

# 32.768kHz SMD LOW PROFILE CRYSTAL

ABS13

ABS13

Pb in High Temperature Solder  
(exempt per RoHS 2002/95/EC Annex (7))

**RoHS**  
Compliant



6.9 x 1.4 x 1.3 mm

## FEATURES:

- Low frequency
- Plastic package with embedded heat resistant crystal in cylinder package
- Extended temperature -40°C to +85°C for industrial applications
- Suitable to RoHS compliant reflow

## APPLICATIONS:

- Commercial & Industrial applications
- Wireless communications
- PDA and Palm Pilots

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Nominal Frequency	-----	32.768	-----	kHz	
Operating Temperature	-40	-----	+85	°C	
Turnover Temperature	+20	+25	+30	°C	
Storage Temperature	-55	-----	+125	°C	
Frequency Tolerance @+25°C	-20	-----	+20	ppm	
Frequency Coefficient (β)	-0.040	-0.034	-0.028	ppm/T <sup>2</sup>	
Equivalent series resistance (R1)	-----	-----	65	kΩ	
Shunt capacitance (C0)	-----	1.2	-----	pF	
Motional capacitance (C1)		2.3		fF	
Load capacitance (CL)	-----	12.5	-----	pF	See options
Drive Level	-----	-----	1	μW	
Aging	-3	-----	+3	ppm	@25°C±3°C First year
Insulation Resistance	500	-----	-----	MΩ	@ 100Vdc ± 15V

## OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ABS13 -32.768kHz-□ -□

Load Capacitance (pF)
Blank: 12.5pF
7: 7pF

Packaging
Blank: Bulk
T: Tape and Reel

Standard Reel = 3k units



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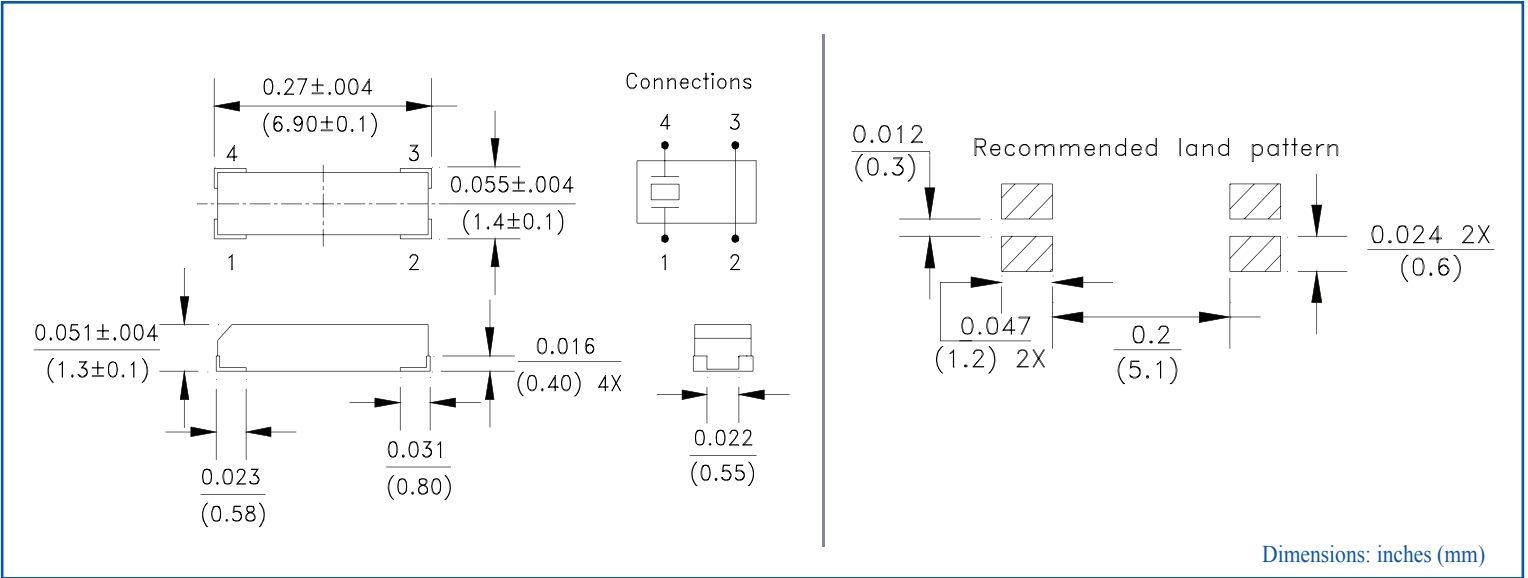
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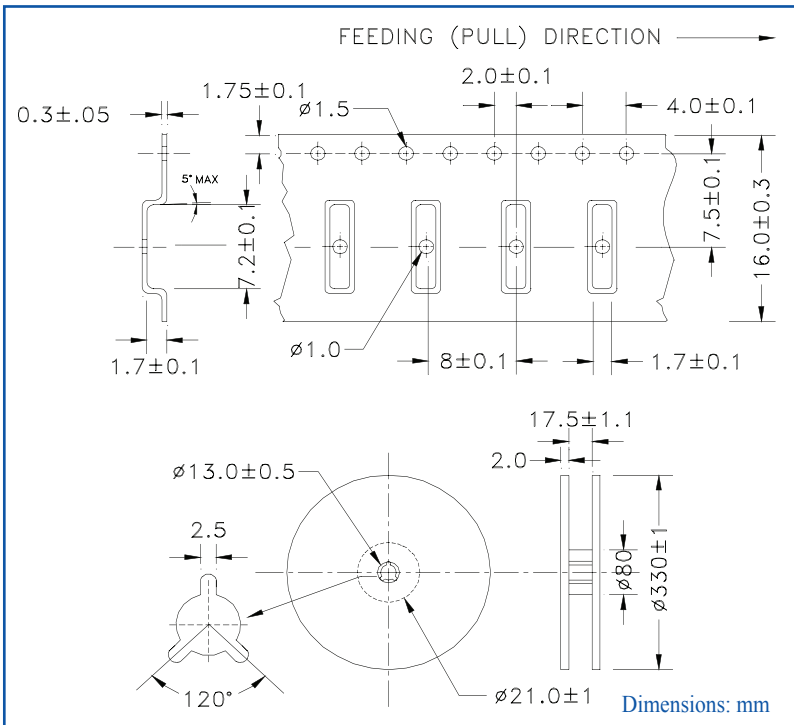
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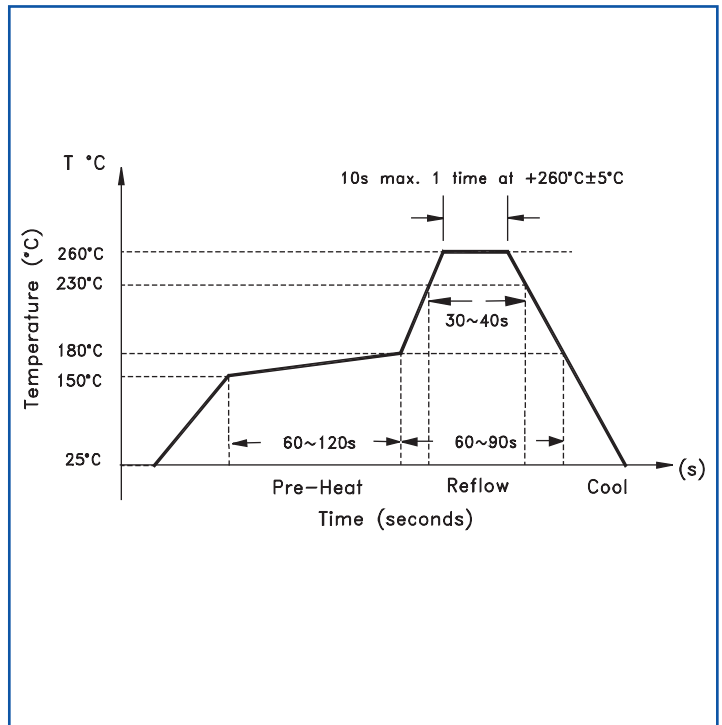
## OUTLINE DRAWING:



## TAPE & REEL: T = Tape and reel 3,000pcs/reel



## REFLOW PROFILE



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