Synchronous buck regulator supplies at least 2 A of load current

Allegro MicroSystems, LLC announces a new adjustable frequency, high output current, PWM regulator that integrates a high-side, P-channel MOSFET and a low-side, N-channel MOSFET. Allegro's A8650 incorporates current-mode control to provide simple compensation, excellent loop stability, and fast transient response. This robust device is targeted at the automotive market with end applications to include instrument clusters, HVAC, navigation, and audio systems.

The A8650 utilizes external compensation to accommodate a wide range of power components to optimize transient response without sacrificing stability. This new device regulates input voltages from 2.5 V to 5.5 V, down to output voltages as low as 0.8 V, and is able to supply at least 2 A of load current.

Protection features include VIN under voltage lockout (UVLO), cycle-by- cycle over current protection (OCP), hiccup mode short circuit protection (HIC), over voltage protection (OVP), and thermal shutdown (TSD). In addition, the A8650 provides open-circuit, adjacent pin short-circuit, and short-to-ground protection at every pin to satisfy the most demanding automotive applications.

The A8650 is available in a 10-pin eMSOP package (suffix LY) with exposed pad for enhanced thermal dissipation. It is priced at $1.39 in quantities of 1,000.

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