

MRSS21-E

Compact MR Sensor with Built-in IC

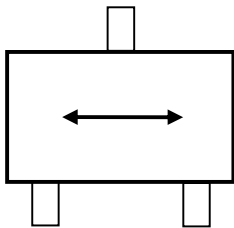
FEATURES

- Compact 3pin mini mold package
 - Operating in one way magnetic field
 - Polarity independent
- Wide operating supply voltage range
High speed detection
Lead-free

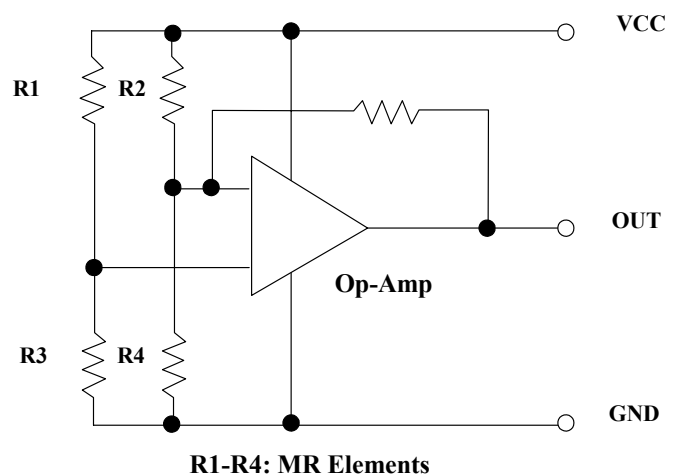


FUNDEMENTAL OPERATION

Direction of Magnetic Field



Circuit Block Diagram



PERFORMANCE

Performance Characteristics (Ta= 25±3°)

	Operating Conditions	Output Voltage
When power switch is ON	H = 0 mT ^(*1) (0 kA/m) ^(*2)	Lo-level
When magnetic field is applied	H = 2.5mT (2.0kA/m)	Hi-level
When magnetic field is applied	H = 0.5 mT (0.4kA/m)	Lo-level

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

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

Recommended Operating Conditions (Ta = 25±3°C, V_{CC}=12V unless otherwise specified)

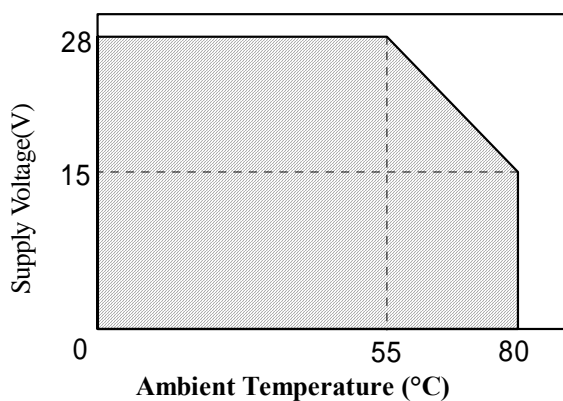
Item	Symbol	Output	Condition	Min	Typ	Max	Unit
Supply Voltage (*3)	V _{CC}	--	-	3	12	28	V
Supply Current	I _{CC}	-	-	-	-	5.0	mA
Max Frequency	f _{max}	-	25±3°C	-	3.0	-	kHz
Operating Temperature	T _a	-	-	-20	+25	+80	°C
Operating Magnetic Field	H _{on}	Hi-level (Hon)	25±3°C	-	2.0 (1.6)	2.5 (2.0)	mT ^(*1) (kA/m) ^(*2)
	H _{off}	Lo-level (Hoff)	25±3°C	0.5 (0.4)	-	-	

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

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

*3) For operation in high temperature, please follow the graph below

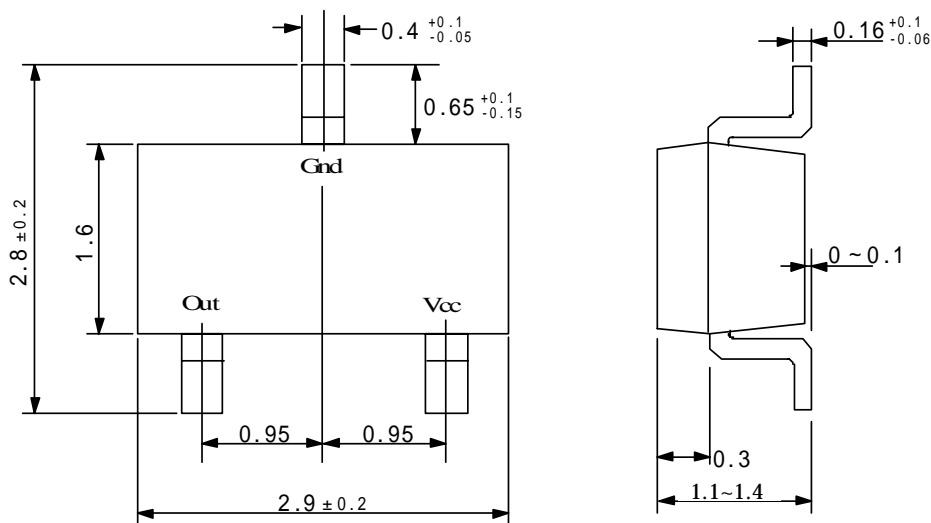
Recommend Condition



Output Ratings

Item	Condition	Min	Typ	Max	Unit
Output Voltage 1 Hi	V _{cc} =12V, R _L =10kΩ	10.0	-	-	V
Output Voltage 1 Lo	V _{cc} =12V, R _L =10kΩ	-	-	1.0	V
Output Voltage 2 Hi	V _{cc} =5V, R _L =10kΩ	3.5	-	-	V
Output Voltage 2 Lo	V _{cc} =5V, R _L =10 kΩ	-	-	1.0	V
Slew Rate	V _{cc} =12V, R _L =10 kΩ	-	0.5	-	V/us
Output response frequency	V _{cc} =12V, R _L =10 kΩ	-	3.0	-	KHz

DIMENSIONS (Unit: mm)

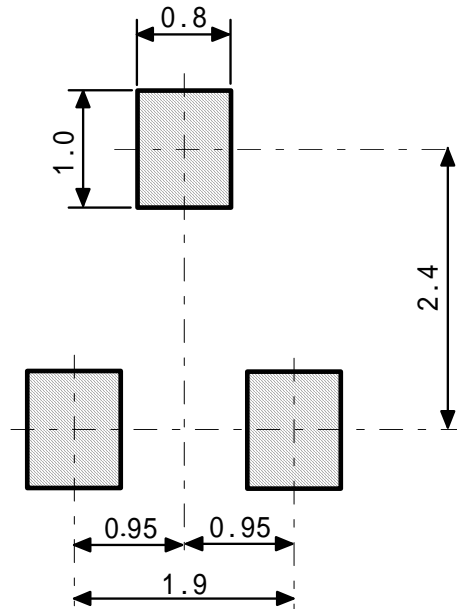


ABSOLUTE MAXIMUM RATINGS

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

Item	Condition	Specifications	Unit
Supply Voltage	-	33.0	V
Power Dissipation	V _{CC} =12V	180	mW
Storage Temperature	-	-40 to +125	°C

RECOMMENDED MOUNT PAD (Unit: mm)



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