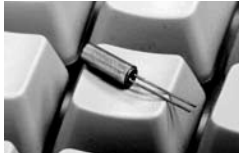
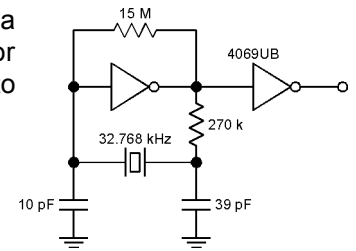


MMCC-1, MMCC-2, and MMCC-3 Tuning Fork Crystals

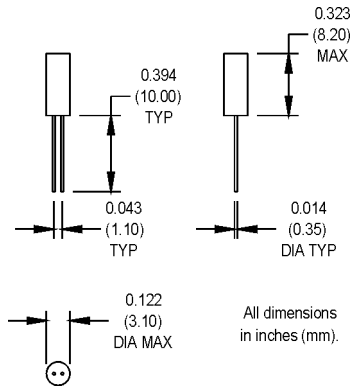


Precision 32.768 kHz quartz crystals for realtime applications

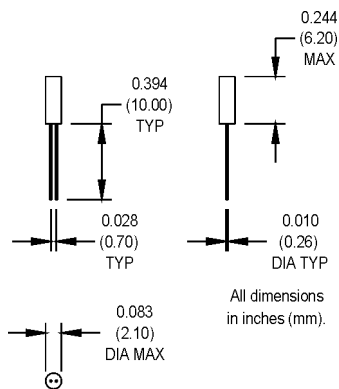
The majority of applications use a 32.768 kHz crystal in an oscillator circuit incorporating binary division to produce a 1 Hz output.



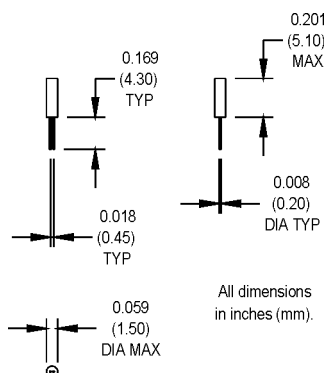
*MMCC-1-R



*MMCC-2-R



*MMCC-3-R

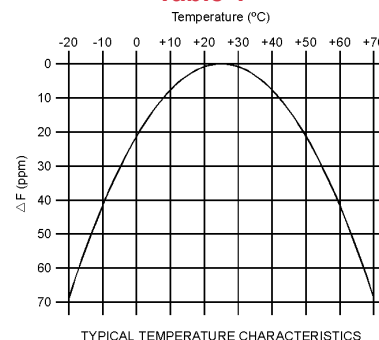


Electrical/Environmental Specifications

PARAMETERS	VALUE
Frequency	32.768 kHz
Tolerance @ +25°C	±30 ppm
Aging	±3 ppm/yr. Max.
Shunt Capacitance	MMCC-1: 1.60 pF, Typical MMCC-2: 1.35 pF, Typical MMCC-3: 1 pF, Typical
Load Capacitance	MMCC-1/MMCC-2: 12.5 pF, Typical MMCC-3: 8.0 pF, Typical
Standard Operating Conditions	See Table 1
Storage Temperature	-40°C to +85°C
Equivalent Series Resistance (ESR), Max.	MMCC-1/MMCC-2: 35K Ω MMCC-3: 40K Ω
Resonance	Parallel
Quality Factor	70,000 Min.
Turnover Temperature	+25°C ±5°C
Parabolic Curvature Constant	-0.034 ppm/°C ² , Typical
Drive Level	1.0 μW Max.
Holder	Compression seal
Mechanical Shock	MIL-STD-202, Method 213, C
Vibration	MIL-STD-202, Method 201 & 204
Thermal Cycle	MIL-STD-883, Method 1010, B

* Series resonant designated by "SR" prefix (i.e., **SRMMCC-1**).
Use MtronPTI part number **374-005** for ± 20 ppm tolerance (MMCC-1).
Use MtronPTI part number **375-05A** for ± 20 ppm tolerance (MMCC-2).
Contact the factory for specifications not listed.

