

MRMS301A

Low Voltage Operation Type, Built-in IC,
Ultra Compact MR Sensor

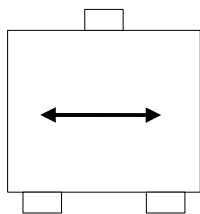
FEATURES

- Operating Voltage: 1.6 to 3.5V
- Low power consumption (6μ W(typ): $V_{cc}=1.8V$)
-Suited for battery-operation
- Compact Flat Lead Package size
(PKG Height: Max 0.8mm)
- Operating ambient temperature range: $-40^{\circ}C$ to $+85^{\circ}C$
Operating with independent pole (easily manufacture)
RoHS Compliant
Halogen Free

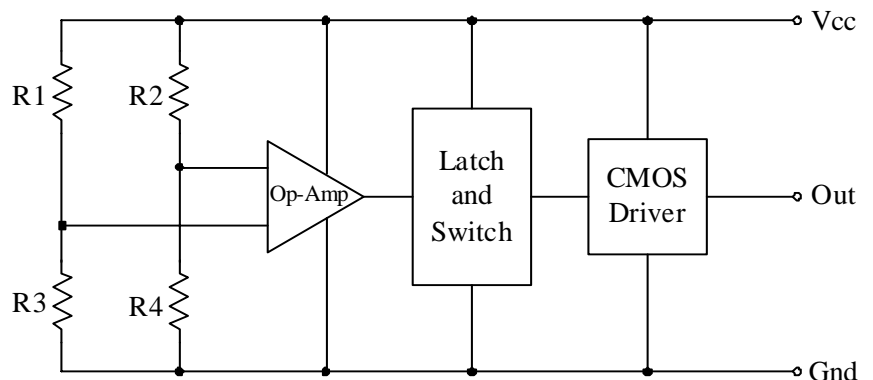


FUNDEMENTAL OPERATION

Direction of Magnetic Field



Circuit Block



The intermittent switch circuit inside
R1-R4: MR Elements

PERFORMANCE

Performance Characteristics (Ta=25±3°C)

	Operating require Condition	Output Voltage
When power switch is ON	H = 0mT(Magnetic Flux Density) {0 A/m (Magnetic Field Strength)}	Hi-level
When magnetic field is applied	H 2.5mT (Magnetic Flux Density) {2.0kA/m (Magnetic Field Strength)}	Lo-level
When magnetic field is applied	H 0.5mT(Magnetic Flux Density) {0.4kA/m (Magnetic Field Strength)}	Hi-level

Operating Conditions Recommended

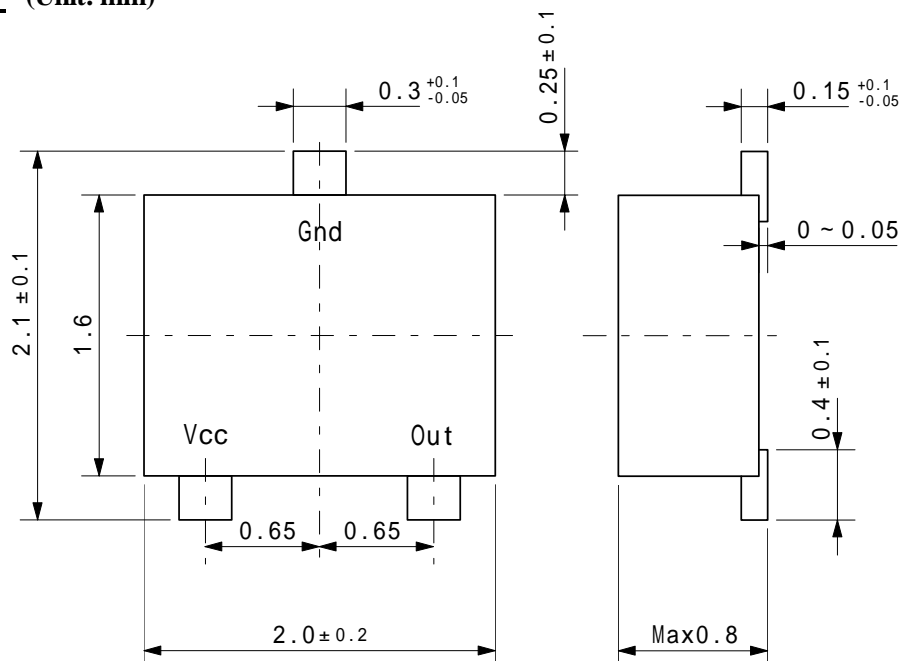
(Ta = 25±3°C unless otherwise specified)

Item	Symbol	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	Hon	25±3°C	-	1.7 (1.5)	2.5 (2.0)	mT ^(*1)
	Hoff	25±3°C	0.5 (0.4)	-	-	(kA/m) ^(*2)

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

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

DIMENSIONS (Unit: mm)



ABSOLUTE MAXIMUM RATINGS

($T_a=25 \pm 3^\circ\text{C}$ unless otherwise specified)

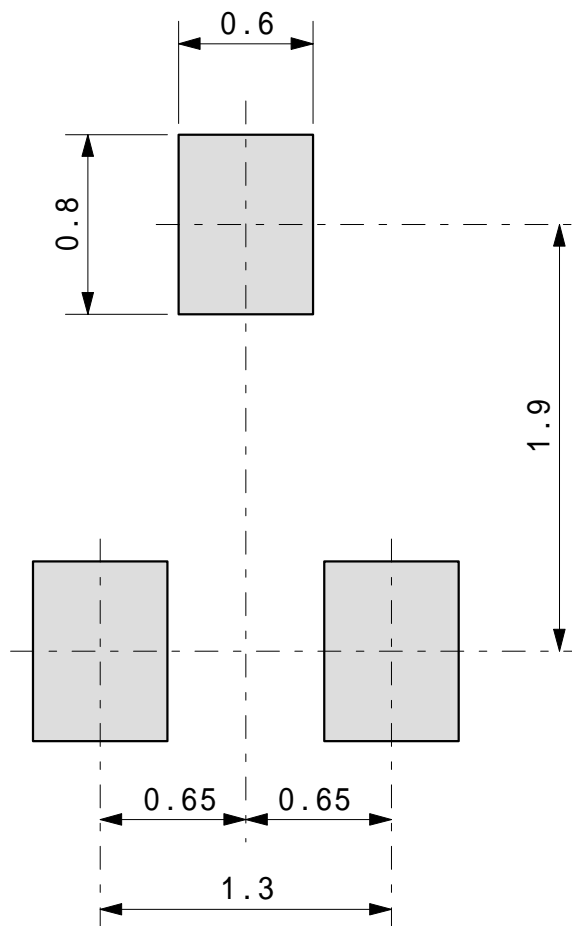
Item	Condition	Specifications	Unit
Supply Voltage	-	5.0	V
Storage Temperature	-	-40 ~ +125	$^\circ\text{C}$

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=1.5k C=100pF T=25

RECOMMENDED MOUNT PAD (Unit: mm)



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