

Motor driver IC operates at up to 28 V

Allegro MicroSystems, LLC introduces a new, flexible microstepping motor driver with a built in translator for easy operation. Allegro's A4992 is a single chip solution designed to operate bipolar stepper motors in full, half, quarter and eighth step modes, at up to 28 V (up to 50 V supply operation). At power-on, the A4992 is configured to drive most small stepper motors with simple step and direction inputs. The A4992 includes stall detect features and advanced diagnostics that can be configured through the serial interface. This new device is targeted at the automotive and industrial markets with end applications to include automotive adaptive headlamp systems, idle bypass valve positioning, HVAC vent position systems, EGR valves and satellite, solar panel and CCTV positioning systems.

The current regulator operates with fixed frequency PWM and uses adaptive mixed current decay to reduce audible motor noise and increase step accuracy. The current in each phase of the motor is controlled through a DMOS full-bridge using synchronous rectification to improve power dissipation. Internal circuits and timers prevent cross conduction and shoot through when switching between high-side and low-side drives.

The outputs are protected from short circuits and features for low load current and stalled rotor detection are included. Chip level protection includes hot thermal warning, over temperature shutdown, overvoltage and under voltage lockout. An optional serial interface mode, using the STEP, DIR and MS inputs, can be used to configure several motor control parameters and diagnostics.

The A4992KLPTR-T is supplied in a 20-pin TSSOP power package with an exposed thermal pad (package type LP). This package is lead (Pb) free with 100% matte-tin lead frame plating. It is priced at \$1.70 in quantities of 1,000.

Further information about Allegro can be found at www.allegromicro.com [1].

Source URL (retrieved on 12/22/2014 - 12:16pm):

<http://www.ecnmag.com/product-releases/2013/10/motor-driver-ic-operates-28-v>

Links:

[1] <http://www.allegromicro.com>