

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



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

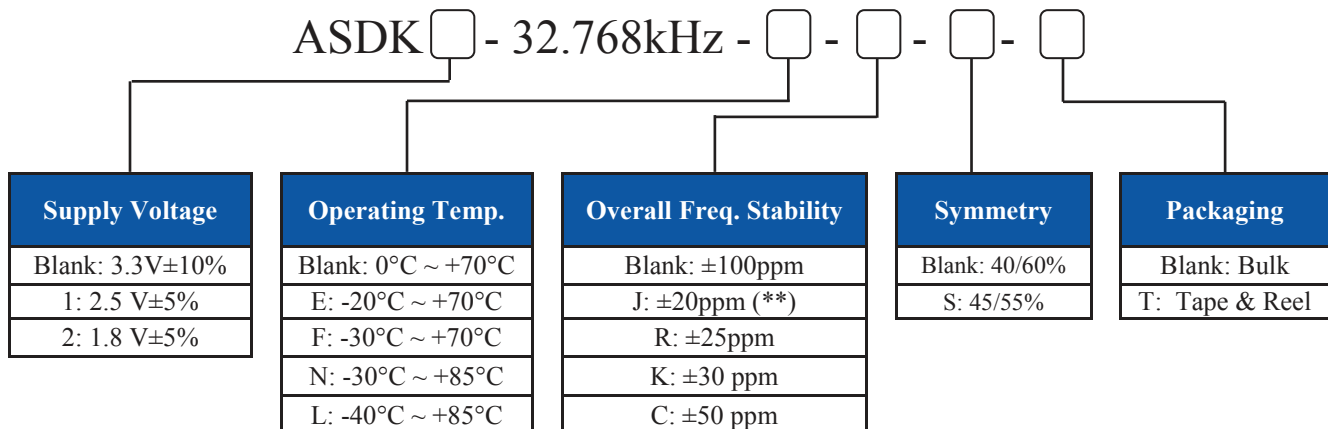
APPLICATIONS:

- 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 _{dd})		-----	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 _{OH}	0.9*Vdd	-----	-----	V	
	V _{OL}	-----	-----	0.1*Vdd		
Tri-state function		"1" (V _{IH} ≥ 0.7*Vdd) Open: Oscillation "0" (V _{IL} < 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)



*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:

Top View Dimensions:
 Width: 0.098 ± 0.004 (2.50 ± 0.1)
 Height: 0.079 ± 0.004 (2.00 ± 0.1)

Side View Dimensions:
 Metal Cap: 0.037 max (0.95 max)
 Ceramic Base: 0.037 max (0.95 max)

Bottom View Dimensions:
 Pin 1 offset: 0.031 (0.775)
 Pin 2 offset: 0.016 (0.4)
 Pin 3 offset: 0.026 ± 0.004 (0.65 ± 0.1)
 Pin 4 offset: 0.027 (0.675)
 Pin 1-4 width: 0.064 ± 0.004 (1.625 ± 0.1)

Recommended Land Pattern

Pin 1: Width 0.035 (0.9), Height 0.039 (1.0)

Pin 2: Width 0.039 (1.0), Height 0.048 (1.225)

Pin 3: Width 0.064 (1.625), Height 0.048 (1.225)

Pin 4: Width 0.064 (1.625), Height 0.048 (1.225)

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)

Carrier Tape Dimensions:
 Feeding (Pull) Direction: →
 Pin pitch: 1.75 ± 0.1
 Pin diameter: $\phi 1.55 \pm 0.05$
 Pin length: 4.0 ± 0.1
 Pin width: 0.25 ± 0.05
 Pin height: 0.8 ± 0.05
 Pin offset: 0.7 ± 0.05
 Pin 1-4 width: 4.0 ± 0.1
 Pin 1-4 height: 2.25 ± 0.05
 Pin 1-4 diameter: $\phi 1.10 \pm 0.1$
 Pin 1-4 length: 3.5 ± 0.2
 Pin 1-4 offset: 4.7 ± 0.05

Reel Dimensions:
 Reel diameter: $\phi 13.0 \pm 0.5$
 Reel width: 2.5 ± 0.5 / -0
 Reel height: 11 ± 0.5
 Reel thickness: 8 + 1 / -0
 Reel diameter: $\phi 17.8 \pm 1$
 Reel height: 11.5 ± 0.2
 Reel diameter: $\phi 60.2 \pm 0.5$

Dimensions: mm

REFLOW PROFILE

Reflow Profile Zones:

Zone	Description	Temperature	Time
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T_1 230°C	30 ~ 40 sec.
3	Peak Heat	T_p 260°C	10 sec. MAX

Labels in graph: Ramp Up, Ramp Down, Critical Zone T_L to T_P , T_L , T_p , T_{SMIN} , T_{SMAX} , 25, $t_{25^\circ C \text{ to Peak}}$, Time.



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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