

# 32.768kHz SMD LOW PROFILE CRYSTAL

ABS05

ABS05



RoHS/RoHS II compliant

1.6 x 1.0 x 0.5mm

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

## FEATURES:

- 0.5mm height ideal for high density circuit boards
- Ceramic package offers excellent environmental & heat resistance
- Extended temperature -40°C to +85°C for industrial applications

## APPLICATIONS:

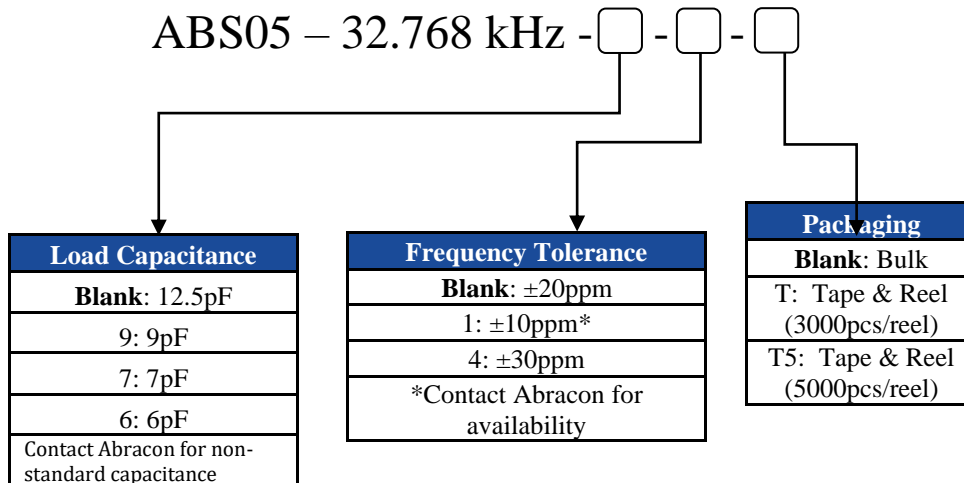
- Smart Display Credit Cards
- Wide range in communication & measuring equipment
- Commercial & Industrial applications
- Wireless communications
- PDA and Palm Pilots

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	Standard (See options if other than STD)
Temperature Coefficient:	-0.04	-0.03	-0.02	ppm/T <sup>2</sup>	
Turn-over temperature:	+20	+25	+30	°C	
Equivalent series resistance (ESR)			90	kΩ	
Shunt capacitance (C0)		1.3		pF	
Load capacitance	12.5			pF	Standard (See options if other than STD)
Drive Level			0.5	μW	
Aging @ +25°C±3°C	-3		+3	ppm	First Year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

## OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ABS05 – 32.768 kHz - [ ] - [ ] - [ ]



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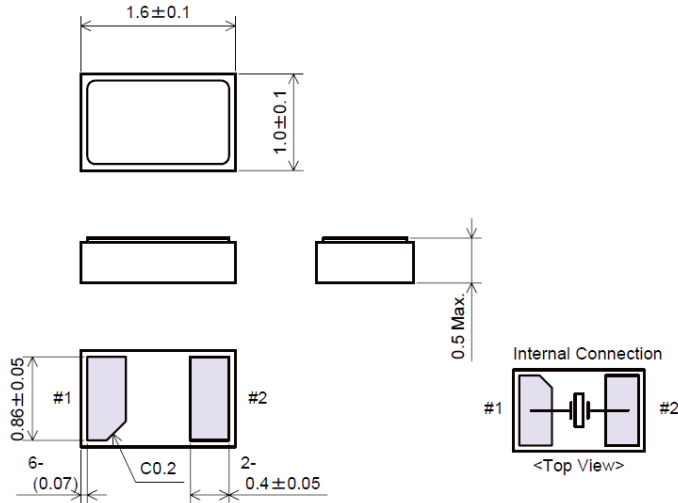
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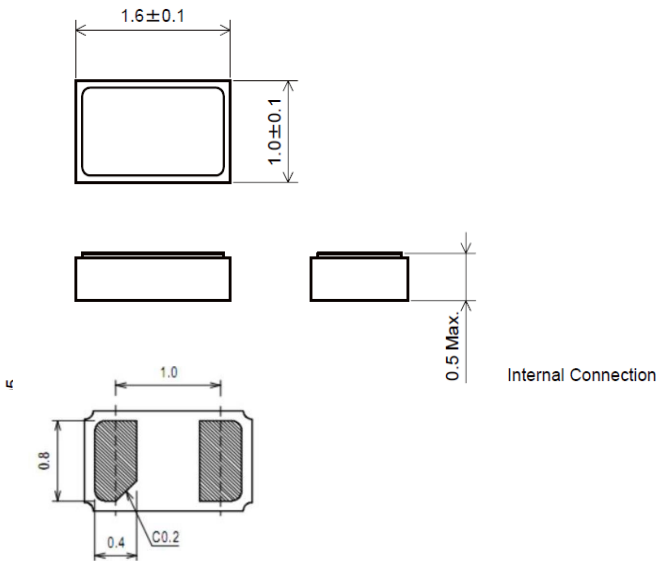
## OUTLINE DRAWING:

