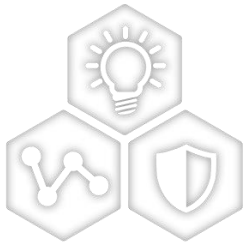


MIC28516/517 – 70V, 8A High Performance Switching Regulator (Non AECQ)



A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

Why Change?

Customers Looking For:

- **Simplified High Voltage, High Current POL Switchers for:**
 - Industrial Computing and Control
 - BLDC motor drive
 - E-Mobility Battery-Operated systems using 12V/24V/36V/48V
- **Cost optimized, Simplified, High Efficiency and High Current Switchers for Dual USB-C Charge-only**
 - MIC28516/517 Current Rating Of 70V/8A Provides Ample Safety Margin
- **Lower BOM Cost**
 - High Voltage High Performance Analog Controller Integrated With High Voltage High Current MOSFETs in One Single Package
- **Speed Of Time To Market**
 - Eval Board DevTool, Mindi Simulation Tool, Training Material, Hands-on Training...

How Can MCHP Help?

- **Increased System Robustness**

- 70V Voltage Rating Adds Additional Safety Margin Protecting Against Input Transients and Spikes
- High Current Capability of 8A

- **Reduced External Component Count**

- Complete High-Power Switching Regulator in a Thermally Enhanced, Small 6 X 6 mm VQFN Package

- **Added Flexibility**

- MIC28516 And MIC28517 Are Pin To Pin Compatible
- Pin To Pin Compatible with MIC28514 And MIC28515 (5A Versions)
- MIC28517 Offers Light Load Capability, while MIC28516 Offers Adjustable Soft Start
- Full Suite Of Features To Protect During Fault Conditions

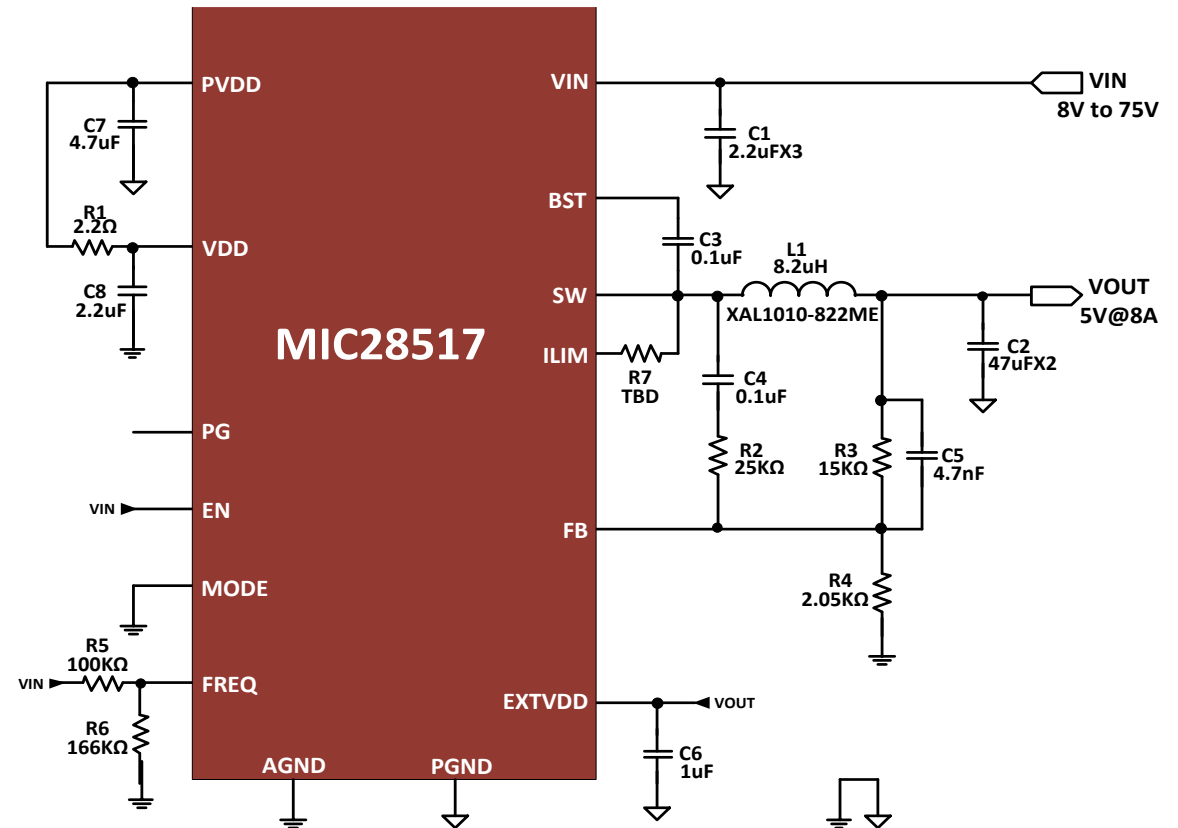
What Is MIC28516/17 (Non-AECQ)

