

## Quasi-Resonant Primary Side Regulation CC/CV Controller

### FEATURES

- Quasi-Resonant Primary Side Regulation (QR-PSR) Control with High Efficiency
- Direct Drive of BJT Switch
- Multi-Mode PSR Control
- Fast Dynamic Response
- Built-in Dynamic Base Drive
- Audio Noise Free Operation
- $\pm 4\%$  CC and CV Regulation
- Low Standby Power <70mW
- Programmable Cable Drop Compensation (CDC) in CV Mode
- Built-in AC Line & Load CC Compensation
- Build in Protections:
  - Short Load Protection (SLP)
  - Cycle-by-Cycle Current Limiting (OCP)
  - Leading Edge Blanking (LEB)
  - On-Chip Thermal Shutdown (OTP)
  - VDD OVP & UVP & Clamp
- Available with KP213A/KP213B/KP213C Versions in SOT23-5 Package

### GENERAL DESCRIPTION

KP213 is a high performance Quasi Resonant (QR) Primary Side Regulation (PSR) PWM controller with high precision CV/CC control ideal for charger applications.

In CV mode, KP213 adopts Multi Mode QR Control which uses the hybrid of AM (Amplitude Modulation) mode and (Frequency Modulation) FM mode to improve system efficiency and reliability. In CC mode, the IC uses PFM control with line and load CC compensation. The IC can achieve fast dynamic response. The built-in Cable Drop Compensation (CDC) function can provide excellent CV performance.

KP213 integrates functions and protections of Under Voltage Lockout (UVLO), VDD over Voltage Protection (VDD OVP), Cycle-by-cycle Current Limiting (OCP), Short Load Protection (SLP), On-Chip Thermal Shutdown, VDD Clamping, etc.

### APPLICATIONS

- Battery Chargers for Cellular Phones
- AC/DC Power Adapter and LED Lightings

### TYPICAL APPLICATION CIRCUIT

