

40V, Synchronous, 4-Switch, Bi-direction Buck-Boost Controller

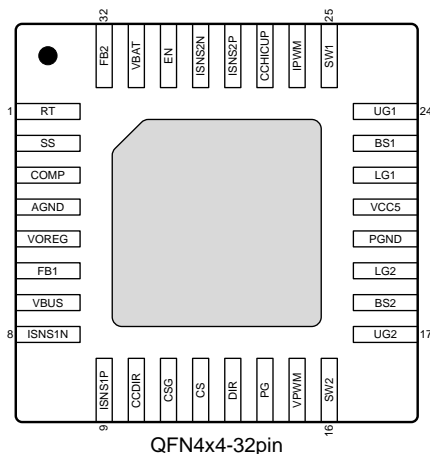
General Description

The AN6581 is a synchronous four-switch bi-direction buck-boost DC/DC controller capable of regulating the VBUS/VBAT voltage at, above, or below the VBAT/VBUS voltage. The AN6581 operates over a wide input voltage range of 3V to 40V to support a variety of applications.

The AN6581 employs current-mode control both in buck and boost modes of operation for superior load and line regulation. The switching frequency is programmed by an external resistor. This device also features a programmable soft-start function and offers protection features including cycle-by-cycle current limiting, input undervoltage lockout (UVLO), output overvoltage protection (OVP), and thermal shutdown.

The AN6581 is available in an QFN4x4-32L package, provides a very compact system solution and good thermal conductance.

Pin Configuration



Features

- Single Inductor Buck-Boost Controller for Step-Up/Step-Down DC/DC Conversion
- Bi-direction operation for charging and discharging
- Wide Input Voltage from 3V to 40V
- High Efficiency
- USB-PD Type-C Support
- Adjustable Switching Frequency
- Programmable External Soft-Start
- Auto Recovery after Faults
- VBUS Cord Voltage Drop Compensation
- Programmable Over Current Setting
- Power Good and Output Overvoltage Protection
- Over-Temperature Protection
- Thermal Enhanced QFN4x4-32L Package
- RoHS Compliant

Application

- Car Charger
- CC/CV regulation converter
- Rechargeable Portable Device
- USB Power Delivery

Ordering Information

Part Number	Package	Shipment
AN6581-AQG	QFN4x4-32L	Tape & Reel / 3000

*A: Output Voltage Adjustable

*QG: QFN4x4-32L