## TAPE & REEL:

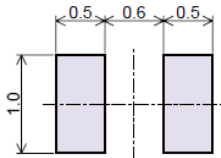
### Mechanical Dimensions



### Alternative Mechanical Dimensions #1

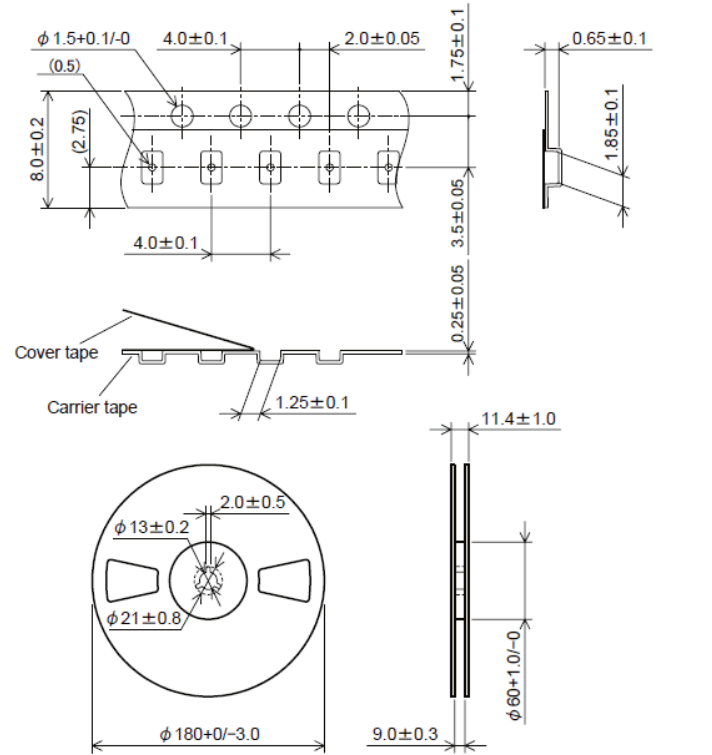


### Recommended land pattern



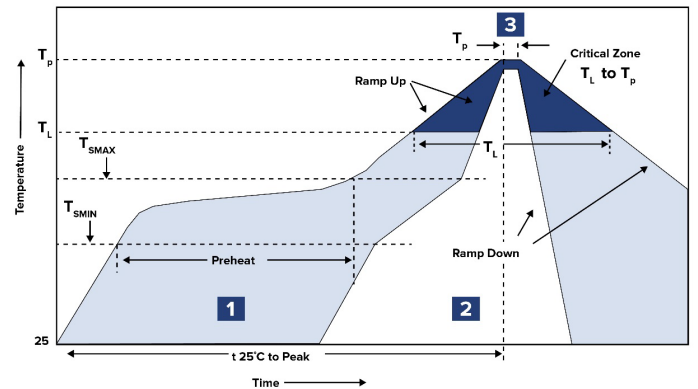
Dimensions: mm

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



Dimensions: mm

## REFLOW PROFILE:



Zone	Description	Temperature	Time
1	Preheat	T <sub>SMIN</sub> ~ T <sub>SMAX</sub> 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T <sub>L</sub> 230°C	30 ~ 40 sec.
3	Peak heat	T <sub>p</sub> 260°C±5°C	10 sec. MAX

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