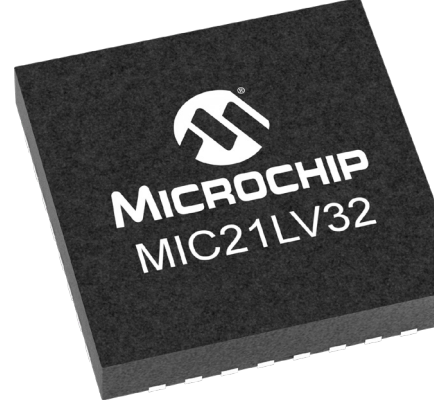# ANALOG SPOTLIGHT

MIC21LV32
36V Dual-Phase Buck Controller Stackable for Multiphase Operation

General Information

The MIC21LV32 is an advanced constant on-time, dual-phase synchronous buck controller featuring a unique adaptive on-time control architecture with stackable feature up to 8 phases. The MIC21LV32 operates over an input supply range from 4.5V to 36V and can be used in application requiring up to 50A of output current. The output voltage is adjustable down to 0.6V with a guaranteed accuracy of ±1% over the entire operating or ±0.5% for –40 to +105°C temperature range. The device operates with programmable switching frequency from 100 kHz to 1 MHz per phase. The Hyper Speed Control® architecture supports ultra-fast transient response under medium to heavy loads. The MIC21LV32 is available in a 32-pin 5 mm x 5 mm VQFN package with a –40°C to +125°C junction operating temperature range.

Features
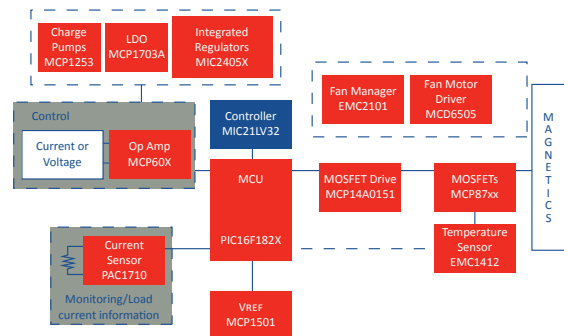
- Input voltage range: 4.5V to 36V
- Adjustable output voltage from 0.6V to 28V
- 0.6V internal reference with ±1% accuracy
- ±0.5% reference accuracy for –40°C to 105°C
- Operates in CCM, stackable for multiphase operation up to 8 phases
- Accurate 180° phasing of outputs
- Remote sense amplifier for tight output regulation
- Droop feature to support Adaptive Voltage Positioning (AVP) for improved load transient response
- Programmable current limit and hiccup mode short-circuit protection
- –40°C to +125°C junction temperature range
- External programmable soft start to reduce inrush current
- Programmable current limit and hiccup mode short-circuit protection
- Thermal shutdown with hysteresis
- Compact size: 5 mm × 5 mm 32-pin VQFN package

Applications

- Distributed power systems
- Communications and networking infrastructure
- Printers, scanners and graphic cards
- FPGA, CPU and GPU core supplies

Benefits

The device offers a full suite of protection features to ensure protection during various fault conditions. These include Under-Voltage LockOut (UVLO) to ensure proper operation under power-sag conditions, hiccup mode short-circuit protection and thermal shutdown.

microchip.com/MIC21LV32