Hall Effect Current Sensor 30A

The ACS712 provides economical and precise solutions for AC or DC current sensing in industrial, commercial, and communications systems. The device package allows for easy implementation by the customer. Typical applications include motor control, load detection and management, switch mode power supplies, and overcurrent fault protection. The device is not intended for automotive applications.

Features

- On board power indicator.
- Output voltage proportional to AC or DC currents.
- 1.2mΩ internal conductor resistance.
- No test current through the output voltage is Vcc/2..
- ACS12ELC-30A sensor chipset.
- Measures -30 to +30A current, corresponding simulation output 100mV/A.

Applications

- Motor control.
- Switch mode power supplies.
- Load detection and management.

Specifications

Parameter	Value
Operating voltage	+5v DC
bandwidth	80kHz
Output sensitivity	66-185mV/A

Pin Specification

Pin	Name	Details
1	vcc	Power supply
2	out	output
3	GND	ground

Working

The ACS712 provides economical and precise solutions for AC or DC current sensing in industrial, commercial, and communications systems. The device package allows for easy implementation. Typical applications include motor control, load detection and management, switch mode power supplies, and overcurrent fault protection. The device is not intended for automotive applications. The device consists of a precise, low-offset, linear Hall circuit with a copper conduction path located near the surface of the die. Applied current flowing through this copper conduction path generates a magnetic field which the Hall IC converts into a proportional voltage. Device accuracy is optimized through the close proximity of the magnetic signal to the Hall transducer. A precise, proportional voltage is provided by the low-offset, chopper-stabilized BiCMOS Hall IC, which is programmed for accuracy after packaging. The output of the device has a positive slope (>VIOUT(Q)) when an increasing current flows through the primary copper conduction path (from pins 1 and 2, to pins 3 and 4), which is the path used for current sampling. The internal resistance of this conductive path is 1.2 mΩ typical, providing low power loss. The thickness of the copper conductor allows survival of the device at up to 5× overcurrent conditions.

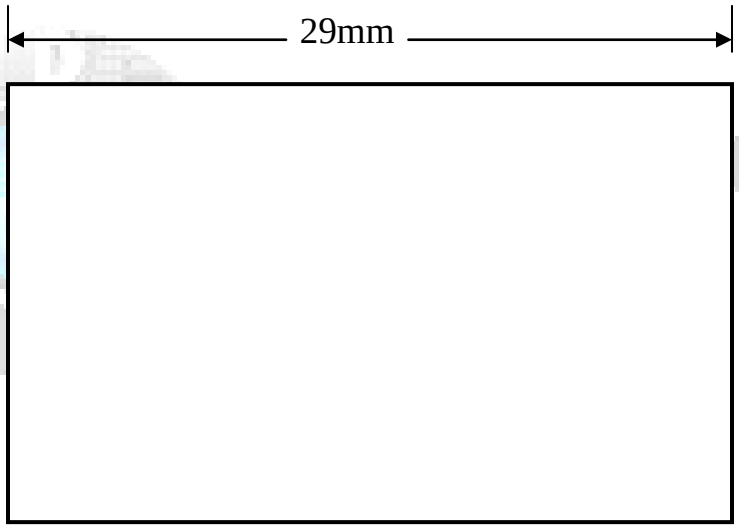
The terminals of the conductive path are electrically isolated from the signal leads (pins 5 through 8). This allows the ACS712 to be used in applications requiring electrical isolation without the use of opto-isolators or other costly isolation techniques.

Sample Application

To view sample code and schematic click the below link:

http://researchdesignlab.com/index.php/sensors/hall-effect-current-sensor-30a.html

Board Dimensions



To buy this product click the below link:

http://researchdesignlab.com/index.php/sensors/hall-effect-current-sensor-30a.html

To view the complete datasheet of ACS712 used in hall effect sensor click the below link:

http://forum.researchdesignlab.com/datasheet/ACS712