



Scale 3:1

**Features**

- ▄▄▄▄ Unique square profile case for pick & place
- ▄▄▄▄ Low cost
- ▄▄▄▄ Miniature size for high density applications
- ▄▄▄▄ High shock & vibration resistance
- ▄▄▄▄ Wide temperature range

**Standard Frequencies**

Frequencies in kHz		
32.768 38.400	75.000 76.800	77.500

**Specifications**

Parameters	Product	Option Codes
	MS3V	
<b>Termination:</b> Gold flashed leads, 1.00mm pitch Gold flashed leads, 1.27mm pitch	<input checked="" type="checkbox"/> <input type="checkbox"/>	T1R T1S
<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 specify
<b>Operating temperature range:</b> -40 to +85°C	<input checked="" type="checkbox"/>	
<b>Storage temperature range:</b> -55 to +125°C	<input checked="" type="checkbox"/>	
<b>Circuit condition:</b> 12.5pF other values	<input checked="" type="checkbox"/> <input type="checkbox"/>	specify
<b>Static capacitance (C<sub>0</sub>):</b> 0.9pF typ	<input checked="" type="checkbox"/>	
<b>Motional capacitance (C<sub>1</sub>):</b> 2.1fF typ	<input checked="" type="checkbox"/>	
<b>Equivalent series resistance:</b> 60kΩ typ, 90kΩ max @ 25°C	<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> -0.035ppm/°C <sup>2</sup> ±10% 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 rms 10.0 ~ 2,000Hz	<input checked="" type="checkbox"/>	
<b>Soldering conditions:</b> 260°C, 20sec max	<input checked="" type="checkbox"/>	

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

**Ordering Information**

Product name + termination + frequency + calibration tol.  
eg: **MS3V-T1R 32.768kHz ±20ppm** (standard)  
Option code X (eg MS3V-T1R/X) denotes a custom spec.

- ◆ Available on T&R - 9k pcs per reel.
- ◆ Refer to our website for T&R and soldering details.
- ◆ Specifications vary by frequency. Specifications shown are for 32.768kHz.