

Magnetic Sensor IC

Unipolar Detection High Performance Hall-Effect Sensor IC



AS1793

● General Description

Using BiCMOS process, the AS1793 is designed for high performance unipolar detection hall-effect application, such as home appliances, rotor position sensing, brushless DC motor etc. The hall IC integrated an on-chip hall voltage generator for magnetic sensing, a comparator that amplifiers the hall voltage, hall sensor with dynamic offset cancellation system, an pull-up resistance, and a Schmitt trigger to provide switching hysteresis for noise rejection, and a voltage regulator for operation with supply voltage of 2.8V to 25V.

AS1793 is designed to respond to alternating North or South poles. While the magnetic flux density (B) is larger than operate point (B_{OP}), the output will be turned on (low), the output is held until the magnetic flux density (B) is lower than release point (B_{RP}), then turn off (high).

The device is available in SIP-3L, SSOT23-3L, SOT89-3L and SOT23-3L Package and is rated over the -40°C to 150°C. the package is RoHS compliant.

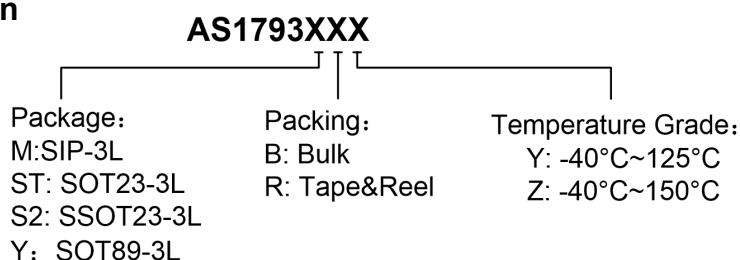
● Features

- High Performance BiCMOS Process Tech.
- Input Voltage Range : 2.8V to 25V
- Resistant to physical stress
- Unipolar Latch Operation
- High Sensitivity Hall Sensor
- High Chopping Frequency
- Magnetic Sensitivity (typical)
 $B_{OP}=40\text{Gauss}$, $B_{RP}=30\text{Gauss}$
- Need Pull-up Resistance
- Reverse Voltage Protection: -25V
- Over Voltage Protection: 30V
- Small Solution Size
- RoHS Compliant
- SIP-3L, SSOT23-3L, SOT89-3L and SOT23-3L Packages
- -40°C to +150°C Temperature Range

● Applications

- Electric Tools
- Automotive, Home appliances, Industrial
- Rotor Position Sensing and Flow Meters
- Brushless DC Motor/Fan
- Speed Measurement
- Revolution Counting
- Valve and Solenoid Status
- Proximity Sensing
- Tachometers

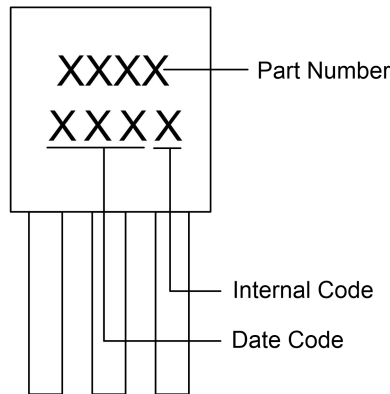
■ Ordering Information



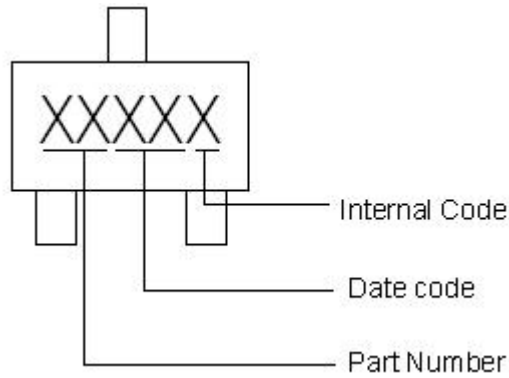
Part Number	B_{OP} (Gauss)	B_{RP} (Gauss)	Package Type	Package Qty	Temperature	Eco Plan
AS1793MBY	+40	+30	SIP-3L	1K/Package	-40~125°C	RoHS
AS1793STRY	-40	-30	SOT23-3L	7-in reel 3000pcs/reel	-40~125°C	RoHS
AS1793S2RY	+40	+30	SSOT23-3L	7-in reel 3000pcs/reel	-40~125°C	RoHS
AS1793YRY	+40	+30	SOT89-3L	7-in reel 1000pcs/reel	-40~125°C	RoHS
AS1793MBZ	+40	+30	SIP-3L	1K/Package	-40~150°C	RoHS
AS1793STRZ	-40	-30	SOT23-3L	7-in reel 3000pcs/reel	-40~150°C	RoHS
AS1793S2RZ	+40	+30	SSOT23-3L	7-in reel 3000pcs/reel	-40~150°C	RoHS
AS1793YRZ	+40	+30	SOT89-3L	7-in reel 1000pcs/reel	-40~150°C	RoHS

