

MH284 provides a one-chip solution for 3-wire fan with two unipolar coil windings. The chip contains the Hall-effect sensor, dynamic offset correction, power drivers and a pair of complementary open-drain outputs (DO, DOB). The output drivers pins are fully protected against switching transients.

While the magnetic flux density (B) is larger than operate point (Bop), DO will turn on (low), and meanwhile DOB will turn off (high). Each output is latched until B is lower than release point (Brp), and then DO, DOB transfer each state.

For DC fan application, sometimes need to test power reverse connection condition. Internal diode only protects chip-side but not for coil-side. If necessary, add one external diode to block the reverse current from coil-side

MH284KVK is rated for operation between the ambient temperatures -40°C and 125°C for the K temperature range. MH284EVK is rated for operation between the ambient temperatures -40°C and 85°C for the E temperature range. The package is available provided magnetically optimized solutions for most applications. Package VK is a four-lead ultra mini SIP for through-hole mounting. the Thermal shut-down function is integrated as well for better protection.

The package type is in a Halogen Free version has been verified by third party Lab.


Features and Benefits

- One Chip Hall sensor solution
- High sensitivity Hall sensor
- Locked rotor shutdown and auto-restart
- Power-efficient CMOS and power MOSFETS.
- Built-in Zener diodes protect outputs
- 2.5V to 20V operating voltage
- Peak currents up to 1200mA
- Thermal shutdown
- RoHS compliant 2011/65/EU and Halogen Free

Applications

- Dual-coil Brush-less DC Motor
- Dual-coil Brush-less DC Fan
- Revolution Counting
- Speed Measurement

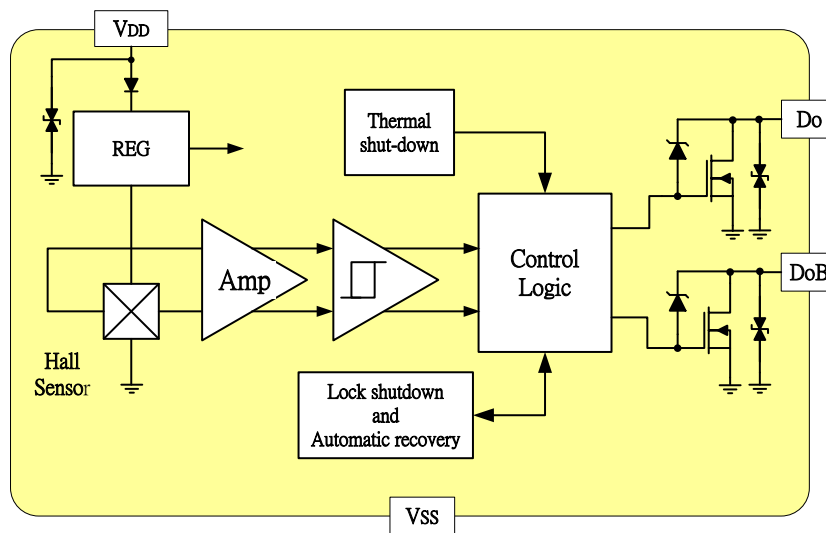
Ordering Information

	Company Name and Product Category MH:MST Hall Effect/MP:MST Power IC
Sorting Code	Part number 181,182,183,184,185,248,249,276,477,381,381F,381R,382..... If part # is just 3 digits, the fourth digit will be omitted.
Package type	Temperature range E: 85 °C, I: 105 °C, K: 125 °C, L: 150 °C
Temperature Code	Package type UA:TO-92S,VK:TO-92S(4pin),VF:TO-92S(5pin),SO:SOT-23, SQ:QFN-3,ST:TSOT-23,SN:SOT-553,SF:SOT-89(5pin), SS:TSOT-26,SD:DFN-6
Part number	Sorting α, β, Blank.....
Company Name and product Category	

Part No.	Temperature Suffix	Package Type
MH284KVK	K(-40°C to + 125°C)	VK (4-pin TO-92S)
MH284EVK	E (-40°C to + 85°C)	VK (4-pin TO-92S)

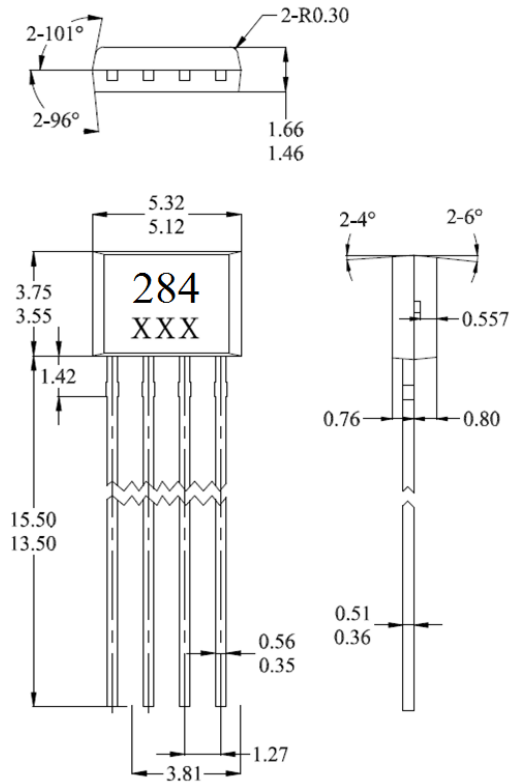
Custom sensitivity selection is available by MST sorting technology

Functional Diagram



Sensor Location, package dimension and marking

VK Package (To-92 4 pins)

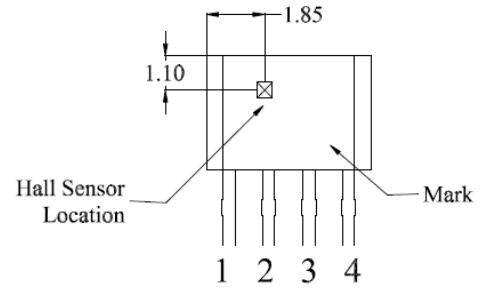


NOTES:

- 1).Controlling dimension: mm
- 2).Leads must be free of flash and plating voids
- 3).Do not bend leads within 1 mm of lead to package interface.
- 4).PINOUT:

Pin 1	V _{DD}
Pin 2	Do
Pin 3	DoB
Pin 4	GND

Hall Chip location



Output Pin Assignment

