

## 24V Low Noise Fan Motor Driver with Direct PWM Input

### DESCRIPTION

EUM6890R/S is a fan motor driver for the single coil brushless DC motor. It integrates minimum speed mode, adjustable speed slope control mode, soft start mode, stop mode, fan tachometer, lock protection, auto restart, noise controlled mode, phase advance/delay function, speed slope control compensation, OCP and TSD.

Noise control mode optimizes low noise performance with a SW pin's resistor according to different requirements, and can drive the BLDC fan motor in low noise and low vibration. Phase advance/delay function can adjust the saddle current curve and further optimize the rotation noise and driving efficiency. Speed slope control compensation can compensate fan motor whose speed curve is not linear. Minimum speed mode can set minimum motor speed by presetting RMIN voltage. Stop speed mode can set stop PWM duty by presetting STOP voltage. The adjustable speed slope control mode can set fan speed slope by presetting SL voltage. Soft start suppresses high peak start-up current, which will also provide a reliable start-up even for low rotation speed. If the motor is stalled by external force or obstacles, overdrive current may incur coil overheat. To prevent this, lock protection circuit can shut down the internal power devices for a few seconds after motor lockup. Then auto restart circuit will try to power up these devices. EUM6890R/S has FG/ RD/ 1/2FG output.

### FEATURES

- Phase Advance/Delay Function
- Speed Slope Control Compensation
- Fan Speed Slope Control
- Built in Input Surge Protection, No Zener Diode Need
- Few External Components
- External Programmable Soft Start and Soft Restart Function
- Wide Input Range 3.0V~30V
- Direct PWM Fan Speed Control
- Programmable Minimum Fan Speed (EUM6890R only)
- Noise Control by an External Resistor
- Stop Mode PWM Duty Adjustable (EUM6890S only)
- Lock Protection and Auto Restart
- Built in Hall Bias
- Fan Rotation Speed Feedback FG Output
- Available in TSSOP-16(EP) Package
- RoHS Compliant and 100% Lead (Pb)-Free Halogen-Free

### APPLICATIONS

- PC/Server Fan Motor, Printer Cooling Fan and Frequency Converter Coolers

### Application Circuit

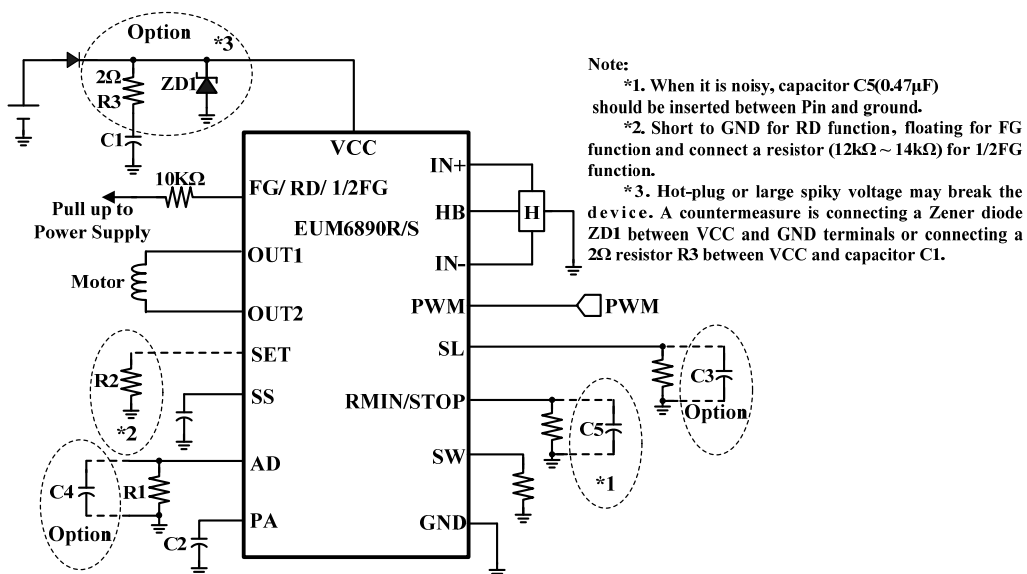


Figure 1. Typical Application Circuit