- The MIC28516 And MIC28517 Are The Newest Expansion Of Our Constant On-time (COT), 70V Rated, Integrated FET Switching Regulators (8A, 6x6mm) With Enhanced Performance And Added Features To Accurately Convert Higher Voltages To Lower Voltages At Current Levels Suitable For 12V, 24V, 36V And 48V Inputs For Telecom, Datacom, Motor Drives, POE And Industrial Computing POL Sockets

MIC28516/517 – 70V, 8A High Performance Switching Regulator

Features

- Input voltage range: 4.5V to 70V
- Adjustable output from 0.6V to 32V (Limited by duty cycle)
- High Current capability of 8A
- Adaptive Constant On Time Control
- 0.6V Internal reference
- 200 KHZ to 800KHZ switching Frequency
- High Voltage Internal LDO for single supply operation
- Operation with both internal and external VDD
- Supports start up to pre-bias output
- Internal compensator for tight output regulation
- Enable function for low stand-by current
- External programmable soft start to reduce inrush
- Programmable current limit and hiccup short circuit protection
- Thermal shut down with hysteresis
- CCM only operation for reduced noise at low output current
- CCM/DCM operation available on MIC28517
- Programmable soft start available on MIC28516
- Compact size – 6 X 6 mm VQFN
- –40°C to +125°C junction temperature range
- Pin To Pin Compatible with MIC28514/5 (5A versions)

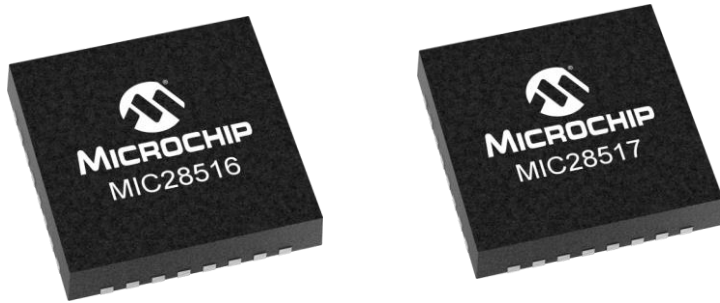


Target Markets And Applications

- Network Switches and Routers
- Industrial Computing & Control
- Server, Datacom & Telecom 48V Distribution
- Automotive (Non AECQ) – USB Charger, Infotainment
- E-Mobility – E-Bikes (Non AECQ), E-Scooters
- PoE – Surveillance Camera, Home Automation, Lighting
- 48V BLDC Motors
- Battery Operated Systems with 12V, 24V, 36V, 48V
- 24VAC Input System Loosely Rectified



Part Numbering



Device Part Number

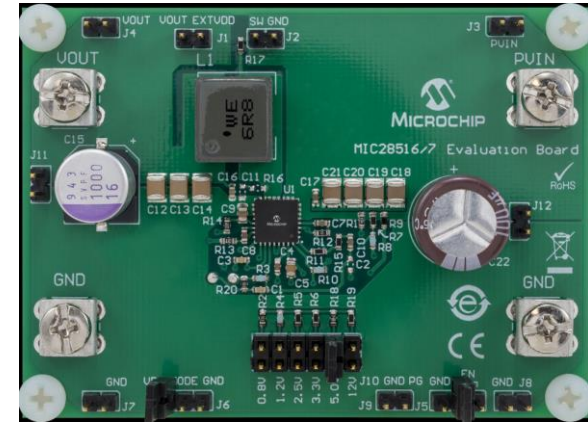
MIC28516T-E/PHA
MIC28517T-E/PHA

Package
6 X 6 mm VQFN, 32 pin
- 40 to + 125 degrees C

Tape & Reel

MIC28516/517 EVB – ADM00929 and ADM00995

- Demonstrate High Voltage Input Step-down Design, Which Can Deliver Up To 95% Efficiency To A Broad Range Of Output Voltages.
- Accept Up To 70v Input Voltage, Regulating Down To 0.6V Output Voltage.
- Allow For The Evaluation Of The MIC28516/517 Synchronous Buck Switchers Over An Input Supply Range Of 4.5V To 70V While Providing 8A.



ADM00929



ADM00995



MICROCHIP

Thank You