



## Features

- ▣ Unique square profile case for pick & place
- ▣ Low cost
- ▣ Large stocks held at all times
- ▣ Miniature size for high density applications
- ▣ High shock & vibration resistance
- ▣ Wide temperature range

## Specifications

Parameters	Product	Option Codes
	MS1V-TK	
<b>Frequency range:</b> 32.768kHz 32.0 ~ 200kHz	<input checked="" type="checkbox"/> <input type="checkbox"/>	specify
<b>Calibration tolerance:</b> ±20ppm ±30ppm ±100ppm	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	specify
<b>Operating temperature range:</b> -40 to +85°C -55 to +85°C	<input checked="" type="checkbox"/> <input type="checkbox"/>	I M
<b>Circuit condition:</b> 12.5pF other values	<input checked="" type="checkbox"/> <input type="checkbox"/>	specify
<b>Static capacitance (C<sub>0</sub>):</b> 1.0pF typ	<input checked="" type="checkbox"/>	
<b>Motional capacitance (C<sub>1</sub>):</b> 2.25fF typ	<input checked="" type="checkbox"/>	
<b>Equivalent series resistance:</b> 60kΩ typ, 80kΩ max	<input checked="" type="checkbox"/>	
<b>Ageing:</b> ±3ppm max first year	<input checked="" type="checkbox"/>	
<b>Drive level:</b> 1.0μW max	<input checked="" type="checkbox"/>	
<b>Turnover temperature (T<sub>0</sub>):</b> +25°C ±5°C	<input checked="" type="checkbox"/>	
<b>Frequency / temp coefficient:</b> -0.038ppm/°C <sup>2</sup> typ	<input checked="" type="checkbox"/>	
<b>Shock resistance:</b> ±5ppm max 5,000g, 0.3ms, ½ sine	<input checked="" type="checkbox"/>	
<b>Vibration resistance:</b> ±5ppm max 20g, 10.0 ~ 2,000Hz	<input checked="" type="checkbox"/>	

▣ Standard. □ Optional - Please specify required code(s) when ordering

## Ordering Information

Product name + option codes + frequency + calibration tolerance

eg: **MS1V-TK/I 32.768kHz ±20ppm -40+85°C** (standard)

**MS1V-TK/M 32.768kHz ±100ppm -55+85°C**

Option code X (eg MS1V-TK/X) denotes a custom spec.

- ◆ Our standard SM watch crystal.
- ◆ Available on T&R - 5k pcs per reel.
- ◆ Refer to our website for T&R and soldering details.
- ◆ Specifications vary by frequency. Specifications shown are for 32.768kHz.
- ◆ Pad compatible with many standard watch crystals (eg MC-306, MC-406, SP-T1A, SP-T2A, CM-200S, CM-202S).