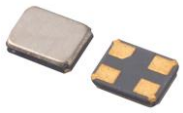
KC1Q AUTOMOTIVE CRYSTAL UNIT



Moisture Sensitivity Level 1

■ SMD X-TAL 2.0×1.6mm 4PAD Seam Sealing

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

● Applications : Automotive electronics, Infotainment system, ADAS, TPMS, Ethernet etc.

■ Standard Specification

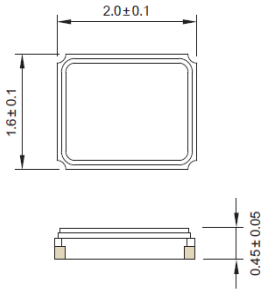
Frequency range	16.000MHz to 54.000MHz	
Oscillation mode	Fundmental	
Load capacitance (CL)	6pF to 32pF or please specify	
Frequency tolerance (25℃)	±10ppm, ±15ppm, ±20ppm, ±30ppm	
Frequency Stability vs Temp range	Temp Stability	Operating temp
	±30ppm ±50ppm ±100ppm ±150ppm or please specify	-40 to +85℃ -40 to 105℃ -40 to 125℃ -40 to 150℃
Storage temperature range	-40℃ to +150℃	
Shunt Capacitance (C0)	3.0pF Max	
Level of drive (DL)	100μW Max (std) or please specify	
Aging (Initial first year)	± 3ppm Max	

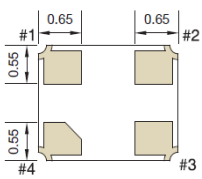
■ Motional resistance (ESR)

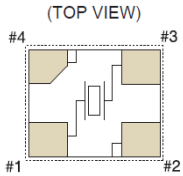
Frequency (MHz)	16 ≤ f < 24	24 ≤ f < 32	32 ≤ f < 40	40 ≤ f < 54
CI (Ω) max	100	80	50	40
Oscillation mode	Fundmental			

*Please contact us for lower ESR

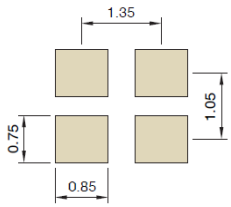
■ Dimensions (mm)







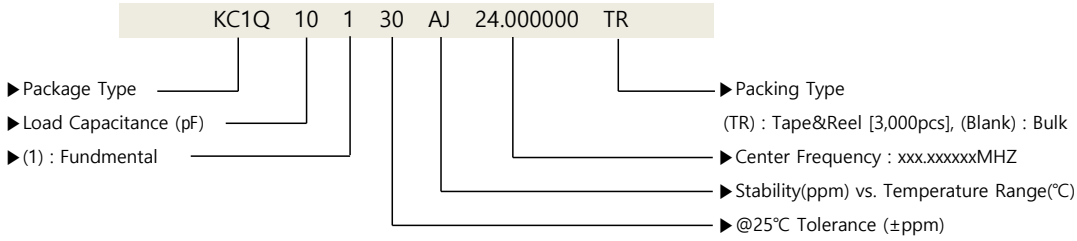
• Recommended Soldering Pattern



CONNECTION
#1 : X-TAL
#2 : GND
#3 : X-TAL
#4 : GND

H&S HighTech Corp. Address : 62-7 Techno 1-ro, Yuseong-Gu, Daejeon, 34014, Republic of Korea
Email : sales@hnshightech.com | Tel : +82-42-866-1300 http://hnshightech.com:3000/product/frequency/26

■ Part Numbering Guide

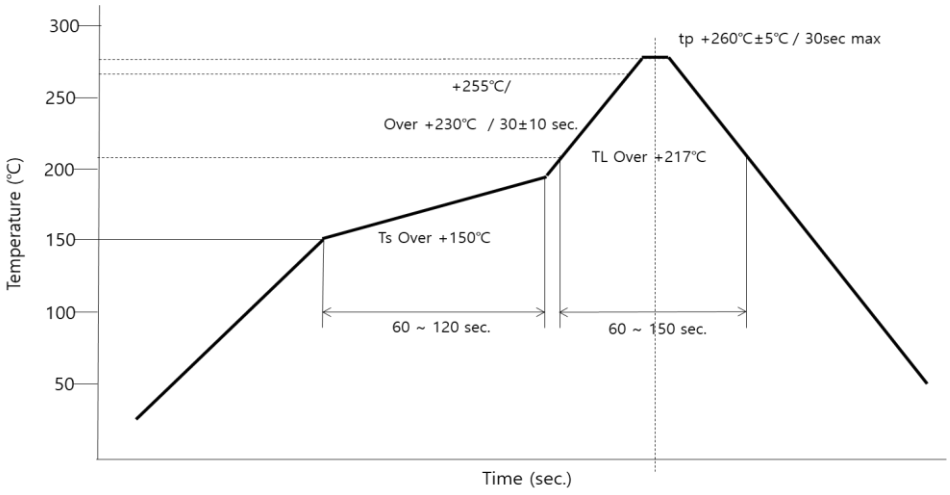


■ Frequency Stability vs. Temperature Range

Temp' vs Stability		±10ppm	±15ppm	±20ppm	±25ppm	±30ppm	±50ppm	±100ppm	±150ppm
		J	K	L	M	N	O	P	Q
-10 ~ 60℃	A	◎	◎	◎	◎	◎	◎	◎	◎
-10 ~ 70℃	B	◎	◎	◎	◎	◎	◎	◎	◎
-20 ~ 70℃	C	◎	◎	◎	◎	◎	◎	◎	◎
-30 ~ 70℃	D	◎	◎	◎	◎	◎	◎	◎	◎
-30 ~ 85℃	E	◎	◎	◎	◎	◎	◎	◎	◎
-40 ~ 85℃	F		◎	◎	◎	◎	◎	◎	◎
-40 ~ 90℃	G					◎	◎	◎	◎
-40 ~ 105℃	H					◎	◎	◎	◎
-40 ~ 125℃	I					◎	◎	◎	◎
-40 ~ 150℃	J							◎	◎

*Please contact us for other specifications.

■ Recommendation reflow condition



(1) Reflow soldering heat resistance
Peak Temp. : 265℃, 30sec max.
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