

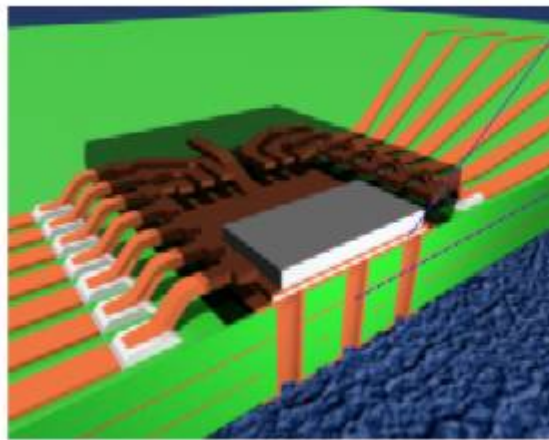


## 3949: DMOS Full-Bridge Motor Driver

Allegro Microsystem's A3949 DMOS Full-Bridge Motor Driver is designed for PWM (pulse width modulated) control of dc motors. The A3949 is capable of peak output currents to  $\pm 2.8$  A and operating voltages to 36V.

PHASE and ENABLE input terminals are provided for use in controlling the speed and direction of a dc motor with externally applied PWM control signals. Internal synchronous rectification control circuitry is provided to reduce power dissipation during PWM operation. Internal circuit protection includes thermal shutdown with hysteresis, undervoltage monitoring of VBB and VCP, and crossover current protection.

## Surface Mount Package - eTSSOP



Die Attach Pad is exposed on backside of package to allow thermal via's to dissipate heat

Thermal via's on PC board connect to thermal ground plane

Result is:

34 degC/W for 16-lead eTSSOP

### KEY FEATURES & CUSTOMER BENEFITS:

- 36V 2.8A Peak DMOS H-Bridge DC motor driver
- SR, 16 pin SOIC
- eTSSOP packages
- OCP and Fault output
- Single-supply operation: simplifies system design

- Operating voltage range (V<sub>bb</sub>) from 8 V to 36 V: works in wide range of applications
- Low rDS(ON): provides 2.8 A operation with low thermal impact
- Phase and Enable control terminals: speed, direction and torque control
- Sleep mode: low current consumption
- Internal synchronous rectification: reduces power dissipation and eliminates need for external clamp diodes
- Small outline, thermally enhanced package: minimizes board space requirements and provides excellent power dissipation

## TARGET MARKET & APPLICATIONS

### Office Automation

- Printers
- Scanners
- Multi-function printers

### Industrial

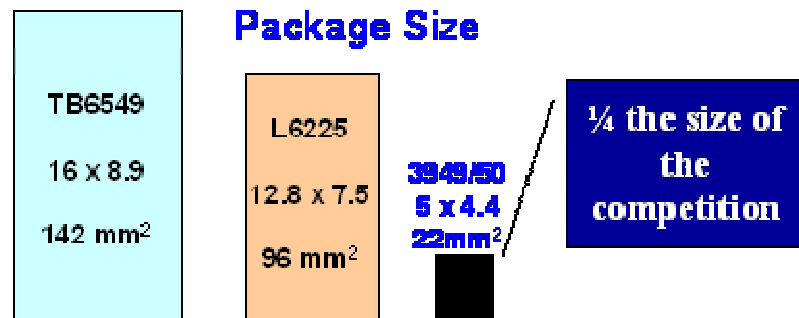
- Factory automation
- Medical equipment

## COMPETITION:

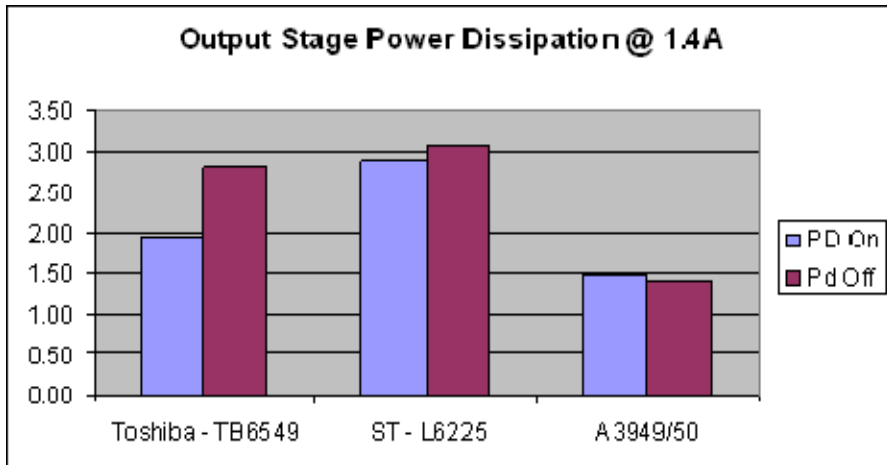
ST's L620x family for single DC motor application (especially L6225) and Toshiba TB6549

The Allegro Microsystem A3949 DMOS Full-Bridge Motor Driver advantage:

### 1. Smaller footprint



### 2. Lower Power Dissipation : ST and Toshiba have similar output ratings, but have 60% - 80% higher power dissipation.



3. Lower cost than ST and Toshiba

4. The A3949 is a thermally enhanced TSSOP(eTSSOP) – The result is 34 degC/W for 16-lead eTSSOP

**LEAD TIME:** 8 to 10 weeks

**DESIGN REGISTERABLE:** Yes (only in China, HK and India)

**\*\*\* Refer to the attached pdf files for Sales Strategy on the A3949 / A3950 \*\*\***

**Note :** A3950 is still under development. Opportunities that require OCP should be sampled with the A3949 and later qualified with the A3950.

For more information, go to: <http://www.allegromicro.com/search/index.asp>

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