

# 2.5 x 2.0 x 0.95 mm 32.768kHz CERAMIC SURFACE MOUNT CRYSTAL OSCILLATOR



2.5 x 2.0 x 0.95 mm

ASDK Series

**Pb** **RoHS Compliant**

## FEATURES:

- 32.768kHz in 2.5 x 2.0 x 0.95mm package
- Seam sealed assure high reliability performance
- Low current consumption 1.0mA (Vdd=1.8V)
- Suitable for RoHS compliant reflow
- Extend temperature range available

## APPLICATIONS:

- Laptop
- Digital camera
- Wireless LAN
- Bluetooth and mobile communication
- LCD
- PDA and MP3 player
- Electricity, gas and water metering

## STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		-----	32.768	-----	kHz	
Operating Temperature		0	-----	+70	°C	See options
Storage Temperature		-55	-----	+125	°C	
Overall Frequency Stability		-100	-----	+100	ppm	See options
Supply Voltage (Vdd)		2.97	3.3	3.66	V	Standard
		2.375	2.5	2.625		Option 1
		1.71	1.8	1.89		Option 2
Supply Current (I <sub>dd</sub> )		-----	1.0	1.5	mA	Vdd=1.8V
			1.2	2.5		Vdd=2.5V
			2.2	3.5		Vdd=3.3V
Output Load		-----	-----	15	pF	CMOS
Output Voltage	V <sub>OH</sub>	0.9*Vdd	-----	-----	V	
	V <sub>OL</sub>	-----	-----	0.1*Vdd		
Tri-state function		"1" (V <sub>IH</sub> ≥ 0.7*Vdd) Open: Oscillation "0" (V <sub>IL</sub> < 0.3*Vdd) : Hi Z				
Aging		-3.0	-----	+3.0	ppm	@+25°C First year
Symmetry @1/2Vdd		40	50	60	%	Standard
		45	50	55		Option S
Start-up Time		-----	≤ 2	5	ms	
Rise/Fall Time (Tr/Tf)		-----	43	50	ns	
Disable Current				10	μA	

## OPTIONS AND PART IDENTIFICATION (Left blank if standard)

ASDK  - 32.768kHz -  -  -  -

Supply Voltage
Blank: 3.3V±10%
1: 2.5 V±5%
2: 1.8 V±5%

Operating Temp.
Blank: 0°C ~ +70°C
E: -20°C ~ +70°C
F: -30°C ~ +70°C
N: -30°C ~ +85°C
L: -40°C ~ +85°C

Overall Freq. Stability
Blank: ±100ppm
J: ±20ppm (**)
R: ±25ppm
K: ±30 ppm
C: ±50 ppm

Symmetry
Blank: 40/60%
S: 45/55%

Packaging
Blank: Bulk
T: Tape & Reel

\*Contact ABRACON for extended temperature range

\*\* For Temp option E, F, N and 0° C to + 70° C only

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## OUTLINE DRAWING:

**Recommended Land Pattern**

PIN	FUNCTION
1	Tri-state
2	GND
3	Output
4	Vdd

Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

Dimensions: inches (mm)

## TAPE & REEL:(1,000pcs/reel)

## REFLOW PROFILE

FEEDING (PULL) DIRECTION →

Dimensions: mm

Zone	Description	Temperature	Time
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	$T_L$ 230°C	30 ~ 40 sec.
3	Peak Heat	$T_p$ 260°C	10 sec. MAX



Need a test socket for the ASDK Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). **AXS-2520-04-07**

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