

18V 3.5A 500kHz Synchronous Rectified Step-Down DC/DC Converter

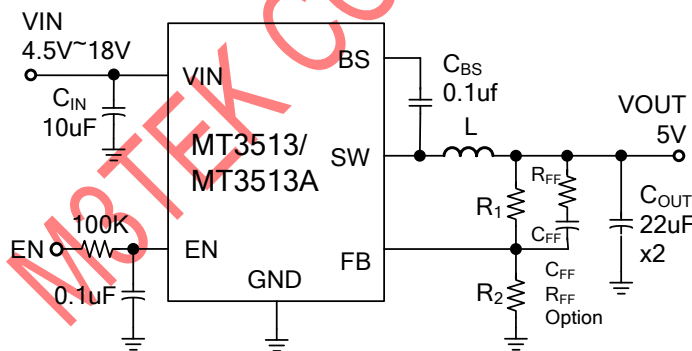
DESCRIPTION

The MT3513/MT3513A is a high efficiency, 3.5A current mode synchronous step-down DC/DC converter with a wide input voltage range from 4.5V to 18V. The device integrates lower high side and low side MOSFETs to achieve high efficiency conversion. The current mode control architecture supports fast transient response and internal compensation. The MT3513/MT3513A provides complete protection functions such as input under-voltage lockout, output under voltage protection, over current protection, and thermal shutdown. The switching frequency is internally set at 500KHz, MT3513 and MT3513A have different operation modes:

- MT3513 is automatic PSM/PWM mode.
- MT3513A is Forced PWM mode.

To improve the light load efficiency, MT3513 has the light load power saving mode (PSM) to minimize the switching loss by reducing the switching frequency. The MT3513/MT3513A is available in the TSOT23_6L package.

Typical Applications

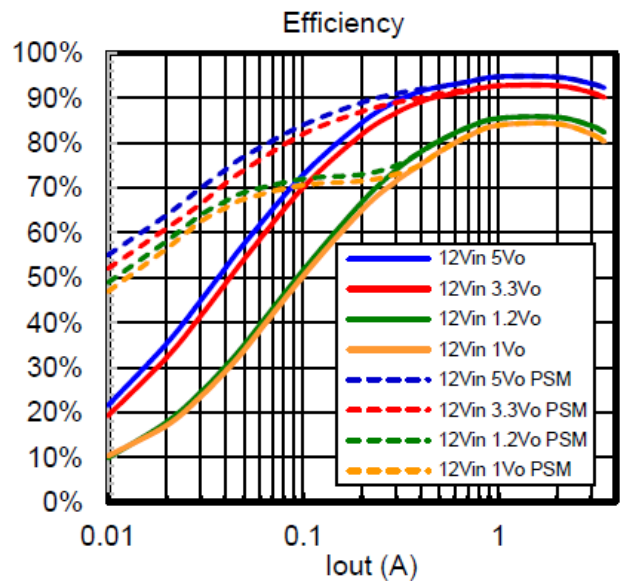


FEATURES

- Input Voltage Range from 4.5V to 18V
- +/- 2% 0.6V Feedback Voltage Accuracy
- Adjustable Output Voltage from 0.6V to 12V
- 500kHz Switching Frequency
- Built-in 70mΩ/30mΩ Power Switch
- Continuous Output Current up to 3.5A
- High Efficiency up to 95%
- Internal Soft-Start
- Input Under Voltage Lockout (UVLO)
- Cycle-by-Cycle Current Limit Protection
- Over-Load and Short Circuit Protection
- Thermal Shutdown Protection
- Available in a Small TSOT23_6L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Wireless and DSL Card
- Portable/Handheld Device
- STB, TV, Sound Bar, MP3 Player
- Slim DVD, SSD
- Microprocessor and DSP Core Supply



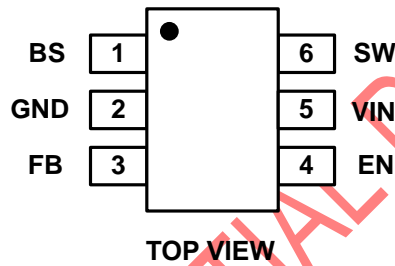
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Ordering Information

Part No.	Marking	Temp. Range	Package	MOQ
MT3513NTBR	3513 YWWxx	-40°C ~+85°C	TSOT23_6L	3000/Tape & Reel
MT3513ATBR	3513A YWWxx	-40°C ~+85°C	TSOT23_6L	3000/Tape & Reel

Note: Y: Year, WW: Week, xx: Manufacture Control Code

Pin Configuration



Pin Description

Pin No.	Symbol	Description
1	BS	High Side Gate Drive Boost Input Connect a 0.1uF ceramic capacitor between BS and SW pins.
2	GND	Ground This is the reference of the ground connection for all components in the power supply.
3	FB	Voltage Feedback
4	EN	Regulator Enable Control Input, Don't float this PIN <ul style="list-style-type: none"> • Drive EN High Level to turn on the converter • Drive EN Low Level to turn off the converter
5	VIN	Main Input Supply Voltage
6	SW	Power Switches Node