

# Automotive & Industrial Grade 32.768kHz Ceramic Base SMD Crystal

ABS07AIG



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3.2 x 1.5 x 0.9 mm  
**RoHS/RoHS II Compliant**  
 MSL = N/A: Not Applicable

## Features

- AEC-Q200 Qualified
- Automotive Grade 1: -40°C to +125°C
- IATF 16949 Production Line Certified
- PPAP Available Upon Request
- Hermetically Seam-sealed Ceramic Package
- RoHS/RoHS II Compliant and Pb free

## Applications

- Infotainment Systems
- Keyless Entry & Startup
- GPS & Navigation
- Comfort control
- ADAS (Advanced Driver Assistance Systems)
- Vehicle to Vehicle Communication
- LiDAR (Light Detection and Ranging)
- In-vehicle Networking
- Powertrain & Drive Control
- Power Control & Conversion
- Industrial Control & Automation

## Electrical Specifications

Parameters	Min.	Typ.	Max.	Units	Notes
Frequency	32.768			kHz	
Operation Mode	Flexural Mode (Tuning Fork)				
Operating Temperature	-40		+125	°C	Option "blank"; See options
Storage Temperature	-55		+125	°C	
Frequency Tolerance @ +25°C	-10		+10	ppm	Option "1"; See options
	-20		+20		Option "blank"; See options
Temperature Coefficient	-0.040	-0.036		ppm/T <sup>2</sup>	
Turn-over Temperature	+20	+25	+30	°C	
Frequency stability over operating temperature, relative to in-circuit measured frequency post-reflow	-160		-100	ppm	Over -40°C to +85°C
	-250		-100		Over -40°C to +105°C
	-450		-100		Over -40°C to +125°C
Equivalent series resistance (R1)			45	kΩ	@ +25±3°C
			50		Over -40°C to +85°C
			60		Over -40°C to +105°C
			70		Over -40°C to +125°C
Shunt capacitance (C0)		<1.4		pF	
Motional capacitance (C1)		4.7		fF	
Load capacitance (CL)		12.5		pF	Option "blank"; See options
Drive Level		0.1	0.5	μW	
Q value	10000	30000			
Aging	-3		+3	ppm	@25°C± 3°C First year
Insulation Resistance	500			MΩ	@100 Vdc

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## Options and Part Identification (left blank if standard)

