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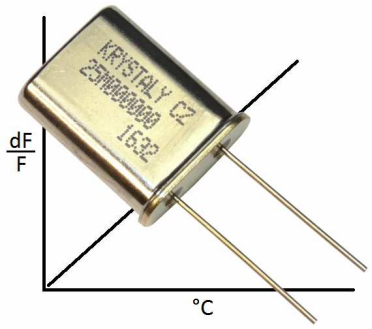
Temperature sensitive crystals



General application
High precision temperature measurement (sensitivity mK)

Features
High sensitivity, good / excellent linearity, long-term stability

Packing
Temperature sensitive crystals can be assembled in metal packages designed for through hole mount (i.e. HC-49, HC-52, UM-1,UM-4, UM-5), as well as in ceramic packages [a]

Typical specifications

Type	Temperature crystals	
Frequency range	4 - 40 MHz	
Sensitivity of frequency on temperature	20 - 90 ppm/K	
Working temperature range	-50 ... +125 (+200 [b]) °C	
Non-linearity	5×10^{-2} ... 1×10^{-3} [c]	
Equivalent series resistance (ESR_{max})	5 … 50 ohm [d]	
Time constant for temperature step 10°C [e]	for sensitivity 0,1°C for sensitivity 0,01°C for sensitivity 0,001°C	10^1 sec 1 min 3 … 10 min

Differences from standard values and other parameters can be consulted.

[a] - ceramic packages have a longer time constant
[b] - temp. range can be extended up to +200°C at the expense of slightly worsened hysteresis and aging
[c] – non-linearity closely related to sensitivity
[d] - ESR_{max} depends on the choice of frequency and package size
[e] - The time constant depends on the type of package, gas filling of package, environmental conditions, etc.

Outline dimensions
Dimensions are identical to the dimensions of the standard crystal with the same type of package, see relevant data sheets (pages 2-1, 2-2, 2-3 and 2-4)