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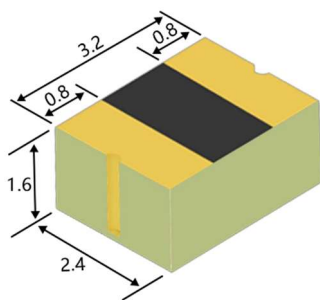
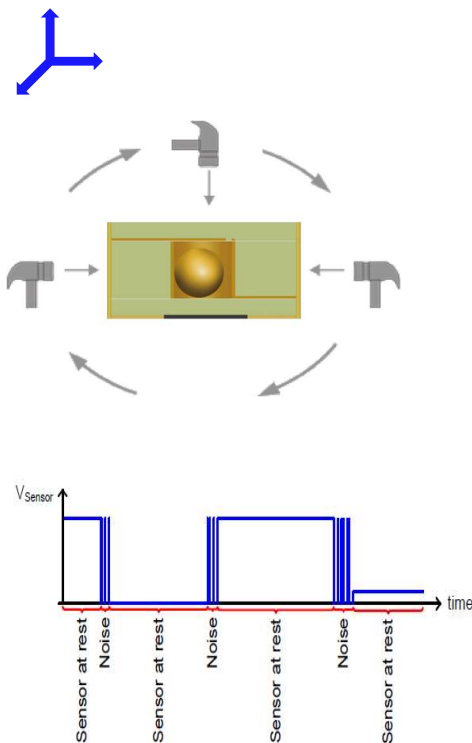
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# DATASHEET

**Micro Vibration Sensor**  
MVS0724.02

Product Data Sheet			
Product Name	Micro Vibration Sensor	Type	MVS0724.02
Operating Voltage	0.5 – 24 VDC	Operating Current	0.2 $\mu$ A – 10 mA
Contact Resistance	< 30 $\Omega$ (in stationary closed state)	Insulation Resistance	> 10 M $\Omega$
Orientation	no angle or direction restrictions	Operating Temperature	-40°C – 85°C

### Functional Schematic



unit: mm  
tolerance:  $\pm 0.1$  mm

### Basic Function

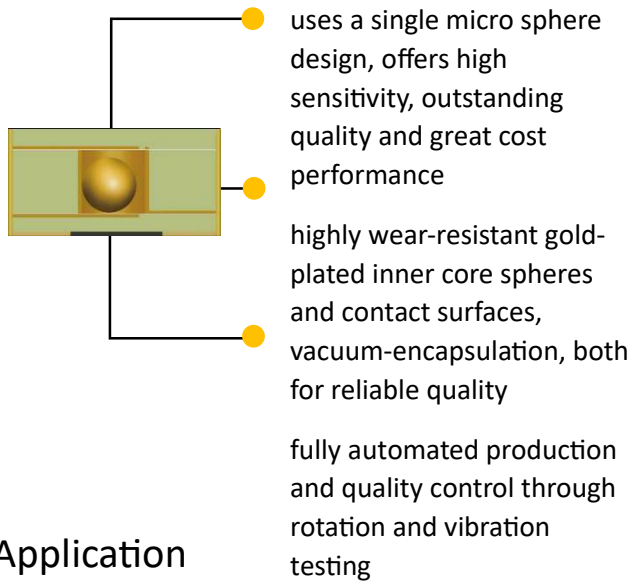
The Micro Vibration Sensor is purely mechanical by design. The working state does not require current consumption. It offers vibration detection in all directions, displacement-sensing and can be used for motion wake-up.

No matter how it is mounted on the PCB board, the sensor remains in the same state when stationary. When vibration or displacement occurs, the sensor will produce continuous resistance changes between high and low levels (pulse signal) and the sensitivity can be adjusted through software settings.

This sensor is particularly suitable for motion wake-up and static- or motion state detection in battery power saving applications and is a good alternative to G-sensor applications.