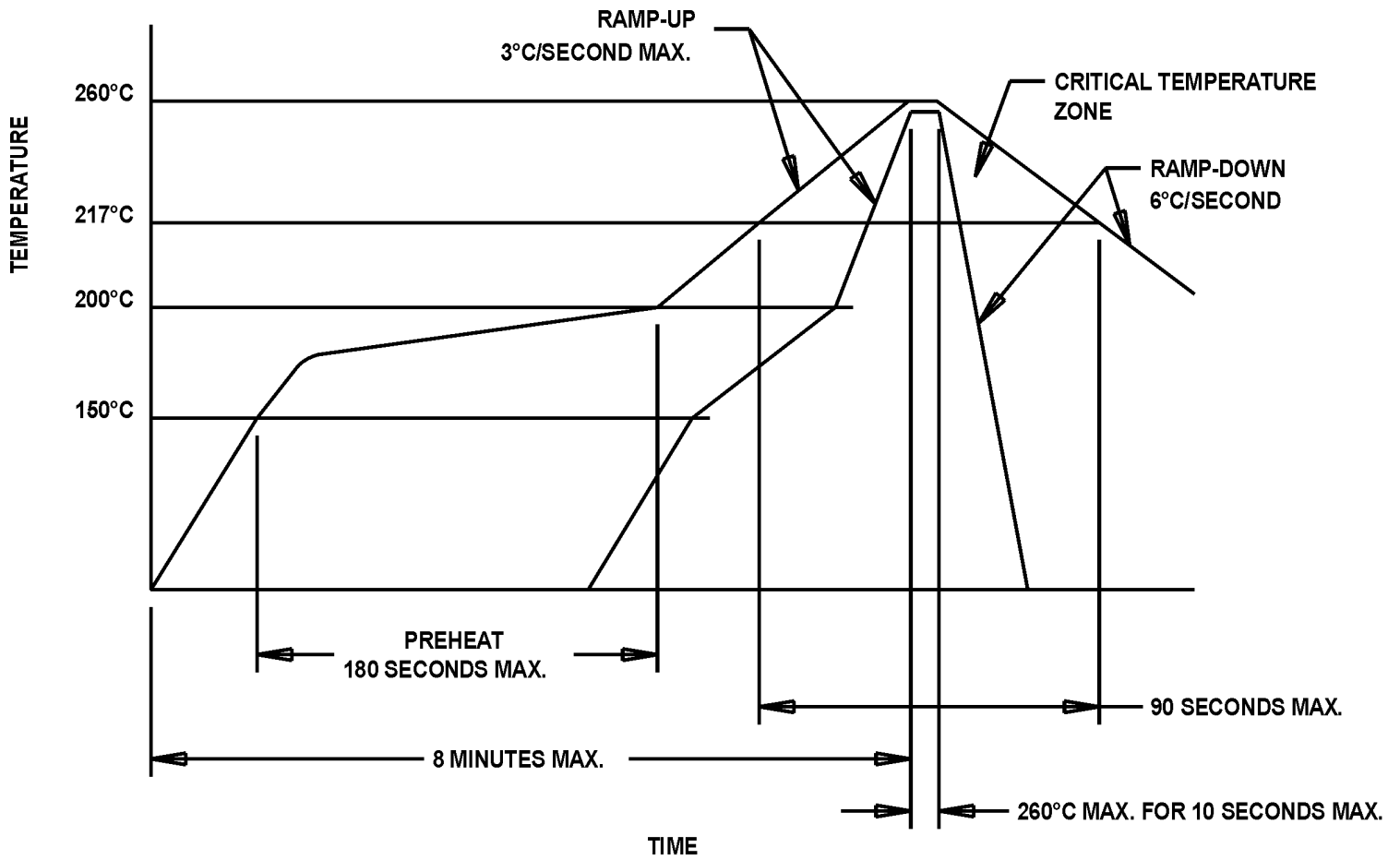
Table 1



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Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

MtronPTI Lead Free Solder Profile



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