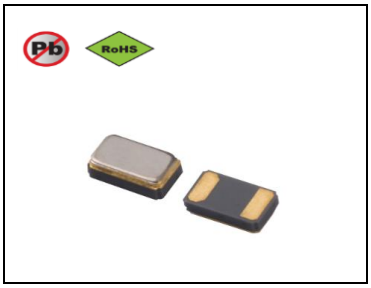
KS212Q Automotive 32.768kHz Crystal



■ TUNING FORK SMD TYPE 2.0x1.2mm

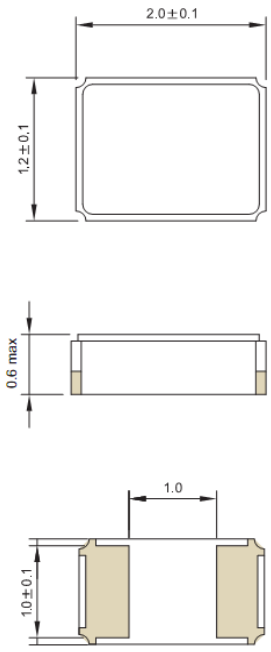
- Miniature Ceramic Surface Mount package
- Excellent environmental characteristics for Automotive
- High reliability and Wide temperature range available
- AEC-Q200 compliant

● Applications : Car Infotainment system, Car navigation, ECU sub clock etc.

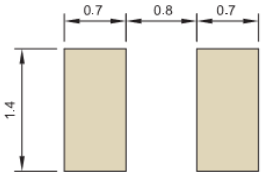
■ Standard Specification

Nominal Frequency	32.768KHz
Motional resistance (ESR)	90kΩ Max
Load capacitance (CL)	6pF, 7pF, 9pF, 12.5pF or please specify
Frequency tolerance (25℃)	±20ppm (std) or please specify
TurnoverTemperature	25℃±5℃
Temperature coefficient	(-0.028±20%)×10^{-6}/℃²
Operating temperature range	-55℃ to +125℃
Storage temperature range	-55℃ to +125℃
Level of drive(DL)	0.1㎼ Typ, 1.0㎼ Max
Shunt Capacitance (C0)	1.3pF Typ
Aging (Initial first year)	± 3ppm Max
Insulation Resistance (DC 100V)	500MΩ Min

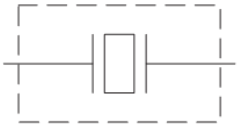
■ Dimensions (mm)



• Recommended Soldering Pattern



● Internal connection



■ Part Numbering Guide

KS212Q 12 20 N 32K768000 TR

▶Package Type
KS212Q : 2.0x1.2mm

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

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

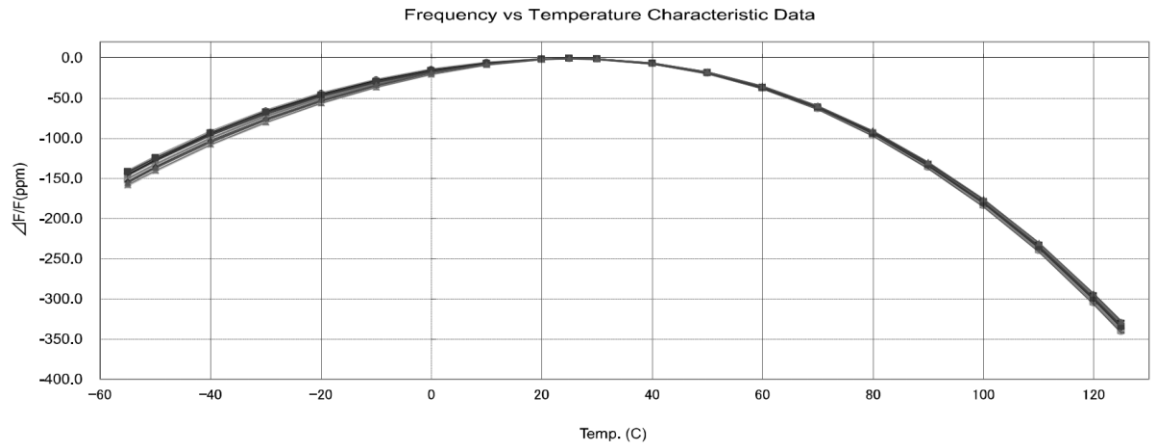
▶Operating Temperature Range(℃)
(N) : -55 ~ 125℃

▶Center Frequency : 32.768KHZ

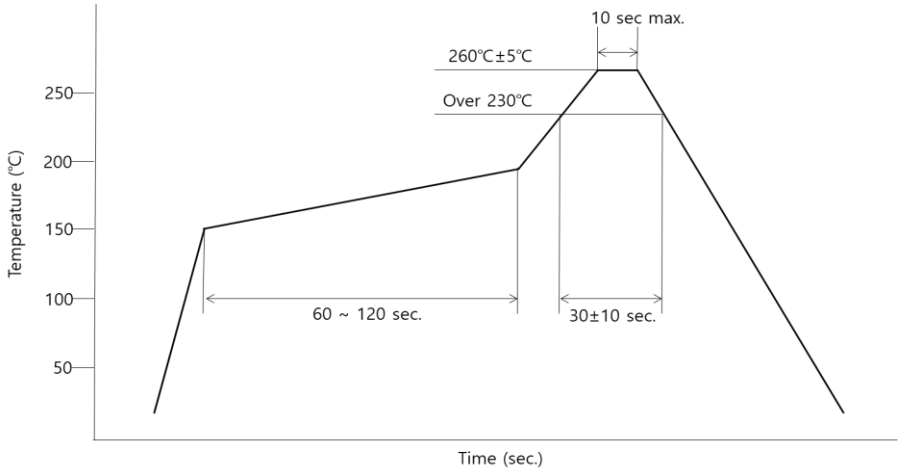
▶Packing Type
(TR) : Tape&Reel [3,000pcs], (Blank) : Bulk

*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