

Environmental conditions

The ovenized crystal oscillators model's **QO1320, QO2020, QO2626, QO2736** and their **SMD-Versions** are approved in the following environmental conditions:

| Test | IEC 60068 Part ... | MILSTD- | Test conditions |
|--|--------------------|-------------------|--|
| Sealing test | 2-17 | 883E - Meth. 1014 | Fine leak: A1 2×10^{-8} |
| Shock | 2-27 | 202F - Meth. 213B | A: 50g; 11ms; half-sine |
| Vibration, sinusoidal | 2-6 | 202F -Meth. 204D | B: 10..55Hz 0,75mm; 55..2kHz 10g; 30 min/axis |
| Thermal Shock | 2-14 | 883E - Meth. 1011 | A: 100 °C to 0 °C, water, 15 cycles |
| Endurance tests - aging - extended aging | | | 20 days @ 55 °C (100%) >1000 days @ 55 °C (approval samples) |

The oscillator hybrid microcircuit design and construction is in accordance with applicable design and construction requirements.

The final test procedure includes all points of electrical specification especially a 100% test of

- frequency adjustment – calibration
- frequency stability vs. operating temperature range
- long-term stability measurement
- short-term stability measurement
- output waveform

Resistance to soldering Heat

The oscillators will withstand the conventional Soldering-processes as manual, wave and infra-red reflow.

The use of vapour phase reflow is not applicable.

The IR-soldering profile for the SMD-models **QO1320S, QO1422S, QO2020S** and **QO2024S** is shown below.



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