

# LOW FREQUENCY CERAMIC SURFACE MOUNT MICROPROCESSOR CRYSTAL



ABC2

RoHS compliant with exemption of Pb in glass  
(exempt per RoHS 2002/95/EC Annex (5))

**RoHS**  
Compliant

11.8 x 5.5 x 1.9mm

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

## FEATURES:

- Low frequency in small size SMD
- 1.9mm height ideal for high density circuit boards
- Ceramic package offers excellent environmental & heat resistance
- Extended temperature -40°C to +85°C for industrial applications
- Suitable for RoHS compliant reflow

## APPLICATIONS:

- Wide range in communication & measuring equipment
- Commercial & Industrial applications

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	3.500		30.000	MHz	Fundamental, AT
	30.000		70.000		3 <sup>rd</sup> Overtone, AT
Operation Mode	Fundamental or 3 <sup>rd</sup> Overtone				
Operating Temperature	-10		+60	°C	Please see available options under Part Identification section
Storage Temperature	-55		+125	°C	
Frequency Tolerance @+25°C	-50		+50	ppm	See options
Frequency Stability over the Operating Temperature -10 °C to +60 °C (ref. to +25°C)	-50		+50	ppm	Standard for below 6.0MHz (-10 °C to +60 °C) See options for other temperature
	-30		+30		Standard for 6.0MHz and above; (-10 °C to +60 °C) See options for other temperature
Equivalent series resistance (R1)	See table 1 below			Ω	
Shunt capacitance (C0)			7	pF	
Load capacitance (CL)		18		pF	See options
Drive Level			100	μW	
Aging@25°C±3°C			±5	ppm	First year
Insulation Resistance	500			M Ω	@ 100Vdc ± 15V

Table 1

Frequency Ranges	Operation mode	ESR (max)
3.200MHz ~ 3.499MHz	Fundamental	200 Ω
3.500MHz ~ 3.999MHz	Fundamental	140 Ω
4.000MHz ~ 4.399MHz	Fundamental	120 Ω
4.400MHz ~ 4.899MHz	Fundamental	100 Ω
4.900MHz ~ 5.999MHz	Fundamental	80 Ω
6.000MHz ~ 6.999MHz	Fundamental	60 Ω
7.000MHz ~ 7.999MHz	Fundamental	50 Ω
8.000MHz ~ 10.999MHz	Fundamental	45 Ω
11.000MHz ~ 11.999MHz	Fundamental	40 Ω
12.000MHz ~ 14.999MHz	Fundamental	35 Ω
15.000MHz ~ 36.000MHz	Fundamental	30 Ω
27.000MHz ~ 70.000MHz	3rd OT	100Ω

# LOW FREQUENCY CERAMIC SURFACE MOUNT MICROPROCESSOR CRYSTAL



11.8 x 5.5 x 1.9mm

ABC2

RoHS compliant with exemption of Pb in glass  
(exempt per RoHS 2002/95/EC Annex (5))

**RoHS**  
Compliant

## OPTIONS AND PART IDENTIFICATION: (Left blank if standard)

ABC2 -  MHz -  -  -  -  -  -

**Frequency in MHz**  
Please specify the frequency in MHz.  
e.g. 14.31818MHz

**Load Capacitance (pF)**  
Please specify CL in pF or S for series

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

**Operating Temp.**  
Blank: -10°C ~ +60°C  
B: -20°C ~ +70°C  
D\*\*: -40°C ~ +85°C

**Freq. Tolerance**  
Blank:  $\pm 50$  ppm  
2:  $\pm 20$  ppm  
4:  $\pm 30$  ppm

**Packaging**  
Blank: Bulk  
T: Tape & Reel (1k pcs /reel)

**Freq. Stability**  
Blank: Standard  
G\*:  $\pm 15$  ppm  
W\*:  $\pm 25$  ppm  
Y:  $\pm 30$  ppm  
H:  $\pm 35$  ppm  
Z:  $\pm 50$  ppm  
Q:  $\pm 100$  ppm