■ **Marking Information**

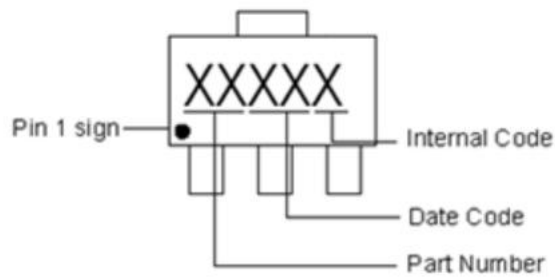
SIP-3L:



SOT23-3L/SSOT23-3L:



SOT89-3L:



■ **Typical Application Circuit**

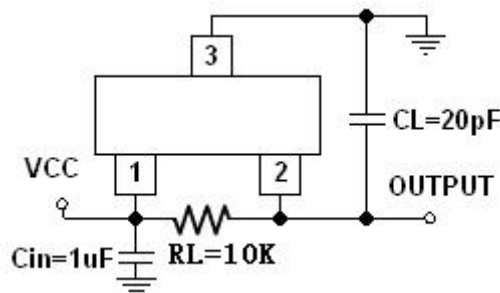
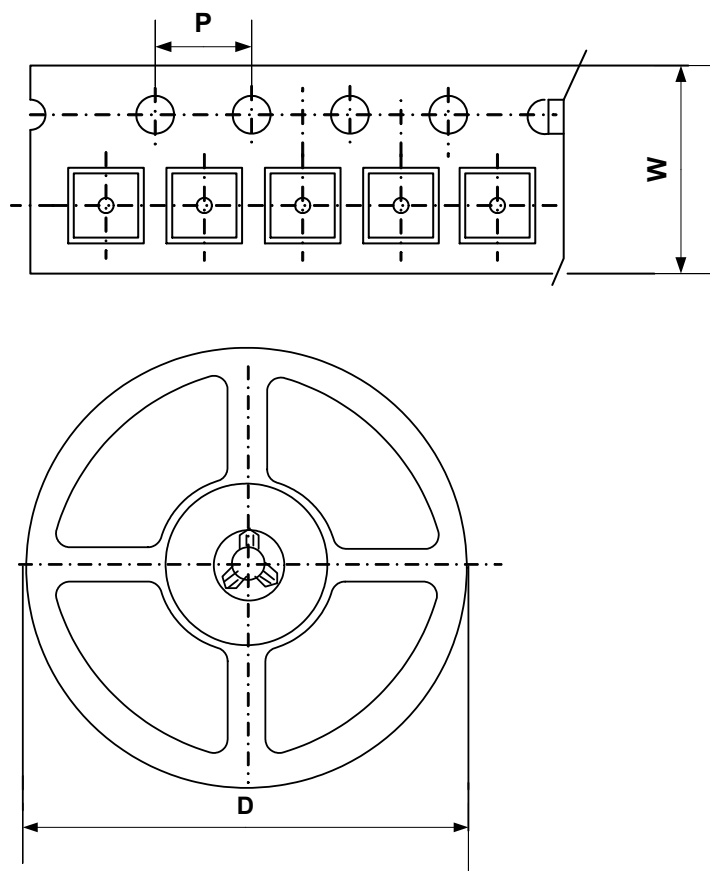


Figure 1, Typical Application Circuit of AS1793

■ **Packing Information**

SOT23-3L/SSOT23-3L/SOT89-3L:



Package Type	Carrier Width (W)	Pitch (P)	Reel Size(D)	Packing Minimum
SOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
SSOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs
SOT89-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	1000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum

■ **Packing Information**

SIP-3L

1. Packing type: Bulk
2. Packing minimum: 1000pcs