ABS07AIG-32.768 kHz - ○ - ○ - ○ - ○

Load Capacitance
Blank: 12.5pF
9: 9pF
7: 7pF
6: 6pF
5: 5pF

Operating Temp.Range
Blank: -40 ~ +125°C
D: -40 ~ +85°C
J: -40°C to +105°C

Freq. Tolerance
Blank: ±20ppm
1: ±10ppm
4: ±30ppm

Packaging
Blank: Bulk
T: 3k pcs / reel

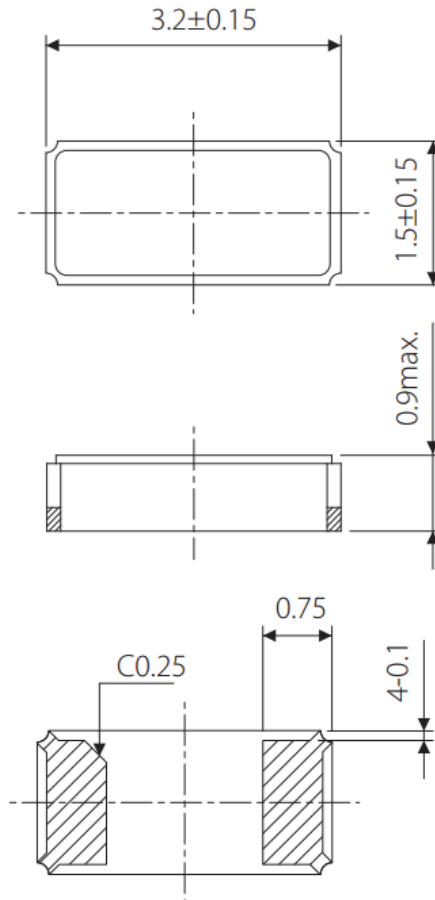


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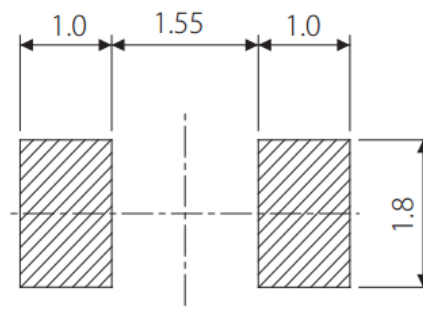


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**Mechanical Dimensions**



**Recommended Land Pattern**



Dimensions: mm

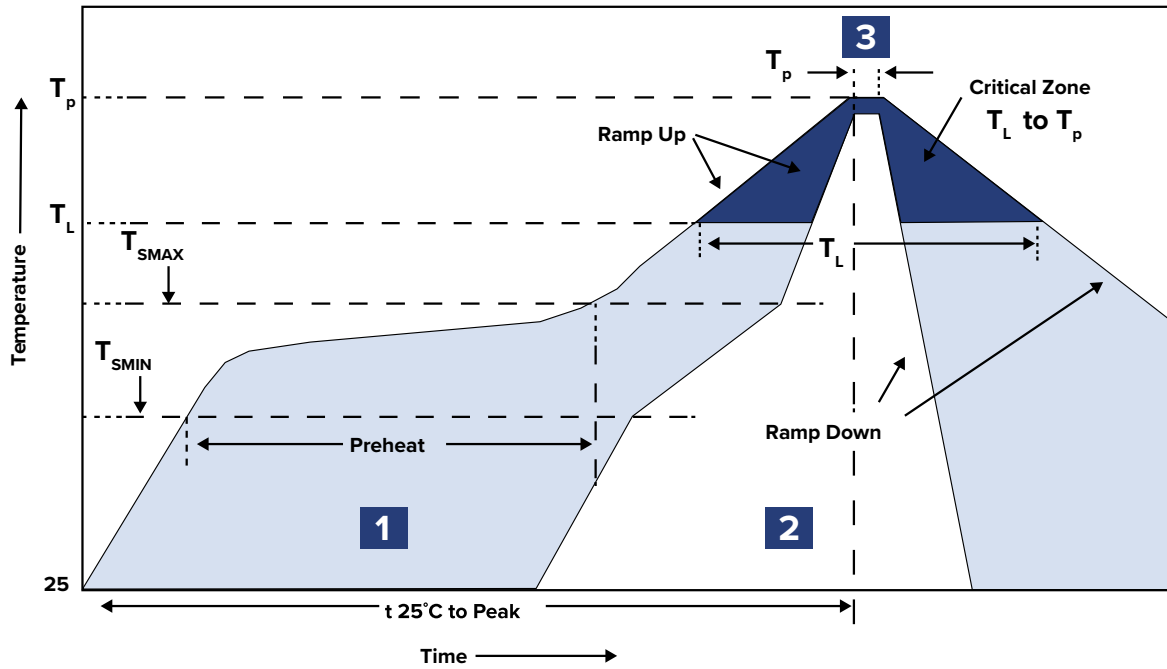


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## Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ 170°C ~ 190°C	60 - 120 sec.
2	Reflow	$T_L$ 230°C	55 sec. MAX
3	Peak heat	$T_P$ 260°C	10 sec. MAX



