

## 3W, 0.85V Startup Voltage, Synchronous Step-Up Converter with Real-Shutdown and Short-Circuit Protection

### DESCRIPTION

The ETA1035 is a high efficiency synchronous step-up converter that can provide up to 3W of power to a boosted output from a low voltage source. Unlike most step-up converter, not only it starts up at a very low input voltage as low as 0.85V, it also incorporates circuits that disconnect the input from output, during shutdown, short-circuit, output current overloading, or other events when output is higher than the input. This eliminates the need for an external MOSFET and its control circuitry to disconnect the input from output, and provides robust output overload protection.

The ETA1035 starts up from a voltage as low as 0.85V making it ideal for applications with single-cell or two-cell alkaline, NiCd, and NiMh batteries. A switching frequency of 2MHz minimizes solution footprint by allowing the use of tiny and low profile inductors and ceramic capacitors. An internal synchronous MOSFET provides highest efficiency and with a current mode control that is internally compensated, external parts count is reduced to minimal.

### FEATURES

- Output Disconnect
- Short-circuit Protection
- 3W Output Power
- Output to Input Reversed Current Protection
- 0.85V Low Start-up Voltage
- VIN range from 0.6V to 4.5V
- Up to 96% Efficiency
- 40 $\mu$ A No load I<sub>Q</sub> and light load PFM Mode
- Internal Synchronous Rectifier
- Current Mode control
- Logic Control Shutdown and Thermal shutdown
- DFN2x2-6 Package

### APPLICATIONS

- USB OTG for MIDs, Smartphones
- Mobile back-up Battery Chargers
- Alkaline, NiCd, and NiMh batteries applications
- USB powered devices

### ORDERING INFORMATION

PART #	PACKAGE PIN	TOP MARK
ETA1035D2G-T	DFN2x2-6	DPYW └── Date Code └── Product Number

### TYPICAL APPLICATION

