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A4942: Three-Phase Sensorless Fan Driver

The A4942 three phase motor driver incorporates BEMF sensing to eliminate the requirement for Hall sensors in fan applications.

A closed loop speed control system is integrated into the IC. This allows accurate setting of maximum and minimum speeds via selection of external resistors. The speed is controlled by duty cycle demand applied to the PWM input.

The PWM input is allowed to operate over a wide frequency range.

Current limiting is integrated to allow saving the cost and PCB space of an external sense resistor. The current limit function includes an adjustable soft start to minimize load on the power supply while the fan is ramping up to speed.

The A4942 is supplied in a 20-contact 4 mm × 4 mm QFN package (suffix ES) with exposed pad for enhanced thermal dissipation. The package is lead (Pb) free, with 100% matte tin leadframe plating.

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FEATURES & BENEFITS

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NEWS

- Sensorless (no Hall sensors required)
- Closed loop speed control
- Minimal external components
- PWM speed input
- FG speed output
- Lock detection
- Soft start
- Overcurrent protection
- Soft switching for reduced audible noise

Product Image


[Click the image to view larger](#)

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Part Number Specifications and Availability

Part Number	Package Type	Temperature	RoHS Compliant	Part Composition / RoHS Data	Comments	Samples	Check Distributor Stock
A4942GESTR-T	20-lead QFN	-40 ° C to 105 ° C	Yes	View Data	New	Contact your local sales rep	Check Distributor Stock

Allegro's products are not to be used in life support devices or systems, if a failure of an Allegro product can reasonably be expected to cause the failure of that life support device or system, or to affect the safety or effectiveness of that device or system.