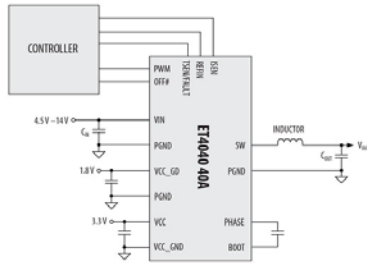


ET4040QI: 40A Powertrain MOSFET with Current/Temperature Sense



The Enpirion® ET4040QI is a 40A, high-speed, high-density, monolithic powertrain integrated circuit (IC) with integrated sensing features. It is optimized for low duty cycle operation, making it an ideal solution for FPGA core, processor, or DDR memory applications.

The ET4040QI maintains excellent efficiency at operating frequencies of 1 MHz or greater. Its small package coupled with the higher operating frequencies results in a 35% improvement in power density versus competing solutions.

Documentation

Request Datasheet at
ET4040QI@altera.com

To obtain the improved power density, the ET4040QI utilizes 50% to 75% less inductance and significantly less capacitance than current-generation multi-phase power supply solutions.

The ET4040QI enables very high efficiency delivery for single- and multi-phase controllers. Since the ET4040QI is a monolithic driver plus MOSFET, it has significantly better reliability and thermal performance versus competitive options.

Features

- 95% peak efficiency at 600 KHz (1.8 V_{OUT}, 10A)
- 3 MHz maximum operating frequency
- No polymer solid (Sanyo POSCAP) or electrolytic capacitors needed
- Thermally enhanced low inductance package
- Tri-state control option
- Top-side cooling for heat-sink attachment
- 5.5 mm x 7.5 mm x 0.95 mm QFN package
- Fully RoHS-compliant and Pb-free manufacturing line compatible