

HIGH TEMPERATURE MAGNETIC SENSORS

HTMC1001D HTMC1021D

APPLICATIONS*

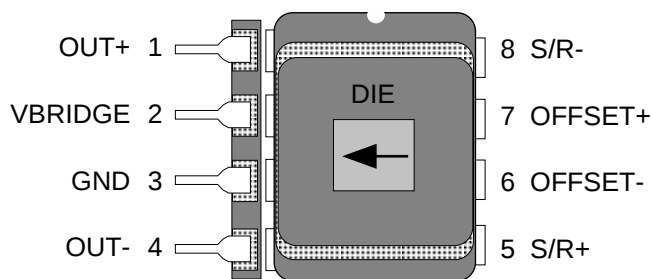
- Down-Hole Compassing/Heading Sensing
- Replace Expensive Fluxgate Sensors
- Proximity Sensing
- Position/Angle Sensing
- Replace Hall Effect Sensors
- Signal Transformation (Isolation)
- Current Measurement

*See HMC1001/2 1021/2 Family data sheet for more information

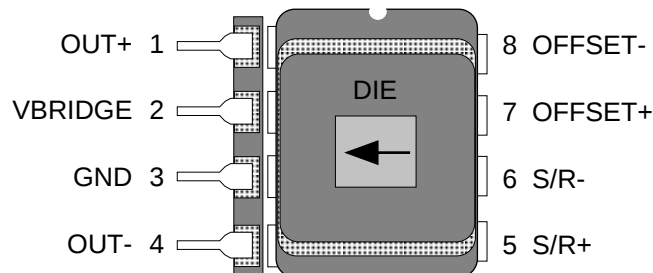
FEATURES

- Ceramic Dip Package
- Reliable For -55 to +225°C Operation
- ± 2 Gauss Field Range (HTMC1001D)
 ± 6 Gauss Field Range (HTMC1021D)
- 1mV/V/Oersted Sensitivity (Room Temp)
- Patented On-Chip Straps Require Low Voltage Set/Reset Pulse

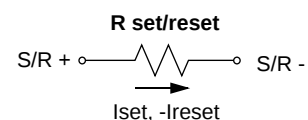
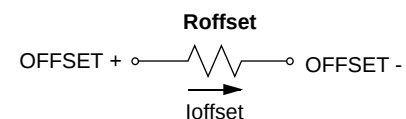
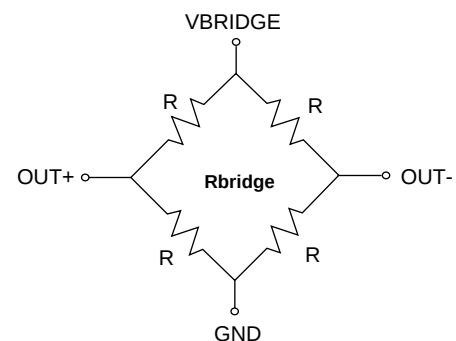
HTMC 1001D PINOUT / PACKAGE



HTMC 1021D PINOUT / PACKAGE



MR SENSOR CIRCUIT



Not actual size

HTMC1001/2D

SPECIFICATIONS

Characteristic	Conditions	HTMC1001D Typical	HTMC1021D Typical	Unit
Bridge Supply	Vbridge referenced to GND	5	5	Volts
Bridge Resistance*	Bridge current = 5mA	850	1100	Ω
Operating Temperature	Ambient	-55 to 225° C	-55 to 225° C	° C
Storage Temperature	Ambient, unbiased	250° C	250° C	° C
Field Range*	Full scale (FS) — total applied field	± 2	± 6	gauss
Linearity Error*	Best fit straight line (at 25° C) ± 1 gauss ± 2 gauss ± 6 gauss	0.1 1 NA	0.05 0.4 1.6	%FS
Hysteresis Error*	3 sweeps across ± 3 gauss @ 25° C	0.05	0.08	%FS
Repeatability Error*	3 sweeps across ± 3 gauss @ 25° C	0.05	0.08	%FS
Bridge Offset*	Offset = (OUT+) - (OUT-), Field=0 gauss after Set pulse, Vbridge=5V	± 20	± 2.5	mV
Sensitivity*	At Vbridge=5V	3.2	1.0	mV/V/gauss
Resolution*	Bandwidth=10Hz, Vbridge=5V	27	85	μ gauss
Bandwidth*	Magnetic signal (lower limit = DC)	5	5	MHz
OFFSET Strap*	Measured from OFFSET+ to OFFSET-	2.5	50	Ω
OFFSET Strap Ω Tempco	TA = -55 to +225° C	3900	3900	ppm/° C
OFFSET Field*	Field applied in sensitive direction	51	4.6	mA/gauss
Set/Reset Strap*	Measured from S/R+ to S/R-	1.5	7.7	Ω
Set/Reset Current*	Current at 0.1% duty cycle, or less	3.2	0.5	Amp
Disturbing Field*	Sensitivity starts to degrade. Use S/R pulse to restore sensitivity.	3	20	gauss
Sensitivity Tempco	TA = -55 to +225° C Vbridge=5V Ibridge=5mA	-3000 -600	-3000 -600	ppm/° C
Bridge Offset Tempco	TA = -55 to +225° C Ibridge=5mA no Set/Reset with Set/Reset	± 300 ± 10	± 500 ± 10	ppm/° C
Resistance Tempco	Vbridge = 5V, -55 to +225° C	2500	2500	ppm/° C

*Temperature is 25°C unless otherwise specified.

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