

CMOS 3.2 x 2.5 x 0.9mm 32.768kHz SMD CRYSTAL OSCILLATOR

ASHEK SERIES



RoHS
Compliant



3.2 x 2.5 x 0.9 mm

FEATURES:

- Ultra low μA current consumption with CMOS output
- Miniature ceramic package (3.2 x 2.5 x 0.9mm)
- Operating Temp -40°C to $+85^{\circ}\text{C}$
- Start up time less than 1 sec with supply voltage 1.5 to 5.0V
- Tri-state function
- Pb-free reflow capable

APPLICATIONS:

- General purpose clock generator for digital systems
- Clock drivers for Real Time Clocks
- Timekeeping in network servers and computers
- Electricity, gas and water metering
- Portable field communication
- Mobile phone
- Clock & Data recovery
- CCD clock for VTR camera
- Computers and peripherals
- Portable MP3 players & games

STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N	ASHEK Series
Frequency range:	32.768kHz
Operating temperature:	-20°C to $+70^{\circ}\text{C}$ (see options)
Storage temperature:	-55°C to $+125^{\circ}\text{C}$
Frequency tolerance (at $+25^{\circ}\text{C}$):	-15 ppm to $+25\text{ ppm}$ @ $+25^{\circ}\text{C}$
Frequency stability (ref to $+25^{\circ}\text{C}$):	-90 to $+10\text{ ppm}$ over -20 to $+70^{\circ}\text{C}$; referenced to frequency measured @ $+25^{\circ}\text{C}$
Supply voltage (Vdd):	$3.3\text{ V} \pm 5\%$ (see options. 1.5 to 5.5V)
Supply current:	$1.5\mu\text{A}$ max. (no load), Vdd= $+3.3\text{V}$ $2.5\mu\text{A}$ max. (no load), Vdd= $+5.5\text{V}$
Symmetry:	40/60 % @ $1/2\text{Vdd}$
Rise and fall time (Tr/Tf):	200ns max. (10% to 90%Vdd, CL=15pF)
Startup time:	1 sec max. for 0.9Vdd @ $+25^{\circ}\text{C}$
Output load:	CMOS (15 pF max.)
Output voltage (CL=15pF @ $+25^{\circ}\text{C}$):	VOH = Vdd-0.4V min. VOL = 0.4V max.
Tri-state function:	"1" (VIH $\geq 0.9\text{Vdd}$) or High Z (N.C) "0" (VIL $< 0.1\text{Vdd}$) : Hi Z
Aging (per year) $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$:	$\pm 5\text{ ppm}$ max.

TABLE 1 Supply Current with no load

Vdd (V)	Supply Current (μA typ.)	Supply Current (μA max.)
3.3 (STD)	0.9	1.5
5	1.8	2.5
2.8	0.8	1.5
1.8	0.6	1.5
1.5	0.5	1.5

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ASHEK -32.768kHz- -

Supply Voltage
Blank: 3.3V
2: 5.0V
3: 2.8V
4: 1.8V
5: 1.5V

Frequency Temp Characteristics
Blank: -20°C to $+70^{\circ}\text{C}$ / -90 to $+10\text{ ppm}$
L: -40°C to $+85^{\circ}\text{C}$ / -140 to $+10\text{ ppm}$

Packaging
Blank: Bulk
T: Tape and Reel (1kpcs)
T3: Tape and Reel (3kpcs)



