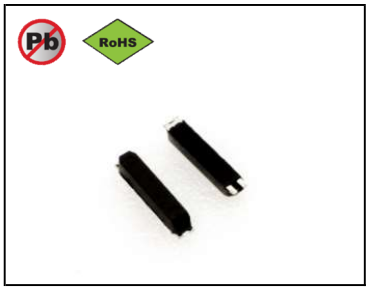
KS146 32.768kHz Crystal



■ TUNING FORK SMD TYPE 7.0x1.5mm

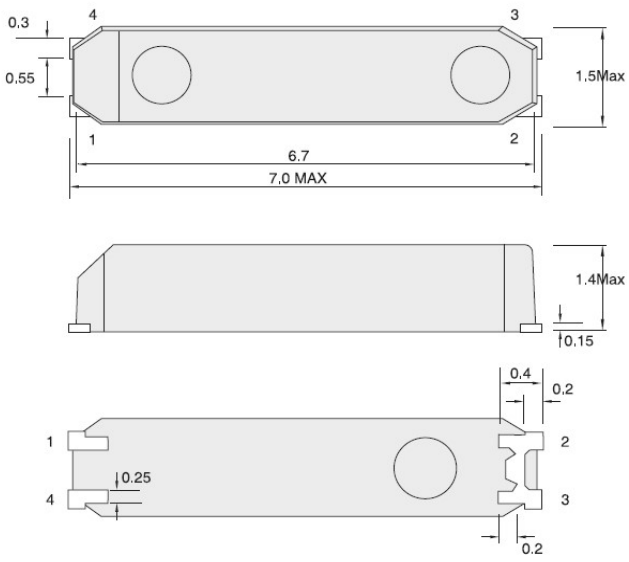
- Plastic Surface Mount package
- 32.768kHz Frequency Reference
- Frequency Tolerance ±20ppm standard
- Tape & Reel packaging

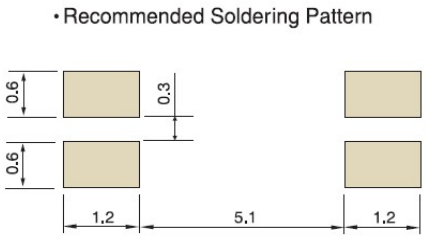
● Applications : Industrial applications, Mobile Communications, Wireless applications

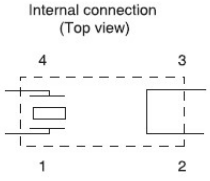
■ Standard Specification

Nominal Frequency	32.768KHz
Motional resistance (ESR)	65kΩ Max
Load capacitance (CL)	7pF, 9pF, 12.5pF or please specify
Frequency tolerance (25℃)	±20ppm Max (std) or please specify
TurnoverTemperature	25℃±5℃
Temperature coefficient	-0.035ppm/℃² Typ
Operating temperature range	-40℃ to +85℃ or please specify
Storage temperature range	-55℃ to +125℃
Level of drive(DL)	1.0㎼ Max
Shunt Capacitance (C0)	0.5 to 1.2pF
Aging (Initial first year)	±3ppm Max
Insulation Resistance (DC 100V)	500MΩ Min

■ Dimensions (mm)







■ Part Numbering Guide

KS146 12 20 A 32K768000 TR

▶Package Type
KS146 : 7.0x1.5mm

▶Load Capacitance (pF)
(12) : 12.5pF
(9) : 9pF
(7) : 7pF
(6) : 6pF

▶Packing Type
(TR) : Tape&Reel [3,000pcs], (Blank) : Bulk

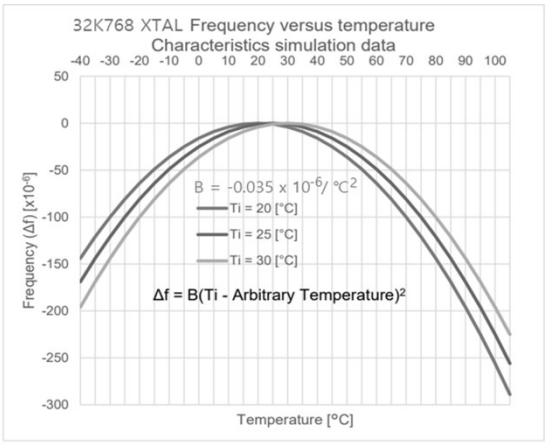
▶Center Frequency : 32.768KHZ

▶Operating Temperature Range(℃)
(A) : -10 ~ 60℃
(C) : -20 ~ 70℃
(F) : -40 ~ 85℃

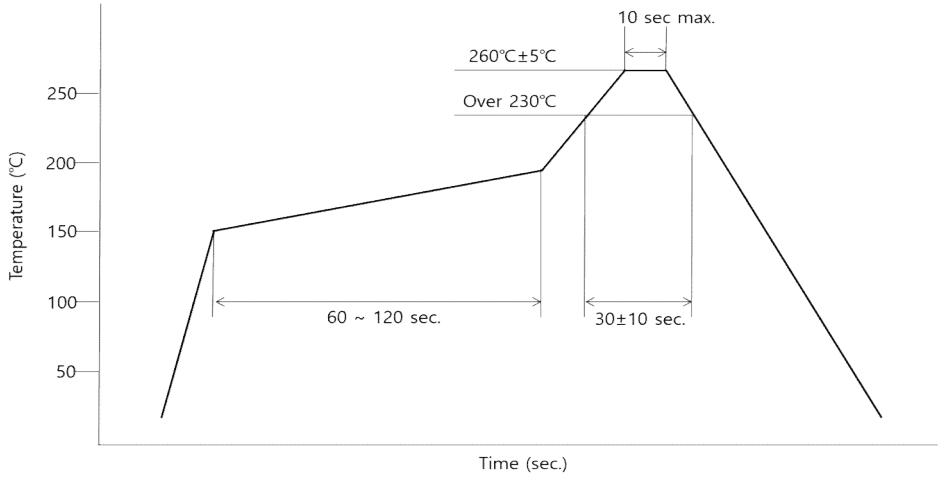
▶Frequency tolerance @25℃
(20) : ±20ppm
(10) : ±10ppm

*Please contact us for other specifications.

■ Frequency vs. Temperature Characteristics



■ Recommendation reflow condition



(1) Reflow soldering heat resistance
Peak Temp. : 265℃, 10sec.
Heating : 230℃ or higher, 40sec.
Preheating : 150~180℃, 120sec.
Reflow passage times : 2 times

(2) Manual soldering heat resistance
Pressing a soldering iron of 350℃ on the terminal electrode
Soldering touch time : 4sec.
Manual soldering times : 2 times