



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**

Standard Frequencies

Frequencies in kHz	
32.00000	60.00000
32.76800	75.00000
38.40000	76.80000
40.00000	77.50000

Specifications

Parameters	Product	Option Codes
	MS1V	
Termination: Gold flashed leads, 2.54mm pitch	■	T1K
Frequency range: 32.768kHz 32.0 ~ 200kHz	■ □	specify
Calibration tolerance: ±20ppm ±30ppm ±100ppm	■ □ □	specify specify
Operating temperature range: -40 to +85°C	■	
Storage temperature range: -55 to +125°C	■	
Circuit condition: 7pF 9pF 12.5pF Other values	□ □ ■ □	specify specify specify
Static capacitance (C₀): 0.9pF typ	■	
Motional capacitance (C₁): 2.1fF typ	■	
Equivalent series resistance: 60kΩ max @ 25°C 90kΩ max after reflow	■ ■	
Ageing: ±3ppm max first year	■	
Drive level: 1.0μW max	■	
Turnover temperature (T₀): +25°C ±5°C	■	
Frequency / temp coefficient: -0.035ppm/°C ² ±10% typ	■	
Shock resistance: ±5ppm max 5,000g, 0.3ms, ½ sine	■	
Vibration resistance: ±5ppm max 20g, 10.0 ~ 2,000Hz	■	
Soldering conditions: 260°C, 20sec max	■	

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

Ordering Information

Product name + termination + frequency + calibration tol.
eg: **MS1V-T1K 32.768kHz ±20ppm** (standard)
Option code X (eg MS1V-T1K/X) denotes a custom spec.

- ◆ Available on T&R - 1k or 8k 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).