

# Automotive Ratiometric Linear Hall-Effect Sensor

The AH49FQ is an automotive-compliant, ratiometric, linear Hall-effect sensor qualified to AEC-Q100 grade 2, and supporting ambient temperatures from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

It operates across the 3V to 8V supply range with a maximum magnetic field sense range of  $\pm 800\text{G}$  suitable for many automotive applications.

The AH49FQ provides improved temperature stability and accuracy with low noise output, which requires no additional external filtering components.

The AH49FQ has an ESD rating of 3kV for human body model (HBM) and 2kV for charged device model (CDM), increasing robustness.

It is available in the SC59 package.



## The DIODES Advantage

The AH49FQ provides a low-voltage, high-sensitivity solution for a wide range of automotive applications requiring magnetic flux measurements.

- **Low-Power Linear Hall Sensor**  
3mA at  $V_{CC}=5\text{V}$  for energy efficiency
- **3V to 8V Operating Voltage Range**  
Direct operation from automotive 3.3V and 5V voltage rails
- **High 2.1mV/G Sensitivity with High Accuracy**  
Sensitivity with accuracy of  $\pm 19\%$
- **High 3kV HBM and 2kV CDM ESD Ratings**  
Robust and reliable magnetic flux detection
- **AEC-Q100 Grade 2 Qualified**  
Provides a flexible solution for different automotive application needs

## Applications

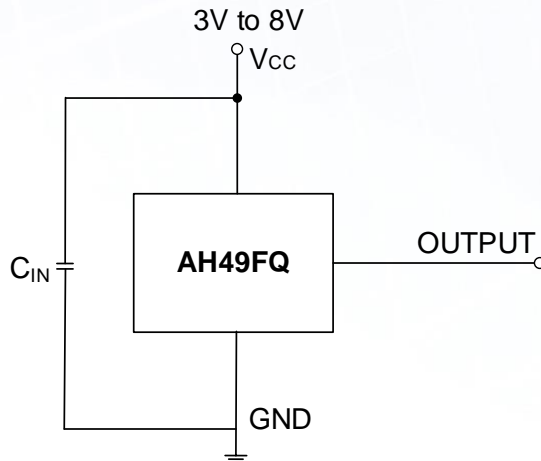
- Automotive position sensing
- Rotary encoders
- Liquid level sensing
- Motor controls
- Current sensing

Automotive-compliant – AEC-Q100 qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation.

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### Typical Application Schematic



### Product Portfolio

Part Number	Operating Voltage	Typical Supply Current	Typical Sensitivity	Sensitivity Accuracy at 25°C	Linear Magnetic Range	Output Voltage Span	V <sub>Null</sub> (B = 0G)	Operating Temperature Range	Package
	V	mA	mV/Gauss	%	Gauss	V	V	°C	
<a href="#">AH49FQ</a>	3.0 to 8.0	3.0	2.1	19	±800	0.8 to V <sub>CC</sub> -0.8	V <sub>CC</sub> /2	-40 to +105	SC59

### Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Packaging	Packaging Code	Moisture Sensitivity	Carrier	
					Quantity	Reel Size
<a href="#">AH49FQ-W-7</a>	<a href="#">Automotive</a>	SC59	W	MSL-1	3,000	7" Tape & Reel