

Features

- Dual MOSFET Drivers for Synchronous Rectified Bridge
- Adjustable Relative Constant on-time for fast dynamic response
- Programmable VOUT range
- VIN range = 3V~28V
- Support Internal Reference Voltage and External Reference Voltage
- Wide Output Load Range: 0 to 20A+
- 1% reference accuracy over load and line
- Low voltage DC current sense using low-side RDS (ON) Sensing or sense resistor
- Resistor programmable frequency
- Built-in Bootstrap Diode
- Cycle-by-cycle current limit
- 4-Step Current Limit During Soft-start
- Over-voltage/under-voltage fault protection
- Low quiescent power dissipation
- Power good indicator
- Integrated gate drivers with fast transmission scheme
- Over temperature protection(Non-Latch)
- TQFN16-3x3 package
- Green Product (RoHS, Lead-Free, Halogen-Free Compliant)

Applications

- Notebook computers
- CPU core/IO Supplies
- Chip/RAM Supplies

General Description

The GS7210A is small size chip with a relative constant on-time synchronous buck switching controller suitable for applications in notebook computers and other battery operated devices.

The GS7210A has a unique power save mode, which can save battery power supply by decreasing frequency when load current falls down below preset critical current point.

The fast dynamic transient response means that buck converter applications based on GS7210A will provide about 100ns-order response to load when output voltage falls down or rises up. The frequency will increase or decrease to meet the change in output load. Moreover, the GS7210A will take the same method to regulate the output voltage when input voltage changes. When transient response regulated, the controller will maintain a new steady-state operation. Both the transient response state and the new state, the GS7210A always has the same on-time.

The GS7210A supports internal 0.6V reference voltage and external reference from 0.4V to 3.0V for internal error amplifier. When the chip works external reference mode, it can deliver output voltage as low as 0.4V.

An external setting resistor and output voltage can set the on-time, duty-cycle and frequency for the controller. The integrated gate drivers feature adaptive shoot-through protection, fast signal transmission. Additional features include current limit, soft-start, over-voltage and under-voltage protection and a Power Good flag. The GS7210A is available in package TQFN16-3x3.