32.768kHz SMD LOW PROFILE CRYSTAL

ABS13

RoHS/RoHS II compliant.
Pb in high temperature solder
(exempt 7(a) per RoHS II 2011/65/EU Annex)



ABS13

6.9 x 1.4 x 1.3 mm

Moisture Sensitivity Level: Level 1

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:

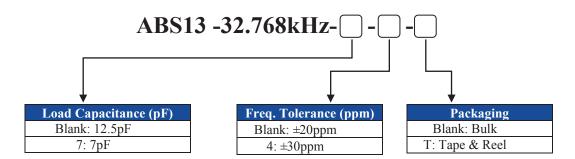
- Commercial & Industrial applications
- Wireless communications
- PDA and Palm Pilots

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	See options
Frequency Coefficient (B)	-0.040	-0.034	-0.028	ppm/T ²	
Equivalent series resistance (R1)			65	kΩ	
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			ΜΩ	@ $100 \text{Vdc} \pm 15 \text{V}$

> OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)





REVISED: 08.14.2017

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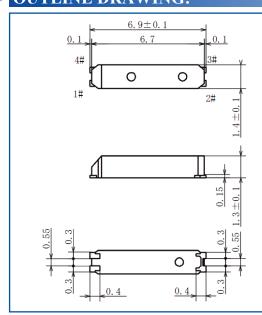
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OUTLINE DRAWING:



4# 3#

Do not connect to external with #2 and #3.

1.2 5.1 1.2

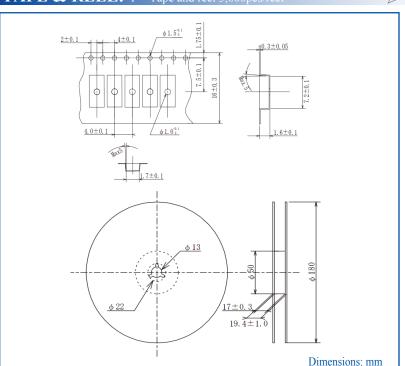
Recommended Land Pattern

Note 1: The part of the cylinder inside the resin mold may sometimes be

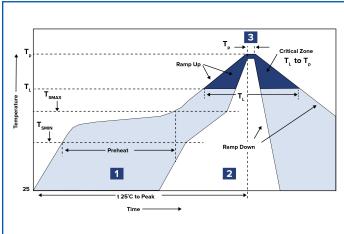
exposed on the top or bottom of this crystal unit. This aspect is purely cosmetic and does not have any effect on the quality, reliability, or electrical performance of the crystal unit.

Dimensions: mm

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



REFLOW PROFILE



Zone	Description	Temperature	Times
1	Preheat	$T_{\text{SMIN}} \sim T_{\text{SMAX}}$ $170\text{°C} \sim 190\text{°C}$	60 ~ 120 sec.
2	Reflow	T _L 230℃	55 sec. MAX
3	Peak Heat	T _թ 260℃	10 sec. MAX

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-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 LLC is required. Please contact Abracon LLC for more information.



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