

# APPLICATIONS INFORMATION

## *Converting A3952 Applications to Use A3953 Devices*

Applications that use the now-obsolete A3952 DIP or surface mount device packages can easily be converted to use the corresponding A3953 DIP or surface mount device and package. To do so, note and understand the following similarities and differences between the two devices:

1. The A3953SB and the A3953SLB are pin-for-pin identical and functionally the same as the A3952SB and the A3952SLB. Although the A3952 device was rated to 2 A, it was rated to that current level mainly for the 12-pin SIP power-tab package, that allowed for the needed power dissipation. A typical A3952 application using the DIP or surface mount package would most likely have been in the 1 A range or less, corresponding well to the 1.3 A maximum rating of the A3953.
2. The maximum Sense Trip Voltage rating of the A3953 is  $\leq 1.0$  V. This compares to 1.5 V in the A3952.
3. The A3952 had an internal divide-by-10 on the REF input, while the A3953 has approximately a 1-to-1 relationship between REF and the Sense Trip Voltage, thus “requiring” an external divider (see the A3953 data sheet for specifics).
4. During brake operation – MODE input low (slow decay) there is no internal current limiting default in the A3953.

Typical 1 A application drawings for both the A3952SB and A3953SB are provided on the next page for comparison.

The data sheets for the two devices are available on the Allegro MicroSystems Web site at:

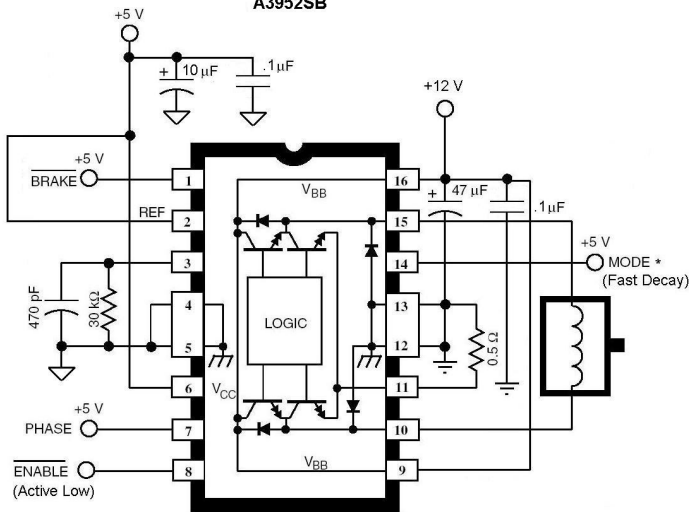
- <http://allegromicro.com/datafile/archive/3952.pdf>
- <http://allegromicro.com/sf/3953/>

Additional technical assistance is available at:  
<http://allegromicro.com/control/techapps.htm>.

# Converting A3952 Applications to Use A3953 Devices

## Typical Application

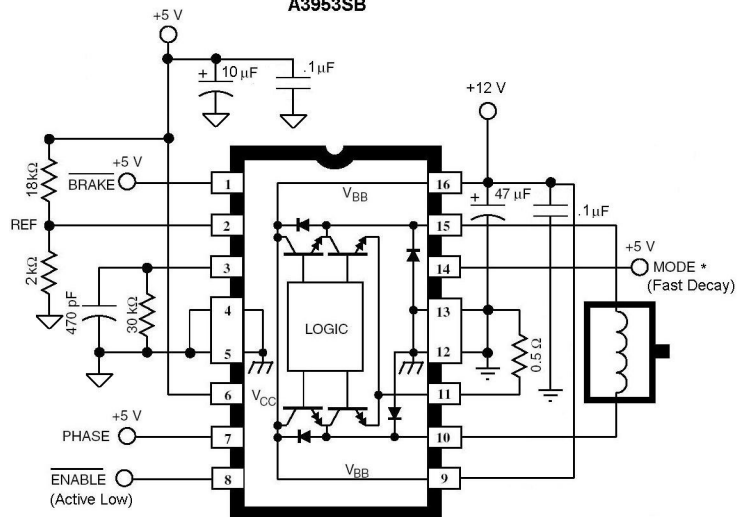
(PWM current limiting set at 1A)  
A3952SB



\*NOTE: If using external PWM Speed Control by toggling the Enable Pin and "Fast Decay" is desired, connect the Enable Pin to the MODE Pin through an inverter to prevent the device from going into and out of "Sleep" mode. MODE = 0V is "Slow Decay".

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