

# 32.768kHz SMD Low ESR Crystal



3.2 x 1.5 x 0.9 mm

**ABS07-LR**



**RoHS/RoHS II Compliant**

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

## FEATURES:

- Guaranteed ESR of 50kΩ maximum for low power designs
- 0.9mm height ideal for high density circuit boards
- Seam sealed ceramic package offers excellent environmental & heat resistance
- Extended operating temperature of -40°C to +85°C for industrial applications

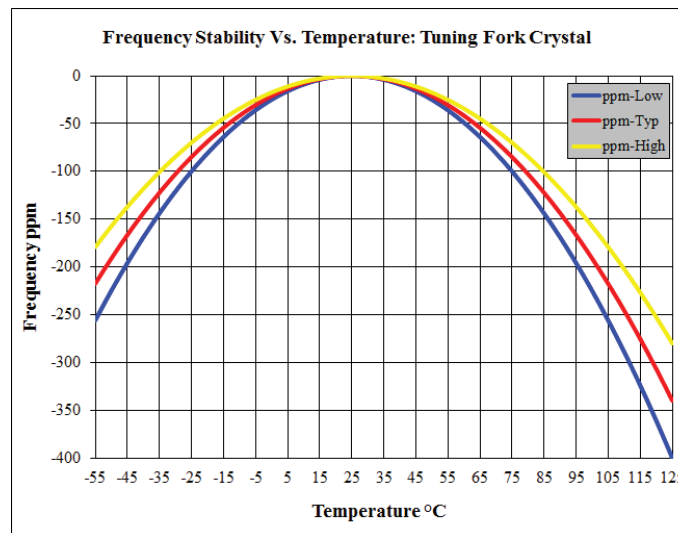
## APPLICATIONS:

- Power sensitive designs requiring low ESR crystal
- Communication & measurement equipment
- Commercial, consumer & industrial applications
- Wireless communications
- PDA and smartphone

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency	32.768			kHz	
Operation Mode	Flexural Mode (Tuning Fork)				
Operating Temperature	-40		+85	°C	
Storage Temperature	-55		+125	°C	
Frequency Tolerance @+25°C	-20		+20	ppm	See options
Temperature Coefficient:	-0.040	-0.034	-0.028	ppm/°C <sup>2</sup>	
Turn-over temperature:	+20	+25	+30	°C	
Equivalent series resistance @+25°C			50	kΩ	
Shunt capacitance (C0)		1.3		pF	
Load capacitance (CL)		6		pF	
Drive Level		0.1	0.5	μW	
Q value		25000			
Aging@25°C±3°C	-3		3	ppm	First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

## TYPICAL FREQUENCY VS. TEMPERATURE CHARACTERISTICS



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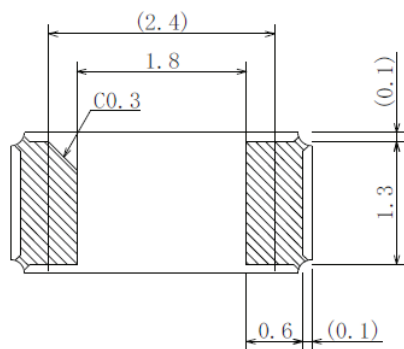
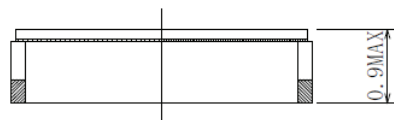
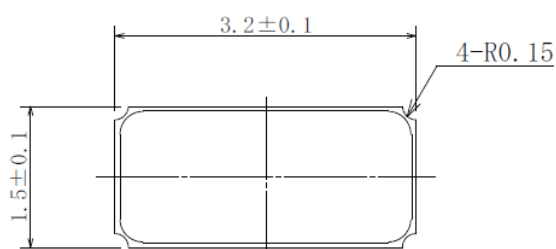
## PART IDENTIFICATION (LEFT BLANK IF STANDARD)

ABS07-LR-32.768 kHz - 6 -  -

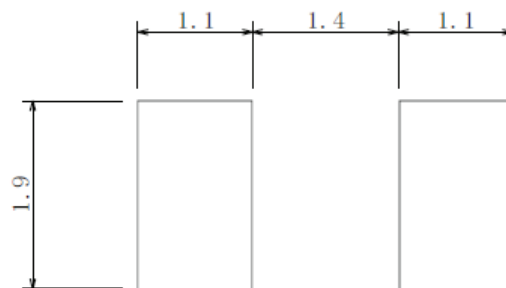
Freq. Tolerance
Blank: $\pm 20$ ppm
1: $\pm 10$ ppm

