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SS40F

Actual product appearance may vary.

SS40F Low-Cost Enhanced Bipolar Hall-Effect Digital Position Sensor; radial lead IC package, factory tested at 25 °C [77 °F]

Features

Miniature construction: 3.0 mm x 4.0 mm [0.12 in x 0.16 in] plastic package
Power consumption of only 5 mA max at 4.5 Vdc for energy efficiency
Bipolar magnetics for ring magnet applications
High speed: operates from 0 kHz to over 100 kH
High output current capability
Broad temperature range of -40 °C to 125 °C [-40 °F to 257 °F]
Built-in reverse polarity protection

Potential Applications

Speed and RPM (revolutions per minute sensing
Brushless dc (direct current) motor commutation
Motor and fan control
Tachometer, counter pickup
Flow rate sensing

Description

The SS40F/SS40G Enhanced Low-Cost Bipolar Hall Effect Sensors are small, versatile digital Hall-effect devices that are operated by the magnetic field from a permanent magnet or an electromagnet. These products are designed to provide a level of compensation for magnetic changes over a range of temperatures. The bipolar magnetics respond to alternating North and South poles. A built-in regulator provides enhanced stability of operation over 4.5 Vdc to 24 Vdc supply voltage range, and internal circuitry is designed to prevent sensor damage in case the supply voltage polarity is accidentally reversed. The open-collector sinking output voltage is easily interfaced with a wide variety of electronic circuits. The SS40F is factory tested at 25 °C [77 °F] and the SS40G is factory tested at both 25 °C [77 °F] and 125°C [257 °F]. Products ordered in bulk packaging (plastic bags) may not have perfectly straight leads as a result of normal handling and shipping operations. Please order tape packaging option for applications with critical lead straightness requirements.

Supporting Documentation

Engineering Drawing

Product Specifications	
Product Type	Hall - Effect Digital Position Sensor IC
Package Quantity/Type	Available in 1,000/Bag
Package Style	Radial Lead IC
Supply Voltage	3.8 Vdc to 30.0 Vdc
Output Type	Sink
Termination Type	PC Board
Magnetic Actuation Type	Bipolar
Operating Temperature Range	- 40 °C to 125 °C [- 40 °F to 257 ° F]
Storage Temperature	- 55 °C to 165 °C [- 67 °F to 329 ° F]
Output Voltage	0.4 Vdc max.
Switching Time Rise (10 % to 90 %)	1.5 µ s max.
Switching Time Fall (90 % to 10 %)	1.5 µ s max.
Availability	Global
Supply Current (max. @ 25 °C)	10 mA
Output Current (max.)	20 mA
Operate Point @ 25 °C	11.0 mT [110 G] max.
Release Point @ 25 °C	- 11.0 mT [- 110 G] min.
Leakage Current max.	1 µ A
Differential	5.0 mT [50 G] min.
Series Name	SS40

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