



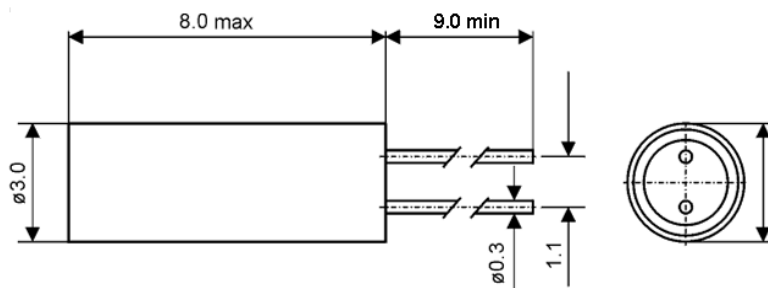
Quartz Crystal

Cylindrical type

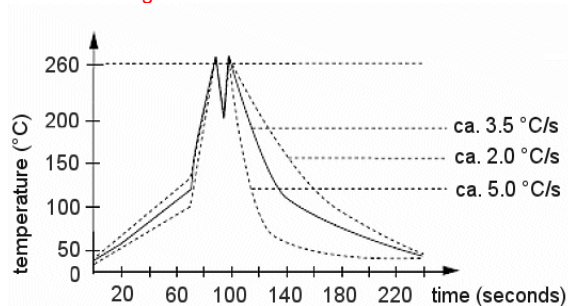
part no.	12.xxxxx	
Model	KX-38	
frequency	32.768 kHz	
holder type	3 x 8 mm	
operating temperature	standard -20°C ~ +70°C available -40°C ~ +85°C (= KX-38T)	
frequency tolerance at +25°C	±5 ppm; ±10 ppm; ±15 ppm; ±20 ppm	
temperature tolerance at -20° ~ +70°C at -40° ~ +85C	-0.042 ppm / °C² typ.	
load capacitance C _L	6 pF	12.5 pF
series resistance R1 (ESR) max.	30 kOhm	
aging at +25°C (first year) max.	±3 ppm	
shunt capacitance C ₀ max.	1.3 pF	
drive level	0.02 mW max., 0.01 mW typ	
solderable	wave soldering max. 10 s 260°C following reflow soldering only up to 240°C	
bending of wire	at least 4.0 mm distance from the base plate	

Please refer to our Quartz Crystal Handling Notes on page 2

Dimensions (mm):



Wave soldering condition:





Quartz Crystal Handling Notes

Lead cutting/bending for through hole versions:

One sensitive part in through hole crystals is the glass isolator section. Mechanical stress during lead bending or lead cutting can create micro cracks in the glass. The wire must be mechanically fixed between the bending or cutting point and the glass area. Do not cut or bend the wire at less than 4.0 mm distance from the base plate. Do not solder the crystal housing, as it might be overheated. Use glue (hot-melt adhesive) or SMD clips instead to fix the housing.

Soldering:

All through hole crystals are suitable for the standard wave soldering lines.
Lead soldering should be done within 10 sec with soldertip temperature no more than 270°C. For other soldering methods, e.g. lead-free soldering, please contact us.

Cleaning:

Crystal can be cleaned with conventional cleaning methods. Ultrasonic cleaning is acceptable up to 20 kHz. Higher frequencies can destroy the crystal blank. The ultrasonic conditions can change according to different PC-boards sizes and weights. Cleaning tests from the customer side will avoid any further damages.