Packaging
Blank: Bulk
T: Tape & Reel (3000pcs/reel)

## OUTLINE DIMENSIONS:



### Recommended Land Pattern



Dimensions: mm

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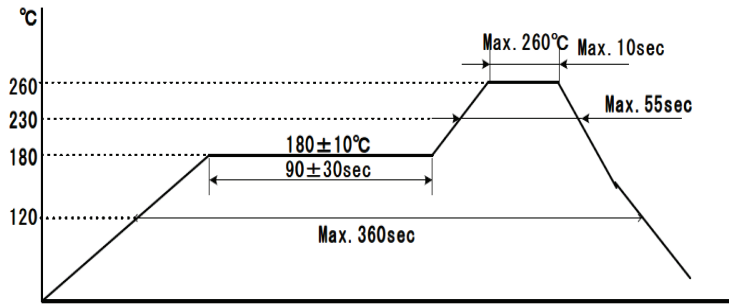
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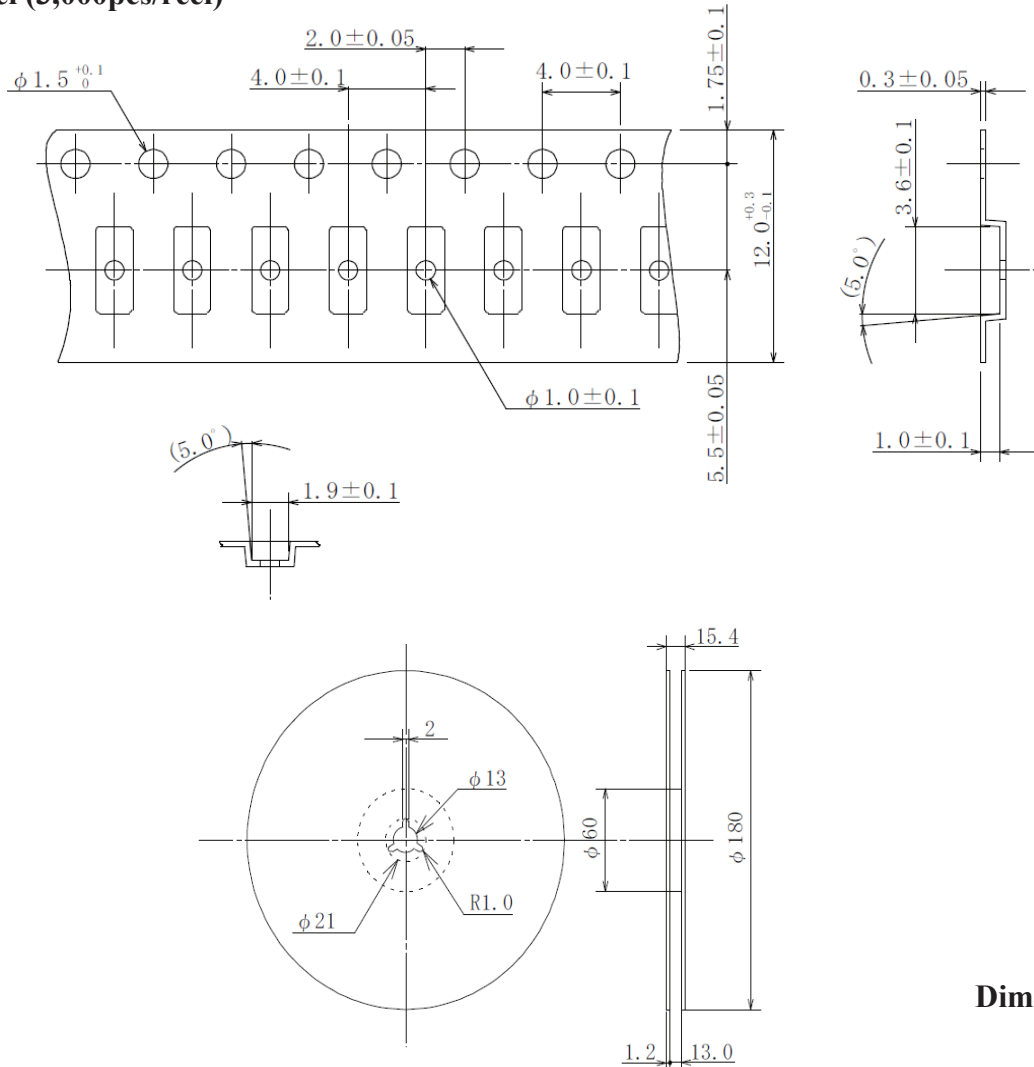
RoHS/RoHS II Compliant

## REFLOW PROFILE



## TAPE & REEL:

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



Dimensions: mm

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