32.768kHz 3x8mm CRYSTALS

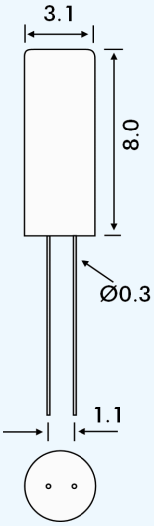
Cylindrical 'watch' crystal

- **An industry-standard source of 32.768kHz clock signals**
- **Fully RoHs compliant**
- **Excellent shock resistance and environmental capability**
- **A high build quality component at low cost**

SPECIFICATION

Frequency:	32.7680kHz
Calibration Tolerance at 25°C:	from ±5ppm to ±50ppm
Temperature Coefficient:	Inverse Parabolic -0.035 ppm/°C²
Peak Temperature:	25°C ±5°C
Operating Temperature Range:	-20 to +70°C -40 to +85° available
Storage Temperature:	-55°~+105°C
Effective Series Resistance:	45kOhms max.
Shunt Capacitance (C0):	0.8pF typical
Motional Capacitance:	4.0fF max.
Load Capacitance (CL):	6pF or12.5pF
Ageing:	<±5ppm per year at +25°C
Maximum Drive level:	1.0 microW max.
Reflow Soldering:	10s maximum at 250°C twice or 180s at 230°C, once.
Insulation Resistance:	100MOhm min.
Shock Resistance:	±5ppm max. (Drop test 3 times onto a hard board from 75cm)

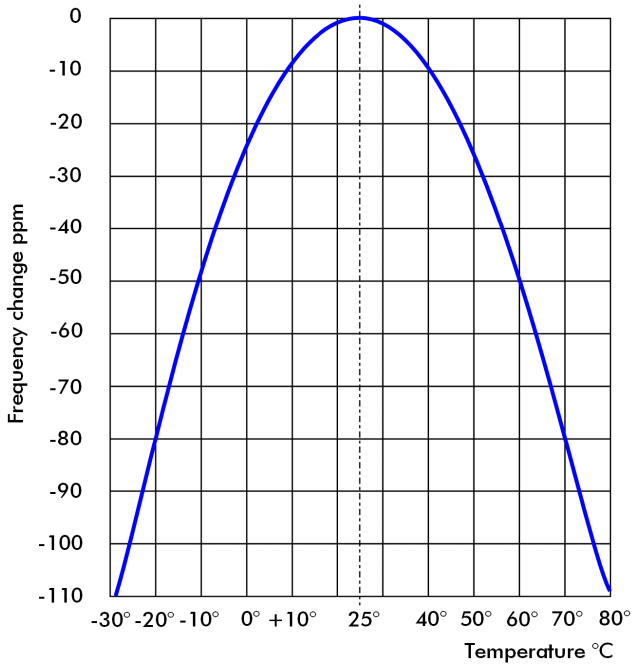
OUTLINE & DIMENSIONS



STOCK NUMBERS/SPECIFICATIONS

Stock Number	Frequency	Calibration	CL (pF)
MH32768A	32.768kHz	±15ppm	12.5
MH32768B	32.768kHz	±20ppm	12.5
MH32768L	32.768kHz	±20ppm	6.0
MH32768M	32.768kHz	±5ppm	12.5
MH32768P	32.768kHz	±5ppm	6.0

Frequency Change vs. Temperature
X-Cut Crystal



Function = $\Delta f/Fo = -0.035(T - To)^2 \pm 10\%$

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