\* Option B and -10 ~60°C only

\*\* Option Y, Z and Q only for  $F \geq 6.0$ MHz; Option Z and Q only for  $F < 6.0$ MHz

# LOW FREQUENCY CERAMIC SURFACE MOUNT MICROPROCESSOR CRYSTAL



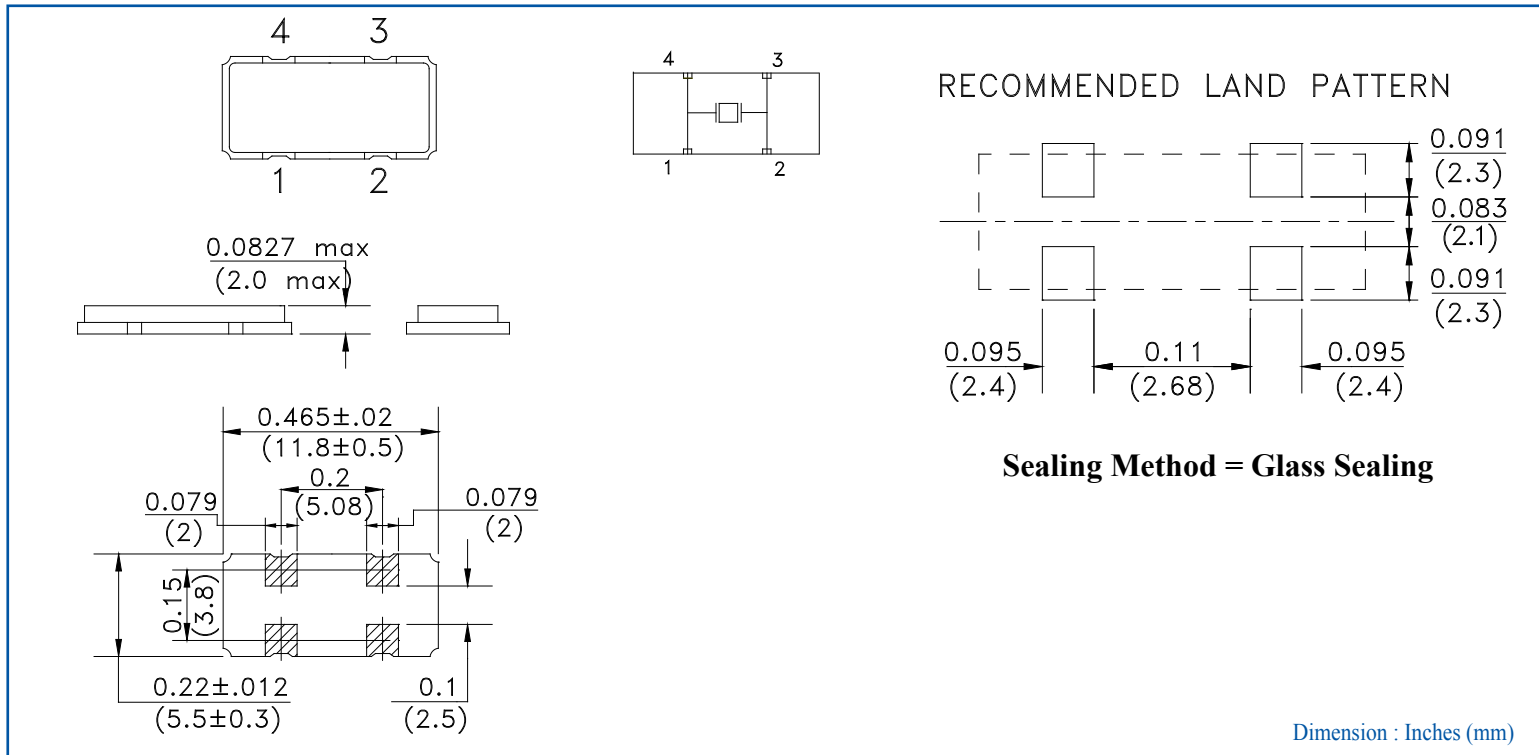
11.8 x 5.5 x 1.9mm

ABC2

RoHS compliant with exemption of Pb in glass  
(exempt per RoHS 2002/95/EC Annex (5))

