



New Product Announcement

AH5792

AH5792 smart fan driver with internal Hall sensor for single phase brushless DC motor

Description

The AH5792 is a highly integrated single chip solution for driving single-phase brushless DC (BLDC) fans and motors.

The AH5792 has an integrated bidirectional full bridge driver output stage for single coil fan motor applications. The device includes features such as Rotor Lock Protection, with rotor lock detection and automatic self-restart, to avoid damage to the coil when the rotor is locked.

The AH5792 provides open-drain frequency generator (Tachometer) pin, FG, which makes it easier to interface with external hardware for status and speed monitoring purposes. The FG frequency is half (1/2) the magnetic change frequency.

The AH5792 is now available in SOT89-5L in addition to SOT553.



The Diodes advantage

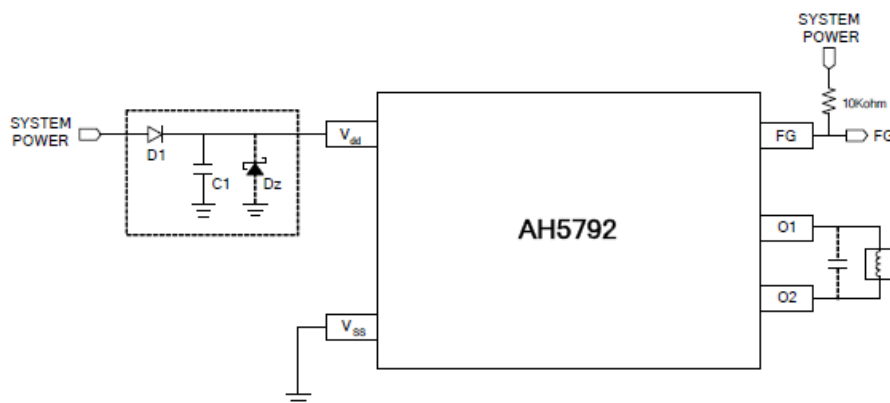
The AH5792 provides highly integrated yet simple low cost effective solution for cooling fans and motor drives

- **Built-in Hall sensor and amplifier**
All-in-one integrated solution drastically reduces external component count.
- **Integrated bidirectional full bridge driver**
Supports source and sink current for single phase motor driver operation up to 300mA average load current.
No external driver components – reduced PCB area
- **Lock detection and automatic self-start, without external capacitor**
Protects coil from over-heating or burn-out during motor/fan lockout
Reduces number of external components
- **Packages: SOT895-L and SOT553** (Available in “Green” Moulding Compound)
Provides low pin count SMT BLDC fans/motor driver
Improved thermal performance and higher current with SOT89-5L
Low profile small footprint with SOT553 for space constrained needs

Applications

- 3.3/5V BLDC cooling fan LED driving
- Low voltage/low power BLDC motors
- Micro-vibrating motors

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Electrical characteristics

| Part Number | Operating Voltage (V) | Average output current (mA) | IC supply current (mA) | Operating Point Bop (Gauss) | Release Point Brp (Gauss) | Operating Temperature (°C) | Package |
|--------------|-----------------------|-----------------------------|------------------------|-----------------------------|---------------------------|----------------------------|----------|
| AH5792-ZG-7 | 1.8 to 5 | 200 | 3.5 | 50/10 | -10/-50 | -40 to 100 | SOT553 |
| AH5792-YG-13 | 1.8 to 5 | 300 | 3.5 | 50/10 | -10/-50 | -40 to 100 | SOT89-5L |

To find out more information:

Product page: <http://www.diodes.com/products/catalog/list.php?parent-id=117>

Datasheet: <http://www.diodes.com/datasheets/AH5792.pdf>



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Product portfolio

| Part Number | Operating Voltage (V) | Average Output current (mA) | Operating Point Bop (Gauss) | Release Point Brp (Gauss) | Operating Temperature (°C) | Package |
|-------------|-----------------------|-----------------------------|-----------------------------|---------------------------|----------------------------|--------------------|
| AH284 | 3.8 to 20 | 500 | 5/60 | -5/-60 | -40 to 100 | SOT89-5L |
| AH285 | 3.8 to 20 | 500 | 5/60 | -5/-60 | -40 to 100 | SOT89-5L |
| AH286 | 3.8 to 20 | 500 | 5/60 | -5/-60 | -40 to 100 | SOT89-5L |
| AH287 | 3.8 to 28 | 400 | 5/60 | -5/-60 | -40 to 100 | SIP4-L SOT89-5L |
| AH288 | 3.8 to 28 | 400 | 5/60 | -5/-60 | -40 to 100 | SOT89-5L |
| AH289 | 3.8 to 28 | 400 | 5/60 | -5/-60 | -40 to 100 | SOT89-5L |
| AH291 | 1.8 to 5.75 | 400 | 5/60 | -5/-60 | -20 to 100 | SIP4-L |
| AH292 | 1.8 to 5.75 | 400 | 5/60 | -5/-60 | -20 to 100 | SOT89-5L |
| AH293 | 1.8 to 5.75 | 400 | 5/60 | -5/-60 | -20 to 100 | SOT89-5L |
| AH2984 | 3.8 to 20 | 400 | 5/60 | -5/-60 | -40 to 100 | SIP4-L |
| AH5771 | 2.5 to 15 | 400 | 10/50 | -10/-50 | -40 to 100 | SIP4-L |
| AH5792 | 1.8 to 5 | 200 300 | 5/60 | -5/-60 | -40 to 100 | SOT553 SOT89-5L |

Ordering information

| Device | Packaging | Pack mark | Reel size | Tape width | Quantity |
|--------------|-----------|-----------|-----------|------------|----------|
| AH5792-ZG-7 | SOT553 | KE YWX | 7" 178mm | 8mm | 3000 |
| AH5792-YG-13 | SOT89-5L | KF YWX | 13" 330mm | 12mm | 2500 |

All variants are in packages that are "Green" Molding Compound (No Br, Sb) with Lead Free Finish/RoHS Compliant (Note 1)

- Notes: 1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. see *EU Directive 2002/95/EC Annex Notes*.
Please visit our website at http://www.diodes.com/products/lead_free.html
2. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

Codes for date coding on part marks

Y Year 0~9 W A~Z week 1~26 a~z week 27~53

X A~Z: Green