

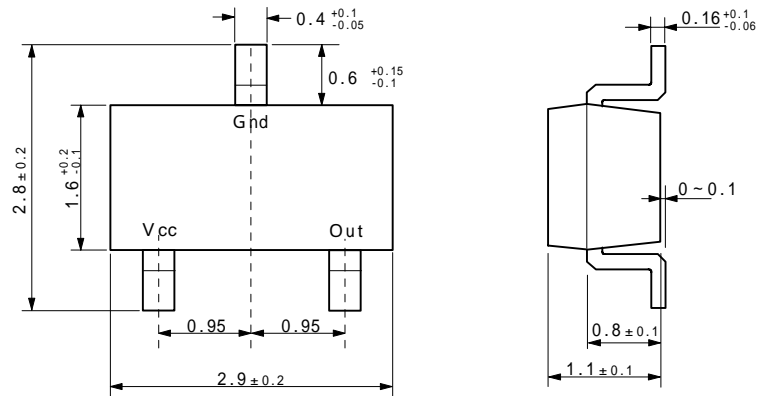
MRSS23E

Low voltage operating type Built-in IC ultra-minimum MR sensor

FEATURES

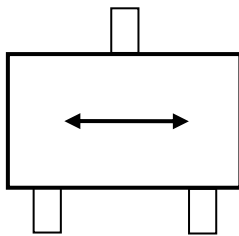
- Micro power ($6\mu\text{W}(\text{typ})$): $V_{cc}=1.8\text{V}$ and High-sensitivity($1.7\text{mT}(\text{typ})$)
(suited for battery-operation)
- Operating ambient temperature range (-40°C to $+85^{\circ}\text{C}$)
- Operating in one way magnetic field
- Operating with independent pole (easily manufacture)
- Lead free products

1.Dimension (Unit : mm)

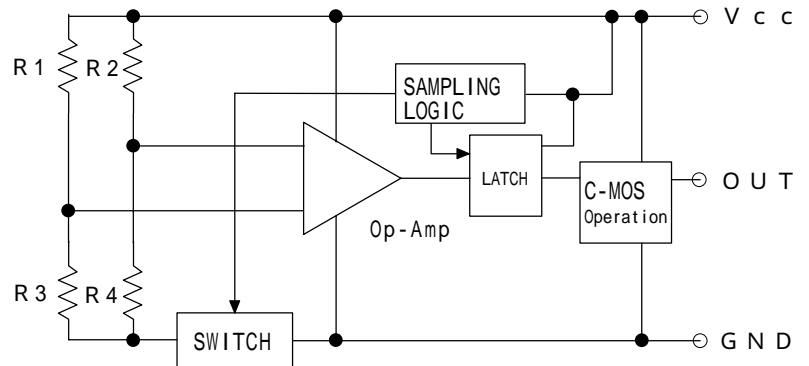


2.Fundamental Operation

2-1.Direction of Magnetic Field



2-2.Circuit Block



R1 ~ R4 : MR Elements

2-3.Performance Characteristics ($25\pm 3^{\circ}\text{C}$)

| | Operating require Condition | Output Voltage |
|--------------------------------|--|----------------|
| When power switch is ON | H = 0 mT (Magnetic Flux Density) [0 A/m (Magnetic Field Strength)] | Hi-level |
| When magnetic field is applied | H 1.7(Typ)mT (Magnetic Flux Density) [1.4kA/m (Magnetic Field Strength)] | Lo-level |
| When magnetic field is applied | H 0.5 mT (Magnetic Flux Density) [0.6kA/m (Magnetic Field Strength)] | Hi-level |

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3.Performance

3-1.Operating Conditions Recommended

(Ta = 25±3°C unless otherwise specified)

| Item | Output | Condition | Min | Std | Max | Unit |
|--------------------------|----------------------|-----------------------|--------------|--------------|--------------|------------------|
| Source Voltage | - | - | 1.6 | 1.8 | 3.5 | V |
| Source Current | - | Vcc=3V | - | 3 | - | μA |
| Ambient Temperature | - | - | -40 | 25 | 85 | °C |
| Output Voltage | VOH | Vcc=1.8V Iout=1mA | 1.6 | - | - | V |
| | VOL | VCC=1.8V Iout=-1mA | - | - | 0.2 | V |
| Operating Magnetic Field | Hi-level output Hon | | - | 1.7 (1.4) | 2.2 (1.8) | mT ^{*1} |
| | Lo-level output Hoff | | 0.5 (0.4) | - | - | (kA/m) |

*1) 1 [mT] (SI) = 10 [G] (CGS)

3-2.Absolute Maximum Ratings

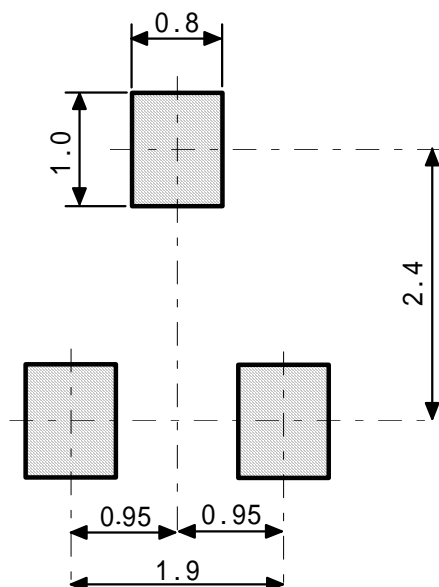
(Ta = 25±3°C unless otherwise specified)

| Item | Condition | Specifications | Unit |
|---------------------|-----------|----------------|------|
| Source Voltage | - | 6.0 | V |
| Storage Temperature | - | -40 ~ 125 | °C |

The products and product specifications described in this material are subject to change without notice for reasons of modification or improvement.

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- Recommended Mount Pad



(Unit : mm)

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