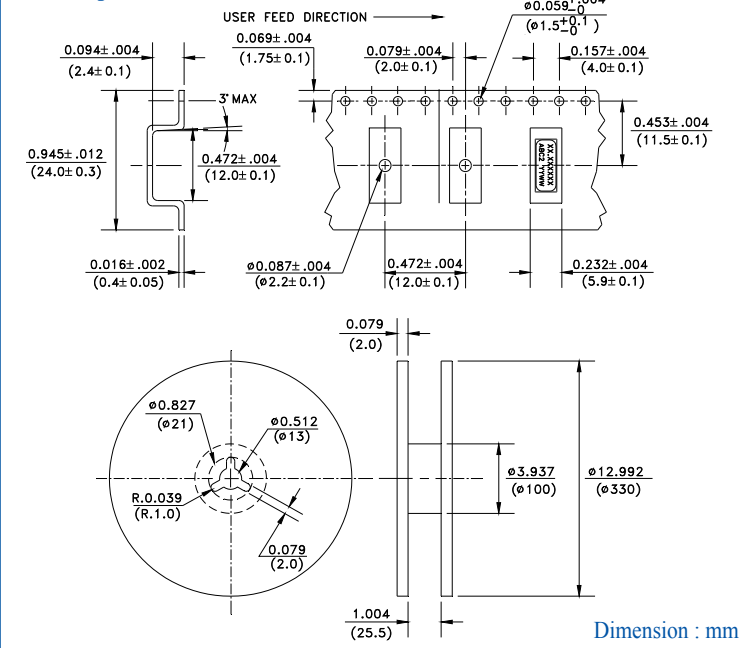
**RoHS**  
Compliant

## OUTLINE DRAWING:

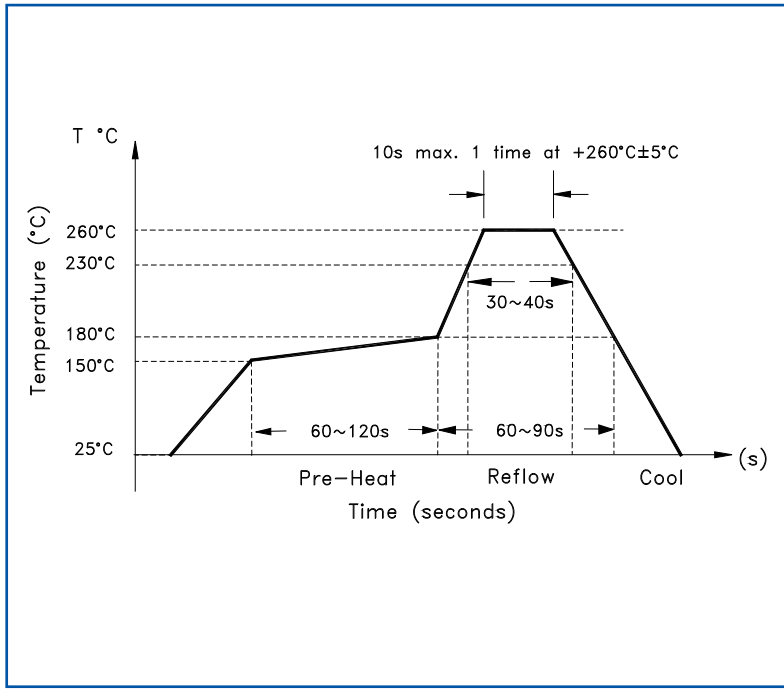


## TAPE & REEL:

T: 1,000 pcs/reel



## REFLOW PROFILE:



**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

Need a test socket for the ABC2 Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, **click here**. P/N AXS-1155-04-01

ABRACON IS  
ISO 9001:2008  
CERTIFIED



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 01.13.14**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)