

32.768kHz CERAMIC SMD CRYSTAL OSCILLATOR

ASFLK SERIES



RoHS
Compliant



5.0 x 3.2 x 1.3mm

FEATURES:

- Pb-Free/RoHS Compliant
- Smallest industry package
- Tri state function
- Suitable for high density SMT
- IR reflow capable
- Seam sealed

APPLICATIONS:

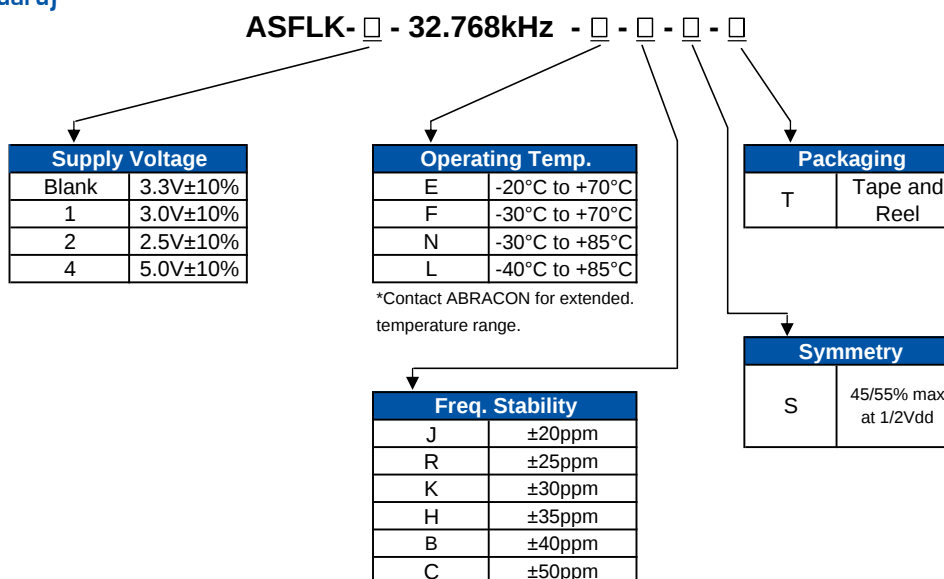
- CCD clock for VTR camera
- Computers and peripherals
- Portable MP3 players and games

STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N:	ASFLK Series
Frequency range:	32.768kHz
Operating temperature:	0°C to + 70°C (see options)
Storage temperature:	-55°C to +125°C
Overall Frequency Stability:	± 100ppm max. (see options)
Supply Voltage (Vdd):	3.3 Vdc ± 10% (see options)
Supply current:	0.5 mA max.
Symmetry:	40/60 % max.@ 1/2Vdd (see options)
Rise and fall time (Tr/Tf):	10 ns max.
Output Load:	15pF or 10TTL max.
Output Voltage:	VOL = 2.97V min.; VOH = 0.33V max.
Start-up-time:	10ms max.
Tristate function:	Logic "1" or open: Oscillation Logic "0" (VIL < 0.8 Vdc) : Hi Z
Aging at 25°C/year :	± 3ppm/year max.
Phase jitter:	1ps RMS max.

OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)





5.0 x 3.2 x 1.3mm

Dimensions: Inches (mm)

Top View:

- Overall width: 0.2 ± 0.008 (5.0 $\pm$ 0.20)
- Overall height: 0.13 ± 0.008 (3.2 $\pm$ 0.20)
- Pin 1 location: 0.05 max (1.30 max) from left edge, 0.030 (0.75) from bottom edge.
- Pin 2 location: 0.039 $\pm$ 0.006 (1.0 $\pm$ 0.20) from left edge, 0.047 $\pm$ 0.008 (1.20 $\pm$ 0.20) from bottom edge.
- Pin 3 location: 0.100 (2.54) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.
- Pin 4 location: 0.100 $\pm$ 0.006 (2.54 $\pm$ 0.15) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.

Side View:

- Pin height: 0.067 (1.7)
- Pin pitch: 0.087 $\pm$ 0.006 (2.2 $\pm$ 0.15)

Bottom View:

- Pin 1 location: 0.039 $\pm$ 0.006 (1.0 $\pm$ 0.20) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.
- Pin 2 location: 0.100 (2.54) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.
- Pin 3 location: 0.100 $\pm$ 0.006 (2.54 $\pm$ 0.15) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.
- Pin 4 location: 0.100 $\pm$ 0.006 (2.54 $\pm$ 0.15) from left edge, 0.047 $\pm$ 0.006 (1.2 $\pm$ 0.15) from bottom edge.

Recommended Land Pattern:

- Pin 1: 0.06 (1.5) from left edge, 0.067 (1.7) from bottom edge.
- Pin 2: 0.067 (1.7) from left edge, 0.087 $\pm$ 0.006 (2.2 $\pm$ 0.15) from bottom edge.
- Pin 3: 0.100 $\pm$ 0.006 (2.54 $\pm$ 0.15) from left edge, 0.087 $\pm$ 0.006 (2.2 $\pm$ 0.15) from bottom edge.
- Pin 4: 0.100 $\pm$ 0.006 (2.54 $\pm$ 0.15) from left edge, 0.087 $\pm$ 0.006 (2.2 $\pm$ 0.15) from bottom edge.

PIN	FUNCTION
1	E/D
2	GND
3	Output
4	Vdd

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

PIN	FUNCTION
1	E/D
2	GND
3	Output
4	Vdd

FEEDING (PULL) DIRECTION →

0.3±0.005

1.75±0.1

2.0±0.1

4.0±0.1

5.5±0.1

12.0±0.3

1.9±0.1

8.0±0.1

3.7±0.1

5° MAX

PIN 1

Ø1.5

Ø1.5

12.4+2/-0

1.6

Ø13.0±0.5

2.5

120°

Ø21.0±1

Ø80

Ø178±1

Dimensions: mm