

36V Input, 3.5A output USB Charging Total Solution IC in QFN3x3-16

DESCRIPTION

The ETA2831 is a total solution IC specifically for high voltage USB charging applications. It includes a wide input range, high-efficiency, and high frequency DC-to-DC step-down switching regulator that is capable of delivering up to 4A of output current and a low side USB current limiting switch. The DC-DC in ETA2831 is a current mode converter with a fixed-frequency that is externally adjustable. There is also a cable resistance compensation feature that allows users to adjust the output voltage to compensate for the voltage drop due to cable resistance.

An OVP function protects the IC itself and its downstream system against input voltage surges. With this OVP function, the IC can stand off input voltage as high as 42V, making it an ideal solution for industrial applications such as smart meters as well as automotive applications. In automotive systems, power comes from the battery, with its voltage typically ranges between 9V and 24V. Including cold crank and double battery jump-starts, the minimum input voltage may be as low as 4V and the maximum up to 36V, This makes ETA2831 ideal for the automotive application.

There is also a low side current limiting USB switch in ETA2831. The current limit is internally set at 1A. Since the total output current limit of the DCDC can be externally adjusted with a resistor, this 1A USB switch provides flexible configurations for two-port USB charging system.

FEATURES

- ◆ Wide Input Operating Range from 4V to 36V
- ◆ Standoff Input Voltage: 42V
- ◆ High Efficiency at 12V In 5V Out: Up to 91%:
- ◆ High Efficiency PFM mode at light load
- ◆ Capable of Delivering 3.5A output current
- ◆ Peak Output Current up to 4A
- ◆ Cable resistance compensation
- ◆ Adjustable Switching frequency
- ◆ Adjustable Output current limit
- ◆ Frequency dithering Option for low EMI available
- ◆ Current Mode control
- ◆ Logic Control Shutdown
- ◆ Thermal shutdown and UVLO

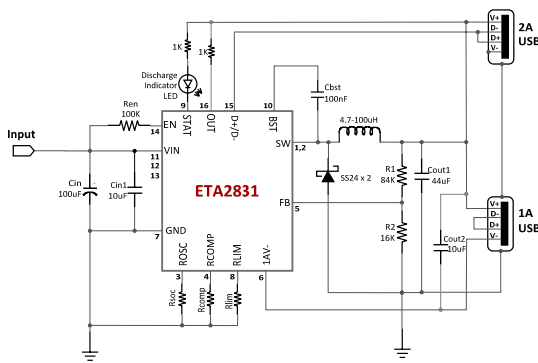
APPLICATIONS

- ◆ Car Charge ports
- ◆ Multi-cell Li-ion Battery Charger

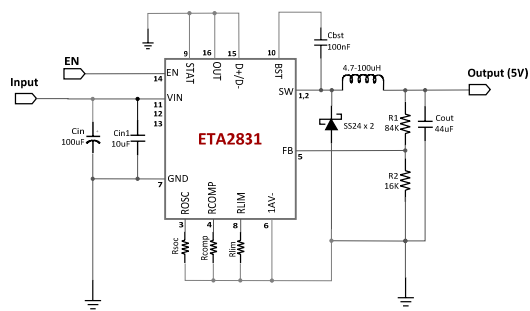
ORDERING INFORMATION

| PART | PACKAGE | TOP MARK |
|------------|-----------|----------|
| ETA2831Q3Q | QFN3X3-16 | ETA2831 |

TYPICAL APPLICATION



For Car Charger



For General Purpose