±50	±100
0°C ~ +50° C	A3	A4	A6	-----	-----
-10°C ~ +50°C	B3	B4	B6	-----	-----
-10°C ~ +60°C	C1	Std	C6	-----	-----
-20°C ~ +70°C	E1	E2	E6	-----	-----
-40°C ~ +85°C	-----	D1	D6	D5	-----
-40°C ~ +1 05°C	-----	-----	-----	J5	J10
-40°C ~ +1 25°C	-----	-----	-----	K5	K10

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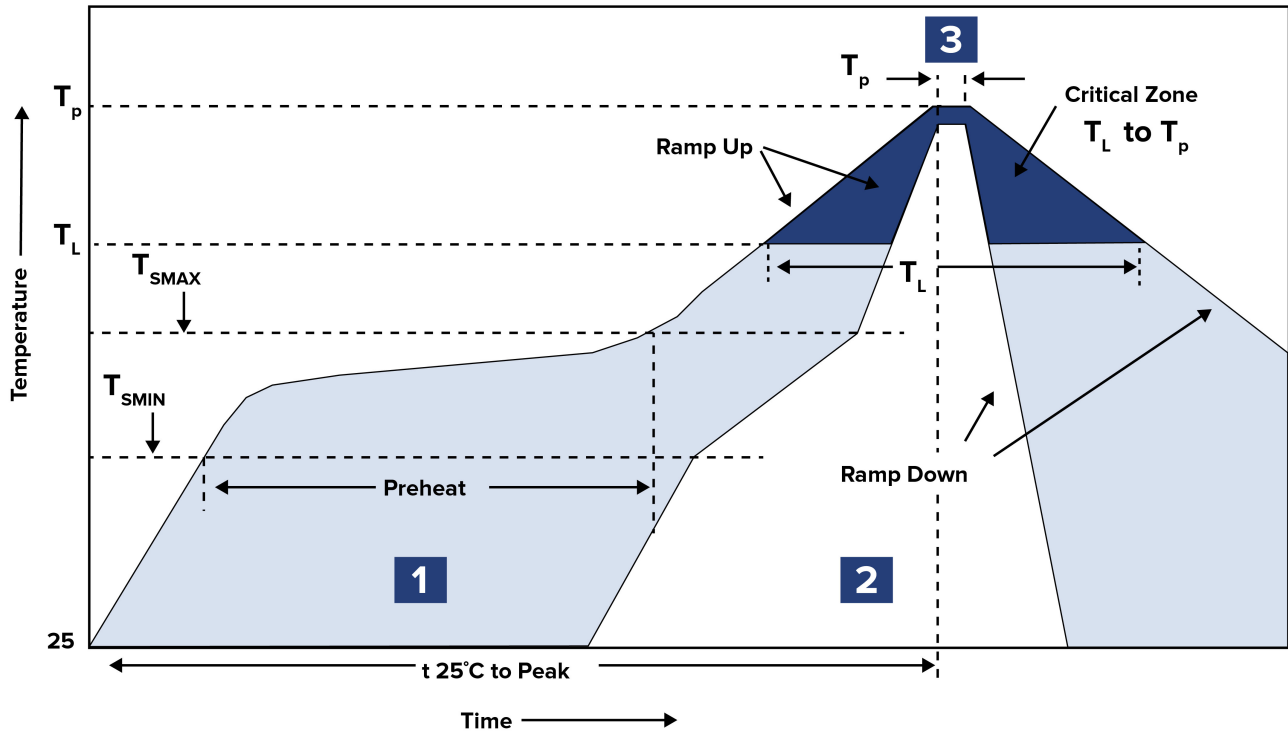


