

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

ASDK Series



RoHS
Compliant



2.5 x 2.0 x 0.95 mm

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} ≥2.0V or open) : Oscillation "0" (V _{IL} <0.8V) : 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	

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%

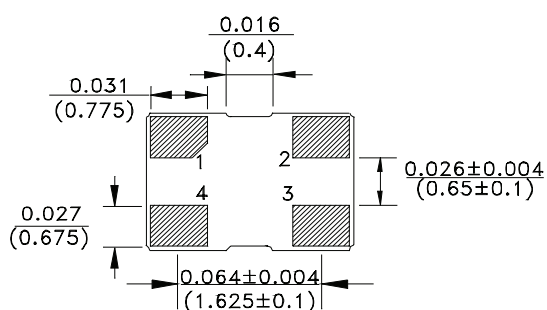
Packaging
Blank: Bulk
T: Tape & Reel

*Contact ABRACON for extended temperature rang

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



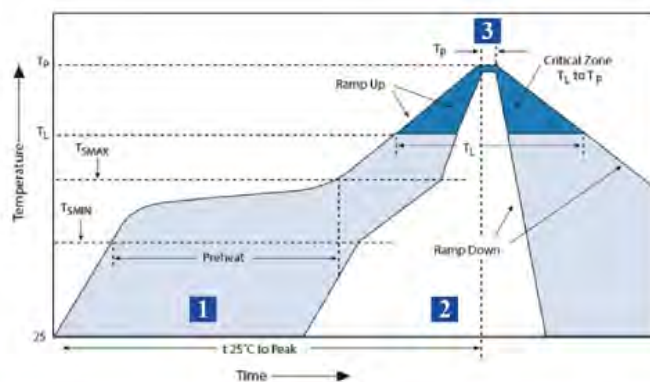
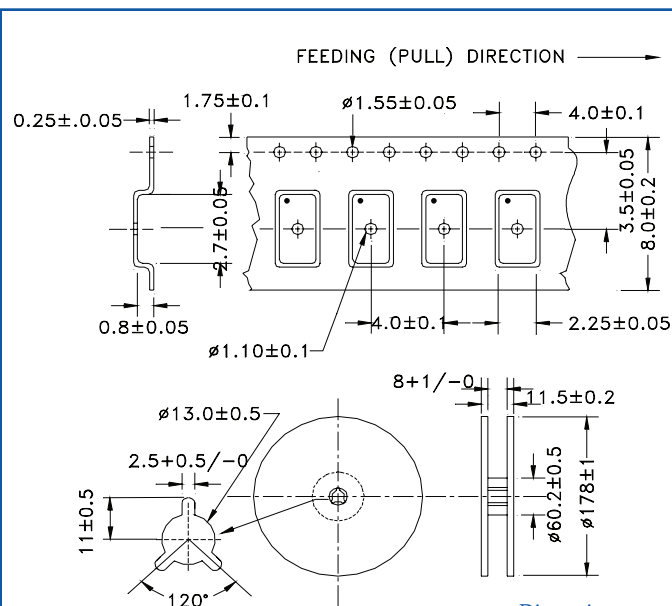
2.5 x 2.0 x 0.95 mm



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

Dimensions: inches (mm)

REFLOW PROFILE



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