

# Quartz Crystal - TF38

Tuning Fork Crystal · 3.0 x 8.0 mm

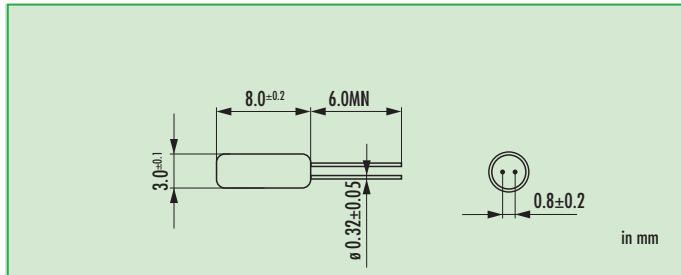
- 3 x 8 mm cylinder type
- 32.768 kHz standard



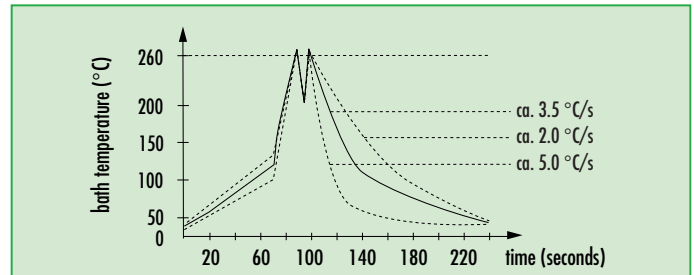
## General Data

type	TF38
frequency	32.768 kHz
frequency tolerance at 25 °C ± 5 °C	± 20 ppm / ± 30 ppm
load capacitance $C_L$	12.5 pF std. (6 pF ~ 12.5 pF on request)
temperature constant ( $T_C$ )	$T_C = -0.04 \cdot 10^{-6} / ^\circ\text{C}^2$ max. $T_C = -0.034 \cdot 10^{-6} / ^\circ\text{C}^2$ typical
frequency temperature characteristic	$f$ (ppm) = $T_C \cdot (25^\circ\text{C} - T)^2$ $T$ = requested temperature
operating temperature range	-10 °C ~ +60 °C / -20 °C ~ +70 °C
shunt capacitance $C_0$	< 5 pF
series resistance max. (ESR)	30 k $\Omega$
storage temperature	-40 °C ~ +85 °C
drive level max.	1 $\mu\text{W}$
aging first year	± 5 ppm max

## Dimensions



## Wave Soldering Profile



## Mounting

**Mounting:** if the crystal should be mounted vertically to your board (see picture), do not directly solder the metal can. The crystal may be overheated by the direct heat flow. Please use glue (hot-melt adhesive) or mechanical clamping to fasten the metal can.