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## REFLOW PROFILE



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

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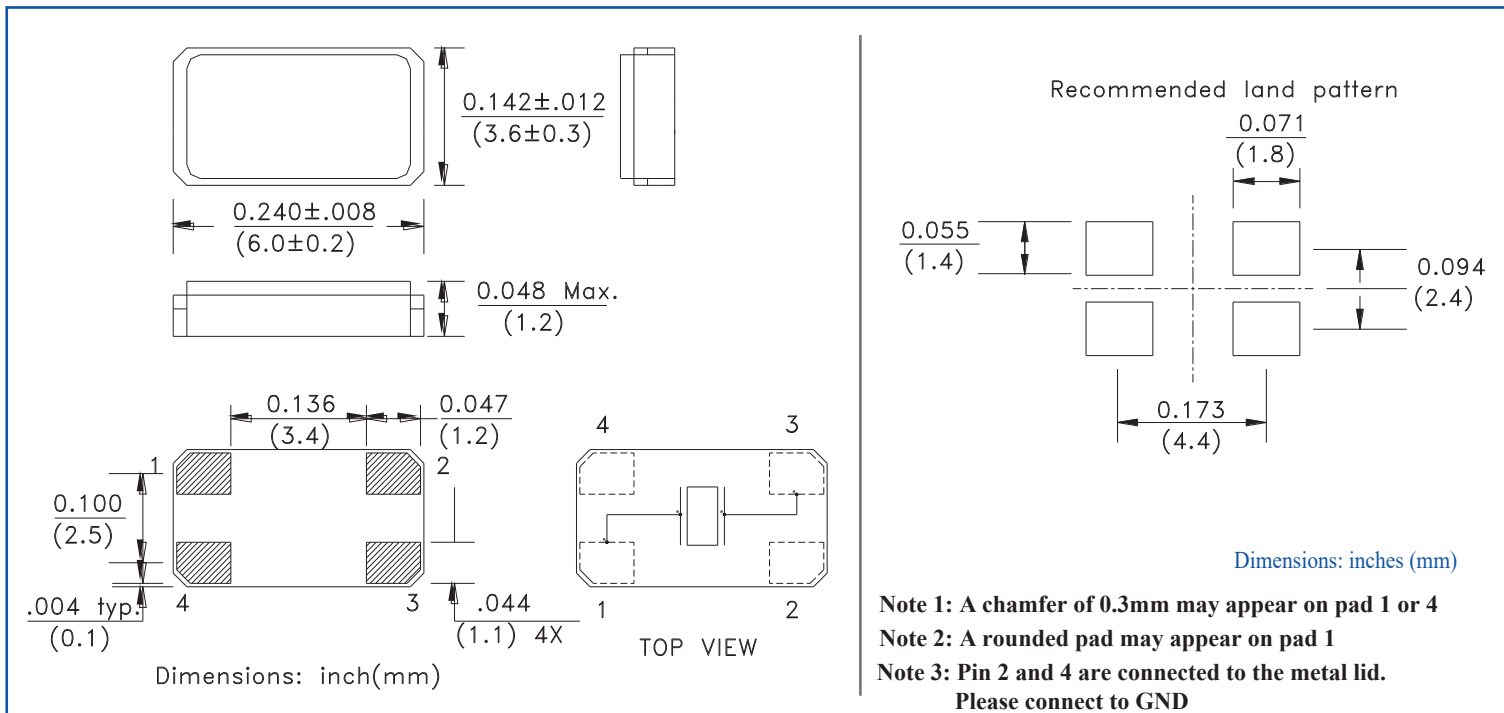


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## OUTLINE DRAWING:



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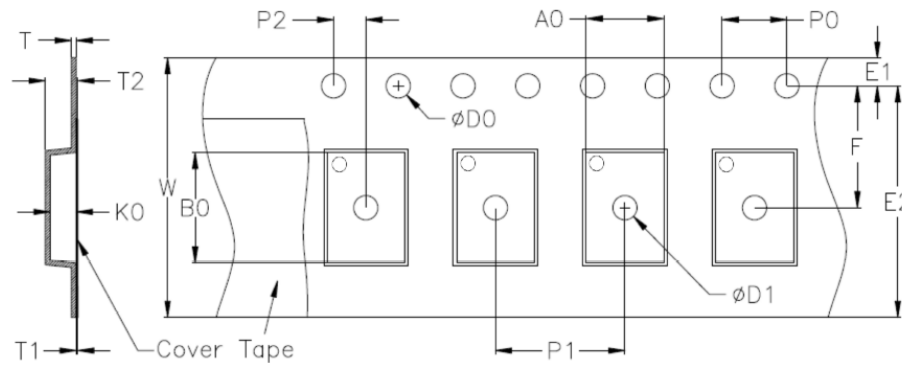
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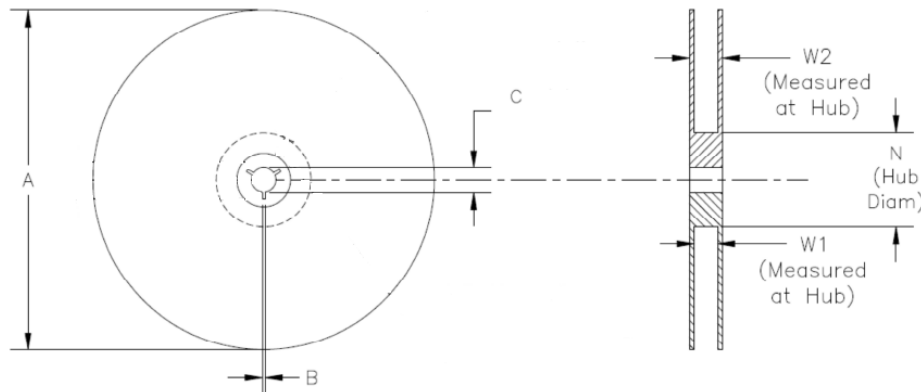
## TAPE & REEL:

T: Tape and reel (1,000pcs/reel)  
T2: Tape and reel (250pcs/reel)



Tape Size	W max.	D0	D1 min.	E1	F	P0	P1	P2
16mm	16.0±0.3	1.5	1.5	1.75±0.1	7.5±0.1	4.0±0.1	8.0±0.1	2.0±0.1
12mm	12.0±0.2				5.5±0.05			

Tape Size	T	T2 max.	B0	K0
16mm	0.3±0.05	1.5±0.1	6.4±0.1	1.5±0.1
12mm		1.8±0.1		1.8±0.1



Tape Size	A max.	B min.	C	N	W1	W2 max.
16mm	178±1	2.5±0.5	13.2±0.5	80.0	17.5±0.2	21.0±2.0
12mm				60.2±0.5		

Dimensions: mm

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