Melexis
INSPIRED ENGINEERING

The hammerhead shark is able to detect electronic signals of no more than half a billionth of a volt. The process uses specialized electroreceptors to detect and locate the source of an external electric field in its environment. What better animal to reflect our sensing capacities?

MLX92215

3-WIRE HALL EFFECT LATCH

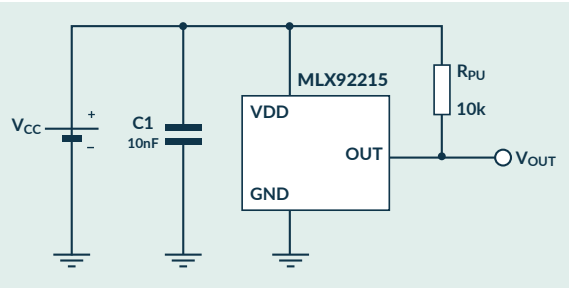
MELEXIS 3-WIRE HALL-EFFECT LATCH FOR CONSUMER AND INDUSTRIAL

The MLX92215 is the second-generation Hall-effect latch designed in mixed-signal CMOS technology. The device integrates a voltage regulator, a Hall sensor with an advanced offset cancellation system and an open-drain output driver, all in a single package.

KEY FEATURES

- Wide operating voltage range: 2.7 V to 24 V
- Chopper-stabilized amplifier stage
- Built-in negative temperature coefficient
- Reverse supply voltage protection
- High ESD rating/good EMC performance
- Standard package TO92-3L/TSOT-23

APPLICATION CIRCUIT



APPLICATIONS

- 3-phase BLDC motor commutation
- E-Bike
- Motorcycles
- Vacuum cleaner
- Solid-state switch
- Flow meter

MAGNETIC BEHAVIOR

MLX92215LSE-AAA-000 / MLX92215LUA-AAA-000

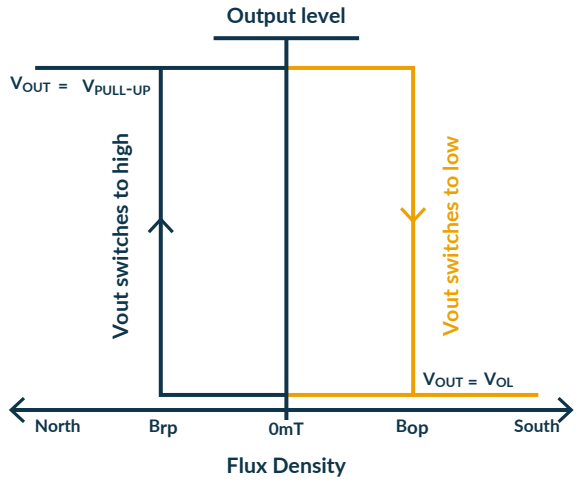
DC Operating Parameters V_{DD} = 3.8V to 24V, T_a = -40°C to 150°C

Test Condition	Operating Point B_{OP} (mT)			Release Point B_{RP} (mT)			TC (ppm/°C)	Active Pole
	Min	Typ(1)	Max	Min	Typ(1)	Max	Typ(1)	
T_J = -40°C	1.0	3.2	5.0	-5.0	-3.2	-1.0	-1100	South Pole
T_J = 25°C	1.0	3.0	5.0	-5.0	-3.0	-1.0		
T_J = 150°C	0.5	2.6	5.0	-5.0	-2.6	-0.5		

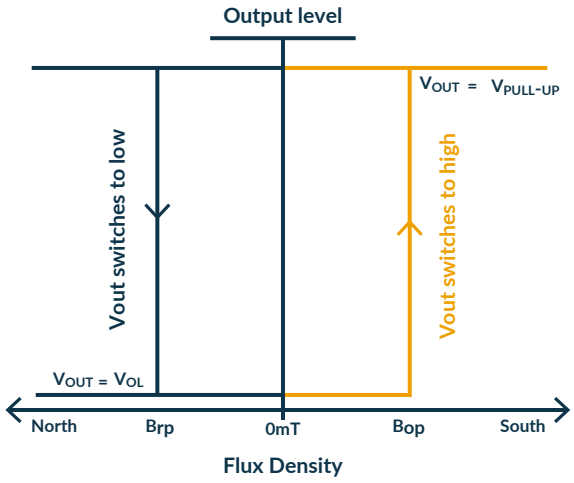
MLX92215LSE-ACA-000

DC Operating Parameters V_{DD} = 3.8V to 24V, T_a = -40°C to 150°C

Test Condition	Operating Point B_{OP} (mT)			Release Point B_{RP} (mT)			TC (ppm/°C)	Active Pole
	Min	Typ(1)	Max	Min	Typ(1)	Max	Typ(1)	
T_J = -40°C	1.2	3.2	5.5	-5.5	-3.2	-1.2	-2000	North Pole
T_J = 25°C	1.0	2.8	4.7	-4.7	-2.8	-1.0		
T_J = 150°C	0.5	2.1	4.2	-4.2	-2.1	-0.5		



South active pole



North active pole

(1) Typical values are defined at TA = +25°C and VDD = 12V

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