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# MRUS61C

## **Ultra Thin Leadless Package**

## Micro power Built-in IC Ultra-minimum MR sensor

## **FEATURES**

- Operating Voltage: 1.6 to 3.5V
- Micro power consumption (6µ W(typ):Vdd=1.8V) -Suited for buttery-operation
- Minimal Package Height: 0.35mm
- Ultra-small size MR (Magnet-resistance) sensor
  The Volume and mounting area are 80% smaller, and the Height is about 70% lower than MRSS23E
- Operating ambient temperature range: -40°C to +85°C Operating in one way magnetic field Operating with independent pole (easily manufacture) RoHS Compliant



# **FUNDEMENTAL OPERATION**

Direction of Magnetic Field







## **PERFORMANCE**

Performance Characteristics (Ta=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 2.5mT (Magnetic Flux Density) {2.0kA/m (Magnetic Field Strength)}	Lo-level
When magnetic field is applied	H 0.8 mT(Magnetic Flux Density) {0.6kA/m (Magnetic Field Strength)}	Hi-level

## Operating Conditions Recommended

(Ta =  $25\pm3^{\circ}$ C unless otherwise specified)

Item	Output	Condition	Min	Std	Max	Unit
Source Voltage	-	-	- 1.6		3.5	V
Supply Current	(AVG)	Vdd=1.8V	-	3.0	-	μA
Ambient Temperature	-	-	-40	25	85	°C
Output Voltage	VOH	Vdd=1.8V Iout=1mA	1.6	-	-	V
	VOL	Vdd=1.8V Iout=-1mA	-	-	0.2	V
Operating Magnetic Field	Hi-level Output Hon	25±3°C	-	1.7 (1.4)	2.5 (2.0)	mT <sup>(*1</sup>
	Lo-level Output Hoff	25±3°C	0.8 (0.6)	-	-	(kA/m) <sup>(*2</sup>

\*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	Notos
		Min	Max	Unit	Notes
ESD Voltage	VESD	± 4.0		kV	R=1.5k C=100pF T=25

### **<u>RECOMMENDED MOUNT PAD</u>** (Unit: mm)



Note) No soldering needed for the shaded mount pad area. In case of wiring signal line other than GND, make sure to insulate the dotted area of the MR sensor backside and the shaded mount pad area.



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