

ABS06-32.768KHZ-9-1-T Datasheet

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DiGi Electronics Part Number	ABS06-32.768KHZ-9-1-T-DG
Manufacturer	Abracon LLC
Manufacturer Product Number	ABS06-32.768KHZ-9-1-T
Description	CRYSTAL 32.7680KHZ 9PF SMD
Detailed Description	32.768 kHz \pm 10ppm Crystal 9pF 90 kOhms 2-SMD, No Lead

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Purchase and inquiry

Manufacturer Product Number:

ABS06-32.768KHZ-9-1-T

Series:

ABS06

Type:

kHz Crystal (Tuning Fork)

Frequency Stability:

-

Load Capacitance:

9pF

Operating Mode:

Fundamental

Ratings:

-

Package / Case:

2-SMD, No Lead

Height - Seated (Max):

0.024" (0.60mm)

Manufacturer:

Abracon LLC

Product Status:

Active

Frequency:

32.768 kHz

Frequency Tolerance:

±10ppm

ESR (Equivalent Series Resistance):

90 kOhms

Operating Temperature:

-40°C ~ 85°C

Mounting Type:

Surface Mount

Size / Dimension:

0.079" L x 0.047" W (2.00mm x 1.20mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.60.0010

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

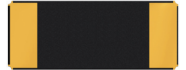
32.768kHz SMD CRYSTAL

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RoHS/RoHS II Compliant



2.0 x 1.2 x 0.6mm

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

- Ceramic package offers excellent environmental & heat resistance
- Extended temperature -55°C to +125°C for industrial applications

APPLICATIONS:

- Wide range in communication & measuring equipment
- Commercial & Industrial applications
- Wireless communications

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 Tested at 0.5uW
Temperature Coefficient:	-0.04	-0.03	-0.02	ppm/T ²	
Turn-over temperature:	+20	+25	+30	°C	
Equivalent series resistance (R1)			90	kΩ	For -40 ~ +85°C option
			110	kΩ	For -40 ~ +125°C option & -55 ~ +125°C option
Load capacitance (CL)		12.5		pF	See options
Drive Level		0.1	0.5	μW	
Q value	9000				
Aging@25°C±3°C	-3		3	ppm	First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

OPTIONS AND PART IDENTIFICATION: (Left blank if standard)

ABS06 – 32.768 kHz - [] - [] - [] - []

Load Capacitance

Blank: 12.5pF
9: 9pF
7: 7pF
6: 6pF
4P: 4pF

Operating Temp. Range

Blank: -40 ~ +85°C
H: -40 ~ +125°C
W: -55 ~ +125°C

Freq. Tolerance

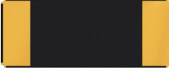
Blank: ±20ppm
1: ±10ppm
4: ±30ppm

Packaging

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

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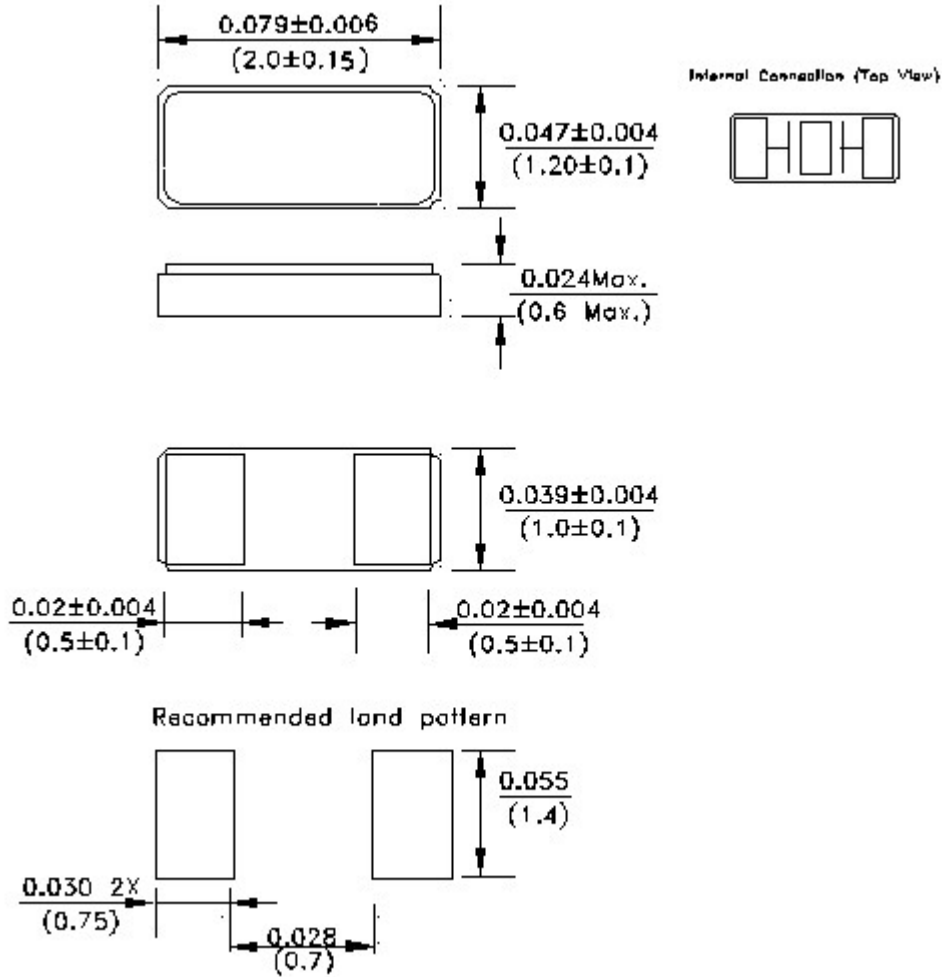
2.0 x 1.2 x 0.6mm

