

RS6514

PWM Control 4A Step-Down Converter

RS6514 provides low-ripple power, high efficiency, and excellent transient characteristics. The PWM control circuit is able to vary the duty ratio linearly from 0 up to 100%. This converter also contains an error amplifier circuit as well as a soft-start circuit that prevents overshoot at startup. An enable function, an over current protect function and a short circuit protect function are built inside, and when OCP or SCP happens, the operation frequency will be reduced from 350KHz to 30KHz. Also, an internal compensation block is built in to minimum external component count.

With the addition of an internal P-Channel Power MOS, a coil, capacitors, and a diode connected externally, these ICs can function as step-down switching regulators. They serve as ideal power supply units for portable devices when coupled with the SOP-8/EP (Exposed Pad) mini-package, providing such outstanding features as low current consumption. Since this converter can accommodate an input voltage up to 20V, it is also suitable for the operation via an AC adapter.

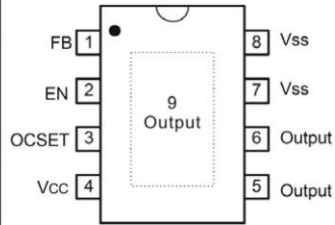
Features

- Input voltage: 3.6V to 20V.
- Output voltage: 0.8V to V_{CC} .
- Duty ratio: 0% to 100% PWM control
- Oscillation frequency: 350KHz typ.
- Soft-start, Current limit, Enable function
- Thermal Shutdown function
- Built-in internal SW P-channel MOS
- SOP-8L Pb-Free Package.

Applications

- PC Motherboard
- LCD Monitor
- Graphic Card
- DVD-Video Player
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment
- Microprocessor core supply
- Networking power supply

Pin Configurations

	Pin 1: Feedback pin.	Pin 5: Output Pin. Connect external inductor/diode here. Minimize trace area at this pin to reduce EMI
	Pin 2: Power-off pin H: Normal operation (Step-down operation) L: Step-down operation stopped (All circuits deactivated)	Pin 6: Output Pin. Connect external inductor/diode here. Minimize trace area at this pin to reduce EMI
	Pin 3: Add an external resistor to set max output current	Pin 7, 8: GND Pin
	Pin 4: IC power supply pin	Pin 9: Output Pin (Exposed Pad). Must be connected to bare copper ground plane.