

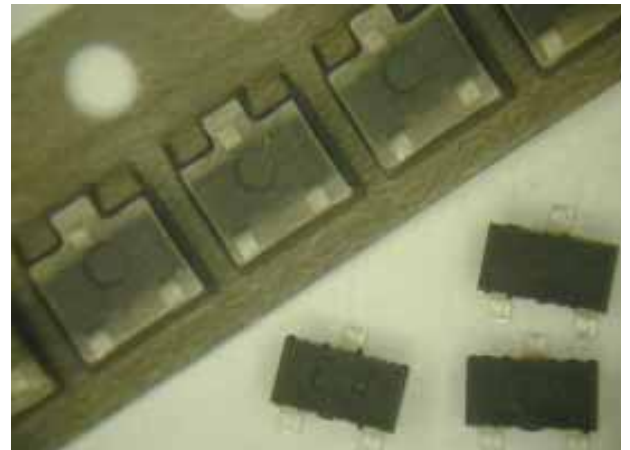
MRSS23E

Low voltage operating type

Built-in IC ultra-minimum MR sensor

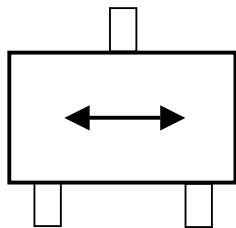
FEATURES

- Micro power ($6\mu\text{W}$ (typ): $V_{cc}=1.8\text{V}$) and High-sensitivity (1.7mT (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 goods

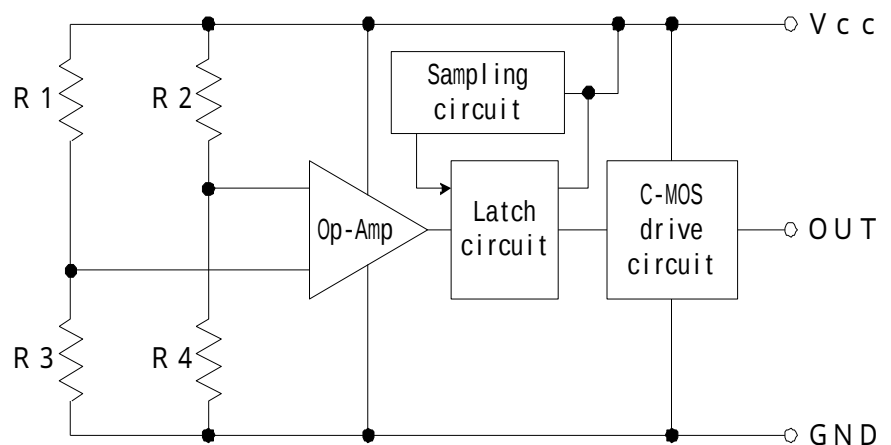


FUNDEMENTAL OPERATION

Direction of Magnetic Field



Circuit Block



The intermittent switch circuit inside.

R1 ~ R4 : MR Elements

PERFORMANCE

Performance Characteristics (25±3°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 2.2 mT (Magnetic Flux Density) {1.8kA/m (Magnetic Field Strength)}	Lo-level
When magnetic field is applied	H 0.5 mT(Magnetic Flux Density) {0.4kA/m (Magnetic Field Strength)}	Hi-level