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OUTLINE DRAWING:



Dimensions: inches (mm)

Notes:

- Chamfer not shown.
- Due to material availability, the outline and finish color of the component may vary. This variation in no way affects the electrical performance of the product.

32.768kHz SMD CRYSTAL

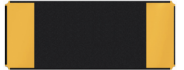
ABS06-32.768KHZ-9-1-T Abracon LLC CRYSTAL 32.7680KHZ 9PF SMD

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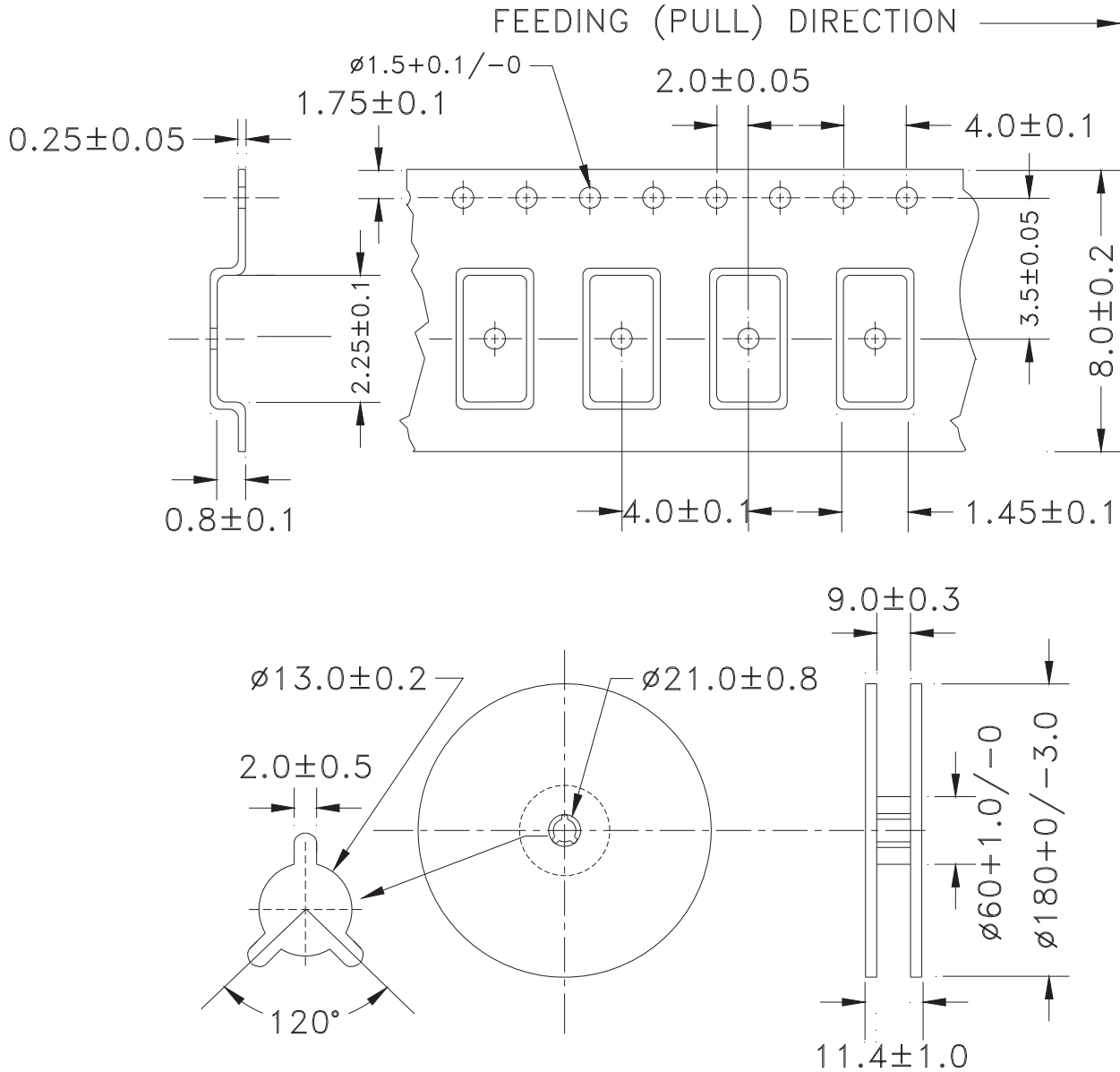
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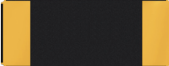
2.0 x 1.2 x 0.6mm