**Remark:** motion current is determined by the resistance and voltage of the application circuit

## Product Characteristics



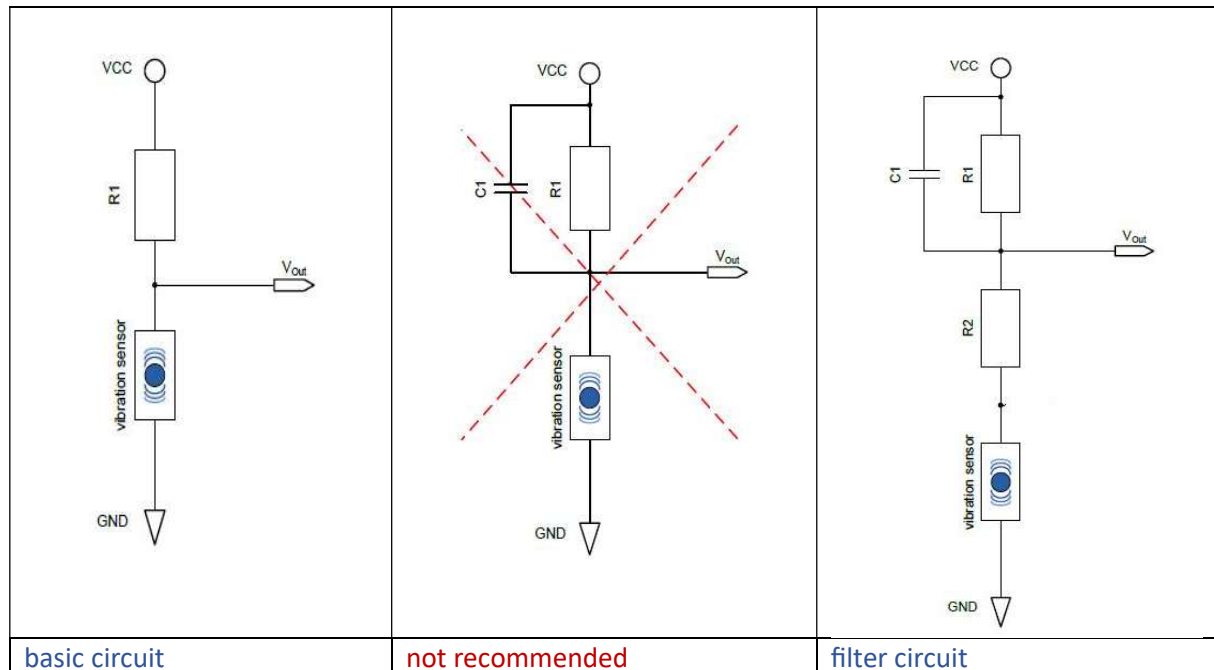
## Application Scenarios

GPS navigation, RFID, smart anti-theft for electric vehicles, bike computer, bicycle lights and a variety of Bluetooth electronics, intelligent wearables, capacitive pen, Bluetooth anti-theft device, aromatherapy machine, product with motion wake-up and applications that need to detect small vibrations, tilting or displacement

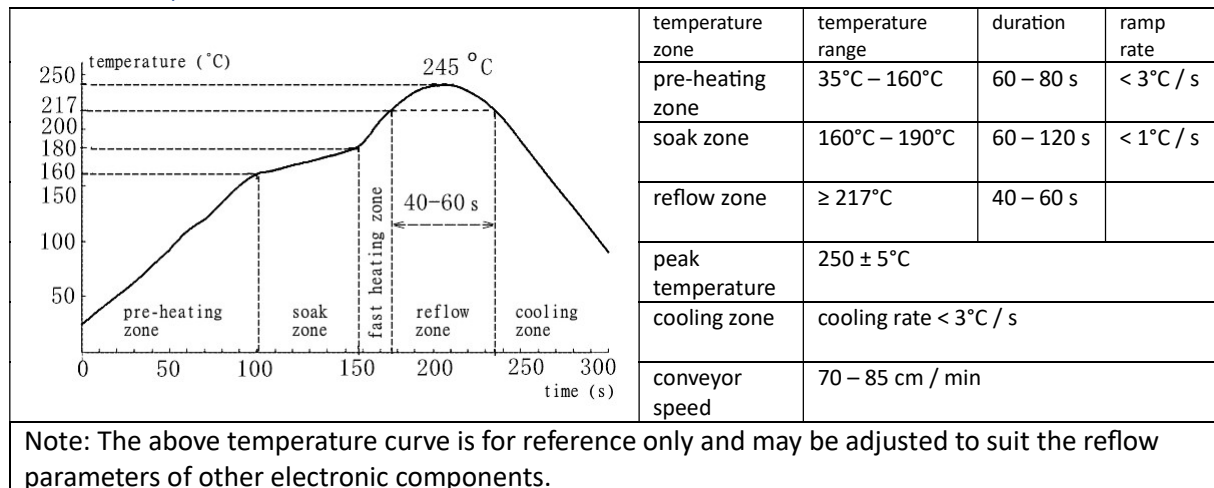
## Product Description

material description	<ul style="list-style-type: none"> <li>- Built-in micro sphere: brass gold-plated</li> <li>- Body: FR-4</li> <li>- Contacts: copper, gold-plated</li> </ul> <p>All materials meet the environmental protection requirements of ROHS and REACH and are halogen-free.</p>
soldering instructions	<ul style="list-style-type: none"> <li>- manual soldering: peak temperature 350°C, duration 2-3 seconds</li> <li>- reflow soldering: peak temperature 250 ± 5°C</li> </ul> <p>(Note: the soldering conditions of this sensor are designed according to common soldering parameters and should be verified by the customer in advance)</p>
lifetime	<p>The built-in micro sphere, inner- and outer contact surfaces are gold-plated. Reliable sealing makes the sensor waterproof and prevents oxidation and contamination within the sensor chamber. This results in exceptional service life. Special requirements can be catered for.</p>
high-temperature and -humidity test	<p>Sensors were conditioned at 70°C, 90% RH for 30 days. Afterwards the sensors were tested at room temperature for 2 hours. The sensors provided a contact resistance of &lt;30 Ω when closed and met the electrical performance criteria.</p>
packaging	<p>Standard reel: 3,000 pcs / reel</p>

## Reference Circuit



## Reflow Temperature Profile



## Application Notes

1. Do not flush the sensor with solvent or clean water after the soldering process is completed.
2. Do not leave the products in a high temperature and humidity environment for long periods and seal the remaining products in time to avoid poor solderability.
3. Ensure that the sensor surface is not covered in condensation or immersed in water, otherwise the sensor will stay in contacting state (closed state), which will affect the use.
4. The working environment of this product should avoid strong magnetic fields as much as possible, otherwise it may cause abnormal operation. If a strong magnetic environment is unavoidable, please consult our technical staff in advance.
5. When this product is applied to equipment related to life safety and high reliability and durability, consult our technical staff in advance.

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