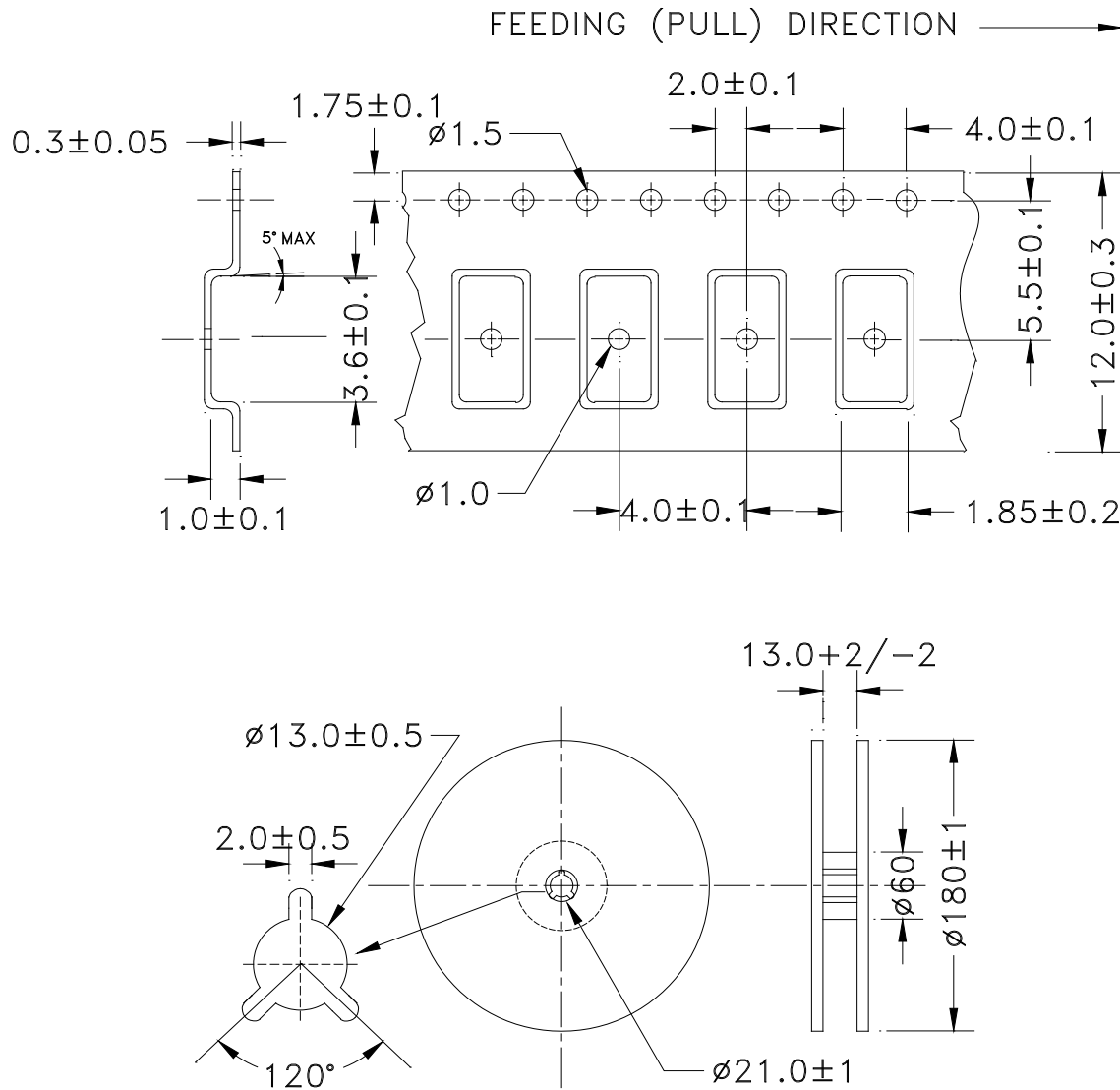
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## Packaging

T=Tape and reel (3,000pcs/reel)



Dimensions: mm

**ATTENTION:** Abracon LLC'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-dependent 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 LLC is required. Please contact Abracon LLC for more information.