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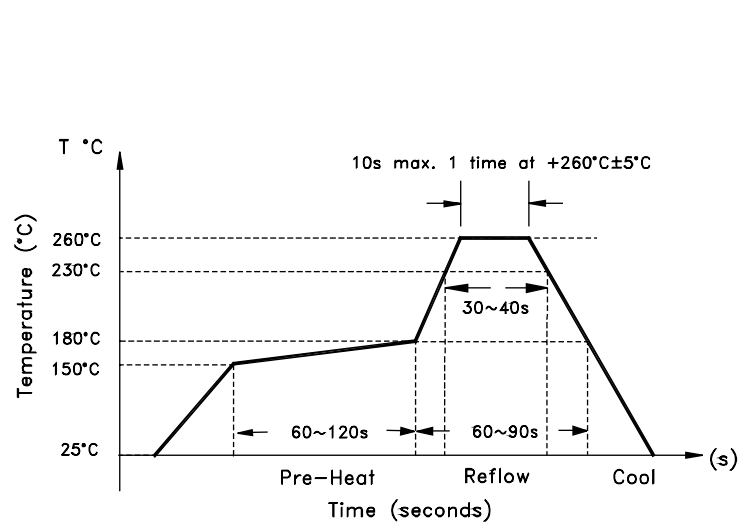
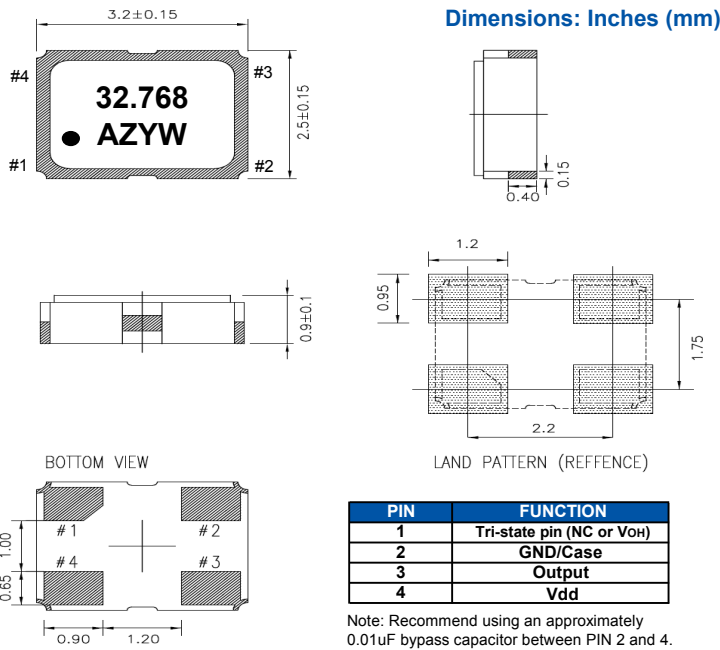
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Compliant



3.2 x 2.5 x 0.9 mm

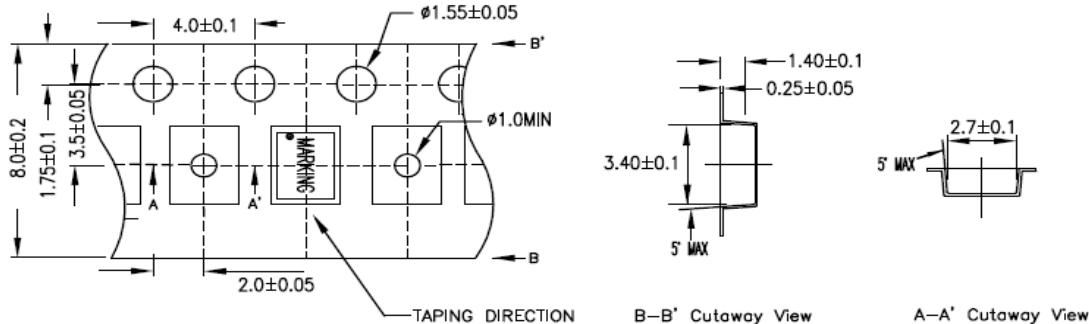
OUTLINE DRAWING:

REFLOW PROFILE:

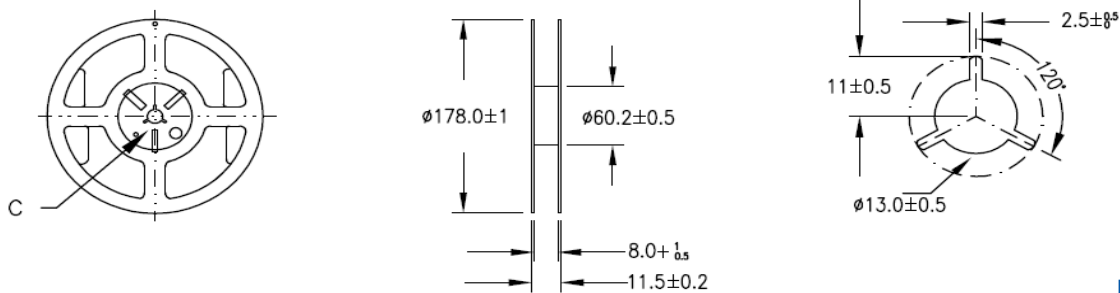


TAPE & REEL: Tape and reel 1,000/3,000pcs/reel

1. CARRIER TYPE



2. REEL



Dimensions: mm

Need a test socket for the ASHEK Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). P/N AXS-3225-04-06

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