

High Precision CC/CV Primary-Side Controller ME8310

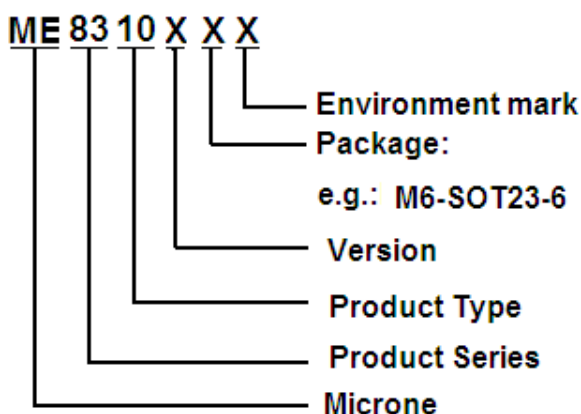
General Description

The ME8310 is a high performance offline PSR controller for low power AC/DC charger and adapter applications. It operates in primary-side sensing and regulation. Consequently, opto-coupler and ME431 could be eliminated. Proprietary Constant Voltage (CV) and Constant Current (CC) control is integrated as shown in the figure.1 below.

In CC control, the current and output power setting can be adjusted externally by the sense resistor R_S at CS pin. In CV control, PFM operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in cable drop compensation. The chip consumes very low operation current (typical 420 μ A), it can achieve less than 30mW standby power to meet strict standby power standard.

ME8310 offers comprehensive protection coverage with auto-recovery features including Cycle-by-Cycle current limiting, VDD over voltage protection, feedback loop open protection, short circuit protection, built-in leading edge blanking, VDD under voltage lockout (UVLO), etc.

Selection Guide



Features

- $\pm 5\%$ Constant Voltage Regulation at universal AC input
- High precision constant current regulation at universal AC input
- Primary-side sensing and regulation without ME431 and opto-coupler
- Built-in primary winding inductance compensation
- Programmable cable drop compensation
- Driver NMOS switch
- Ultra low start-up current (Typ. 1 μ A)
- VDD over voltage protection
- Built-in feedback loop open protection
- Built-in leading edge blanking (LEB)
- Built-in short circuit protection
- Cycle-by-Cycle current limiting
- VDD under voltage lockout with hysteresis (UVLO)
- SOT23-6 package

Applications

Low power AC/DC offline SMPS for:

- Cell phone charge
- Digital cameras charger
- Small power adapter
- Auxiliary power for PC, TV, etc.