AMT49400: Integrated Sensorless FOC BLDC Driver

The AMT49400 is an advanced 3-phase, sensorless, brushless DC (BLDC) motor driver with integrated power MOSFETs.

A minimal application circuit can be achieved with only two external components due to device's high level of integration, which includes control algorithm, analog circuit, and power stage.

A field-oriented control (FOC) algorithm is fully integrated to achieve the best efficiency and acoustic noise performance. EEPROM programmability is included to optimize motor startup performance.

The motor speed is controlled by applying a duty cycle command to the PWM input. A simple I2C interface is provided for setting motor-rated voltage, rated current, rated speed, resistance, and startup profiles. The I2C interface is also used for on/off control, speed control, and speed readback.

The AMT49400 is available in a very small 10-lead SOIC with exposed pad, (suffix LK).

Featured Applications:
- All-in-One PC & Computer Fans
- Exhaust & Graphical Cooling Fans
- Home Appliance Fans & Pumps

Coding-free sensorless field-oriented control (FOC)
Standby mode current less than 10 μA
Quiet and quick startup
Only two external components for minimal application circuit
PWM speed input, FG speed output
Lock detection
Soft-on soft-off (SOSO)
Optional closed-loop speed control
Configurable current limit
Windmill and reverse windmill operation
Lock detection
Short-circuit protection (OCP)

### Part Number Specifications and Availability

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package Type</th>
<th>Temperature</th>
<th>RoHS Compliant</th>
<th>Part Composition / RoHS Data</th>
<th>Comments</th>
<th>Samples</th>
<th>Check Distributor Stock</th>
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</thead>
<tbody>
<tr>
<td>APEK49400GLK-01-T</td>
<td>DEMO BOARD</td>
<td>-20°C to 85°C</td>
<td>No</td>
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<td>New</td>
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<td>AMT49400GLKATR</td>
<td>10-lead SOIC</td>
<td>-40°C to 105°C</td>
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<td>View Data</td>
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