

Wide Input Range & High Efficiency Buck Converter for PD Applications

1. Features

- Wide Input Voltage Range from 4V to 33V
- Programmable V_{OUT} Range from 0.8V to 30V
- Peak Current Mode Control
- Adjustable Frequency: 170kHz~500kHz
- Output Average Current Limit
- Internal fixed soft-start time
- Low Dropout Operation with Maximum Duty Cycle at 99.5%
- Input Under-Voltage Lockout
- Output OCP, SCP, OVP
- Thermal Shutdown
- QFN-32 Package, 5mm×5mm×0.75mm

2. Applications

- USB Power Delivery Supply
- Car Charger
- USB Dedicated Charging Port
- Type-C Docks/Adaptors
- Computer Peripherals

4. Typical Application Circuit

3. Description

The TMI3352A is an integrated 2-switches synchronous buck converter mainly for widely varying input step-down regulator applications. The control method is based upon current mode control that enables maximum performance under transient conditions. It operates as a Buck mode while the input voltage is sufficiently greater than the regulated output voltage and transitions to the low dropout mode (99.5% Duty) as the input voltage very approaches the output voltage.

It also features an internal fixed soft-start function and offers protection features including input UVLO, OVP, cycle-by-cycle current limit, output average current limit and thermal shutdown.

The TMI3352A is available in compact QFN5x5-32.

5. Pin Configuration