TAPE & REEL:

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



Dimensions: mm



2.0 x 1.2 x 0.6mm

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RECOMMENDED REFLOW PROFILE: [JDEC J-STD-020]

Reflow Profile [JDEC J-STD-020]

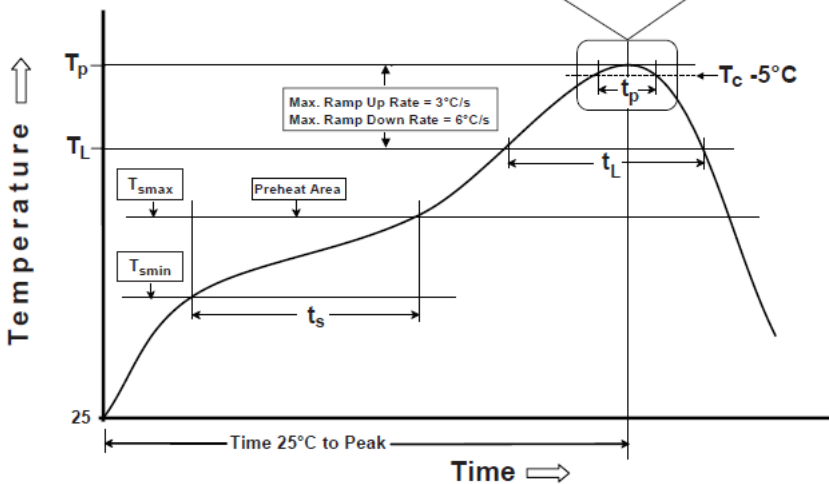
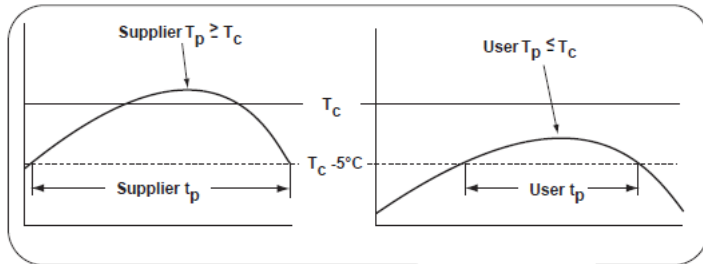


Table 1

SnPb Eutectic Process Classification Temperatures (T _c)		
Package Thickness	Volume mm ³ <350	Volume mm ³ ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures (T _c)			
Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T _{smmin})	100°C	150°C
Temperature maximum (T _{smmax})	150°C	200°C
Time (T _{smmin} to T _{smmax}) (t _s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T _{smmax} to T _p)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T _L)	183°C	217°C
Time at liquidous (t _L)	60 - 150 sec.	60 - 150 sec.
Peak package body temperature (T _p)*	<i>see Table 1</i>	<i>see Table 2</i>
Time (t _p)** within 5°C of the specified classification temperature (T _c)	20 sec.	30 sec.
Ramp-down rate (T _p to T _{smmax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max

*Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

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