Operating Conditions Recommended

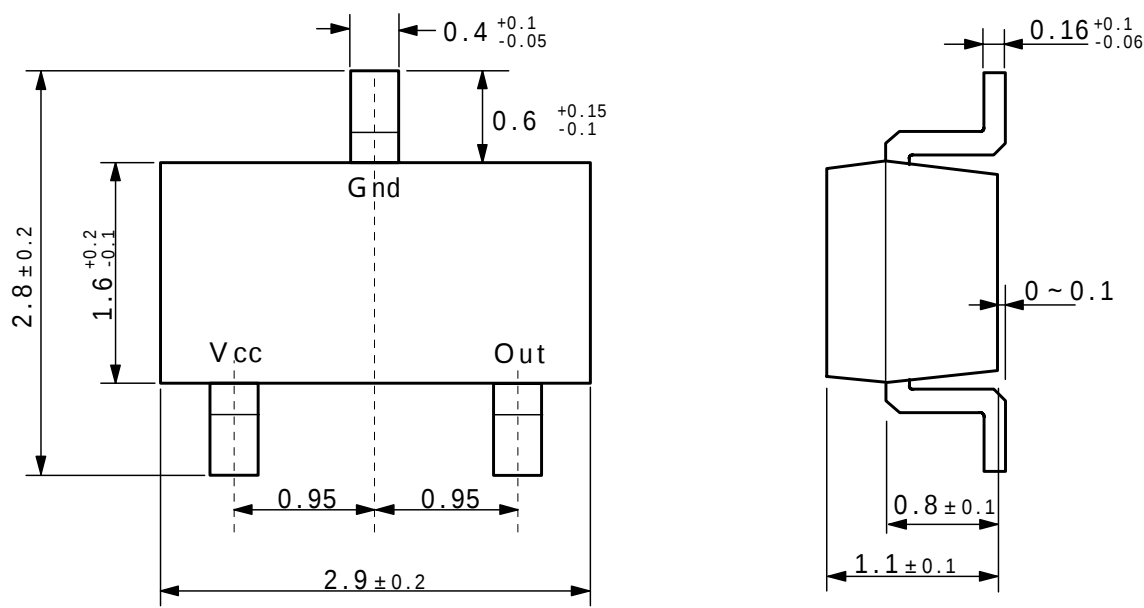
(Ta = 25±3°C unless otherwise specified)

Item	Output	Condition	Min	Std	Max	Unit
Supply Voltage	-	-	1.6	1.8	3.5	V
Supply Current	(AVG)	Vcc=1.8V	-	3.0	-	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	25±3°C	-	1.7 (1.4)	2.2 (1.8)	mT ^(*1) (kA/m) ^(*2)
	Lo-level Output Hoff	25±3°C	0.5 (0.4)	-	-	

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

*2) () = [kA/m](SI)

DIMENSIONS (Unit:mm)



ABSOLUTE MAXIMUM RATINGS

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

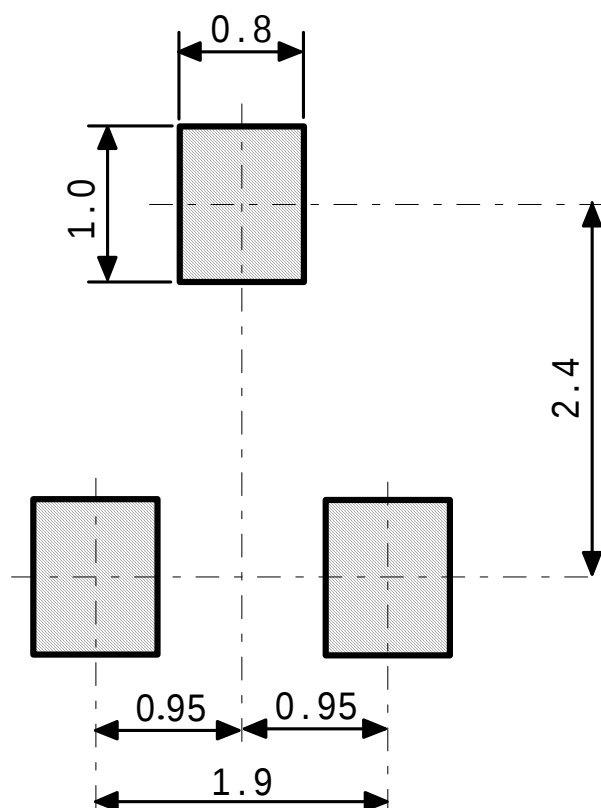
Item	Condition	Specifications	Unit
Supply Voltage	-	5.0	V
Storage Temperature	-	-40 ~ +125	°C

ESD PROTECTION

Human Body Model (HBM) tests according to: MIL-STD-883D Method: 3015.7

Parameter	Symbol	Limited Values		Unit	Notes
		Min	Max		
ESD Voltage	V _{ESD}	± 4.0		kV	R=1.5kΩ C=100pF T=25

RECOMMEDED MOUNT PAD (Unit: mm)



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