

REDROCK™ RR110 TMR ANALOG SENSOR



RedRock™ RR110 TMR Analog Sensor

The RedRock 110 Series is an analog magnetic sensor, ideal for use in medical, industrial, automotive, and consumer applications. Based on patented Tunneling Magnetoresistance (TMR) technology, the RR110 Series excels even in low magnetic fields and with large air gaps. The RR110 Series offers high sensitivity in a small footprint package.

Features

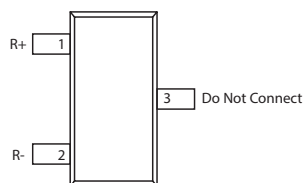
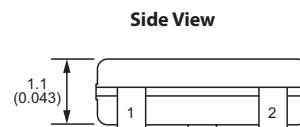
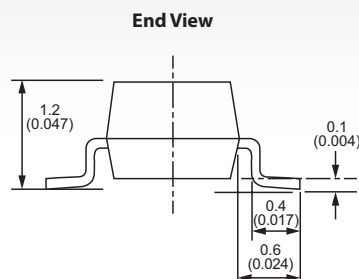
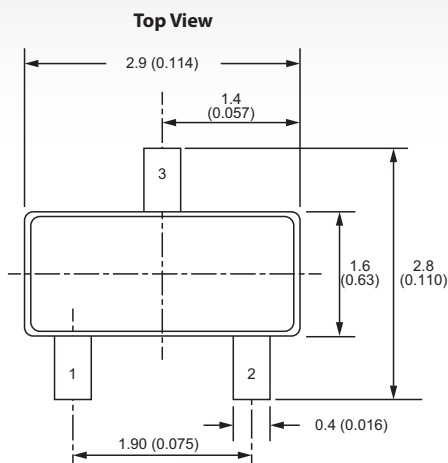
- ▶ High sensitivity
- ▶ Stable temperature performance
- ▶ Resistant to mechanical stress
- ▶ REACH Compliant
- ▶ RoHS Compliant 

IDEAL APPLICATIONS

- ▶ Door or lid closure detection
- ▶ Smart phones, tablets and laptops
- ▶ Proximity detection
- ▶ Position sensing
- ▶ Water, electric and gas meters
- ▶ Fluid level detection

DIMENSIONS

in Millimeters (Inches)



Ordering Information

Part Number	RR110-A X 1 1-0 0	Package	0 - SOT-23
Model Number		Special Feature	0 - N/A
Magneto Resistance (G)		Sensitivity Pattern	1 = Unipolar
A: 25kΩ @ 70 G, 45kΩ @ 10 G			
Temp Rating (°C)			
1 - Industrial (-40~+85)			
Feature			
1 - Default Value			

Distributed by:



rev. 0915016

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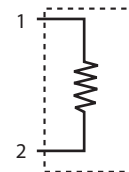
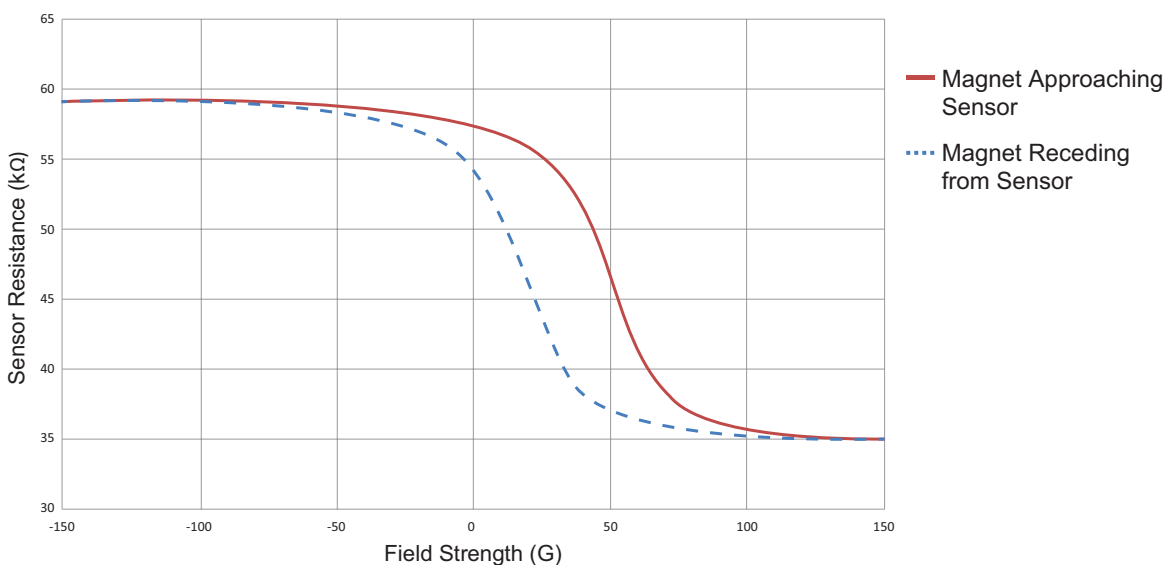
REDROCK™		RR110		
Parameters ¹	Units	Min	Typ	Max
OPERATING CHARACTERISTICS²				
Resistance @70 Gauss	kΩ		25	
Resistance @10 Gauss	kΩ		45	
Operate Time	nS		600	
Release Time	nS		600	
ELECTRICAL CHARACTERISTICS				
Supply Voltage	V _{cc}			15
Operating Current	mA			1
ABSOLUTE ENVIRONMENTAL RATINGS				
Operating Temperature: Industrial	°C	-40		85
Storage Temperature	°C	-55		150
Soldering Temperature (3 cycles of 1 min.)	°C			260
Operating Magnetic Field	G			100
ESD Level (HBM) ³	V			N/A

Notes:

1. Contact factory for more information on additional product offerings.
2. All characteristics as measured at 25°C
3. **ESD PRECAUTIONS MUST BE USED WHEN HANDLING.**

MAGNETIC SENSITIVITY TRANSFER CURVE

The magnetic sensitivity transfer curve illustrates the characteristic behavior of an analog TMR sensor's resistance change as the strength of an applied magnetic field changes. The magnet approach curve (red line) shows the change in resistance as the strength of an applied magnetic field increases. The magnet recede curve (blue dashed line) shows the change in resistance as the strength of an applied magnetic field decreases. Alternatively, you can think of the resistance going down the red slope as a magnet approaches the sensor, and going up the blue dashed slope as the magnet moves further away from the sensor.



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