

MRMS201A

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

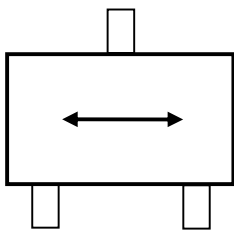
FEATURES

- Operating Voltage:3.0V
- Low Power Consumption (15μ W(typ): $V_{cc}=3.0V$)
- Low Height, Compact Package size
(PKG Height: Max1.1mm)
- Operating ambient temperature range: $-40^{\circ}C$ to $+85^{\circ}C$
Operating with independent pole (easily manufacture)
RoHS Compliant
Halogen Free

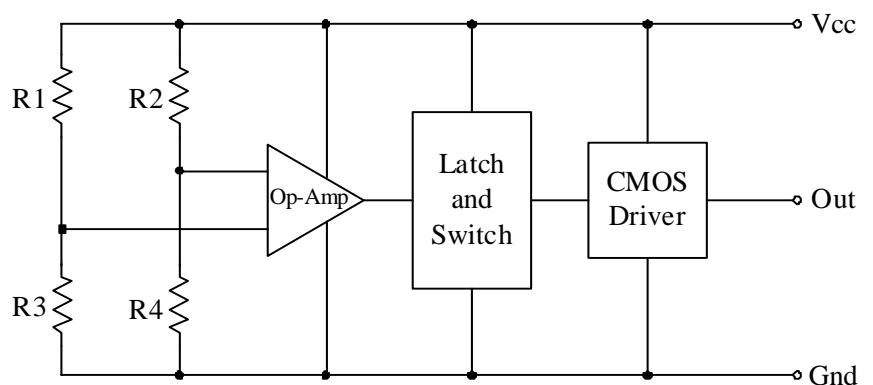


FUNDEMENTAL OPERATION

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

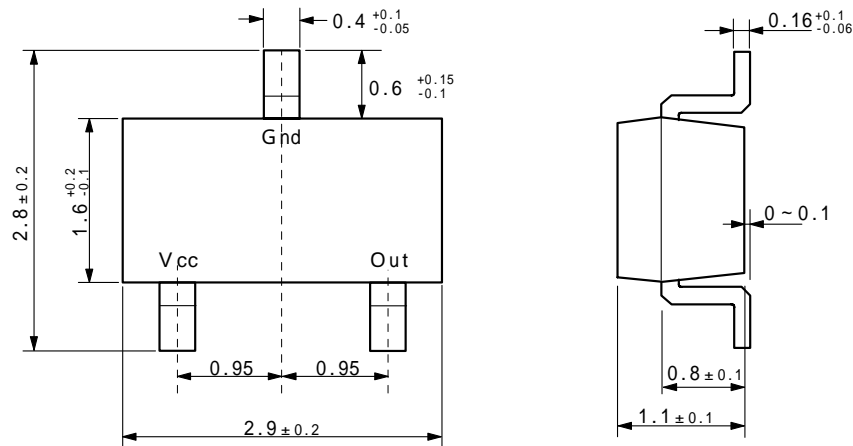
(Ta = 25±3°C unless otherwise specified)

Item	Symbol	Condition	Min	Std	Max	Unit
Supply Voltage	-	-	1.6	3.0	3.5	V
Supply Current	(AVG)	Vcc=3.0V	-	5.0	-	μA
Ambient Temperature	-	-	-40	25	85	°C
Output Voltage	VOH	Vcc=3.0V Iout=2mA	2.7	-	-	V
	VOL	Vcc=3.0V Iout=-2mA	-	-	0.3	V
Operating Magnetic Field	Hon	25±3°C	-	1.7 (1.4)	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)

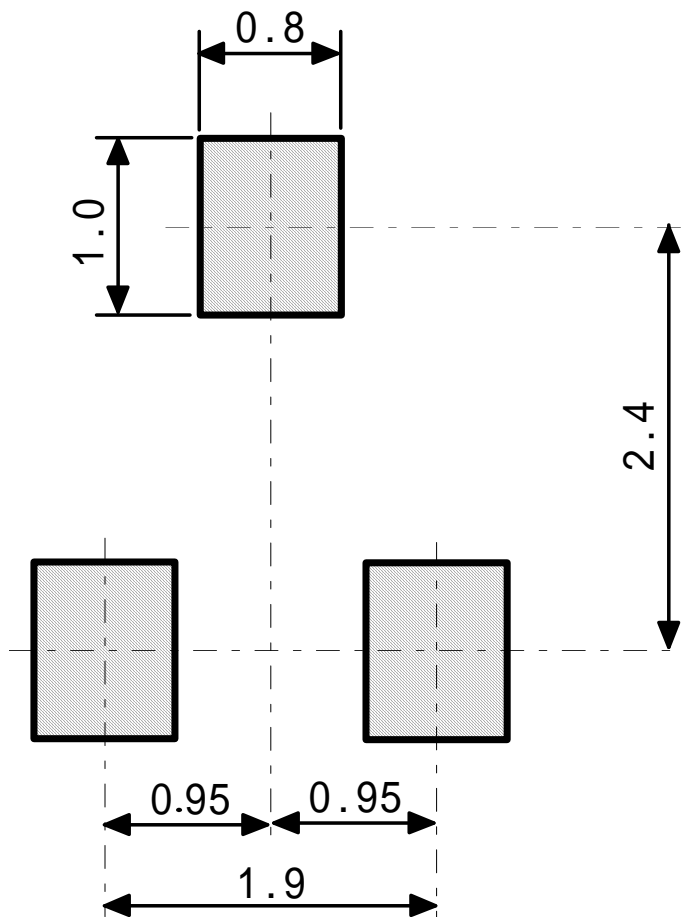
Item	Condition	Specifications	Unit
Supply Voltage	-	5.0	V
Storage Temperature	-	-40 ~ +125	$^\circ\text{C}$

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)



NEC Corporation
Sales and Marketing Department
(Shin Tamachi Building) 34-6, Shiba 5-chome, Minato-ku,
Tokyo 108-0014, Japan
Tel: +81-3-3798-5864 Fax: +81-3-3798-5857
<http://www.sw.nec.co.jp/on/dd/en/>

EWV-19-0240-01E, July, 2009
Copyright © 2009 NEC Corporation

NEC Electronics (Europe) GmbH
Sales and Marketing of semiconductors across Europe
Arcadiastrasse 10, D-40472 Dusseldorf, Germany
Tel: +49-211-6503-0 FAX: +49-211-6503-1344

NEC Corporation of America (USA & CANADA)
Fiber Optic Division
Mail Stop# NC1000
2880 Scott Blvd, Santa Clara, CA 95050, U.S.A.
Tel: +1-408-8445-1082 FAX: +1-408-844-1090

DATA SUBJECT TO CHANGE WITHOUT NOTICE