

5V Input 1.5A/2A(Peak) 2.5MHz Synchronous Step-Down Converter

DESCRIPTION

The MT3161 is a 2.5MHz, constant on-time (COT) controlled synchronous step-down converter. It can provide 1.5A continuous and 2A peak output current with input voltage from 2.5V to 6V. The MT3161 output range is from 0.6V to input level, thanks to its 100% duty cycle operation. The constant on-time control scheme simplifies loop compensation and offers excellent load transient response. MT3161 consumes extremely low 15µA quiescent current hence achieves superior light load efficiency. The high gain error amplifier in the control loop provides excellent load and line regulation. Proprietary adaptive on-time helps MT3161 to achieve nearly constant switching frequency across load range. MT3161 has cycle-by-cycle current limit and hiccup mode to protect over-load or short circuit fault conditions. MT3161 is available in low profile 6 leads and 6 leads SOT563_6L packages.

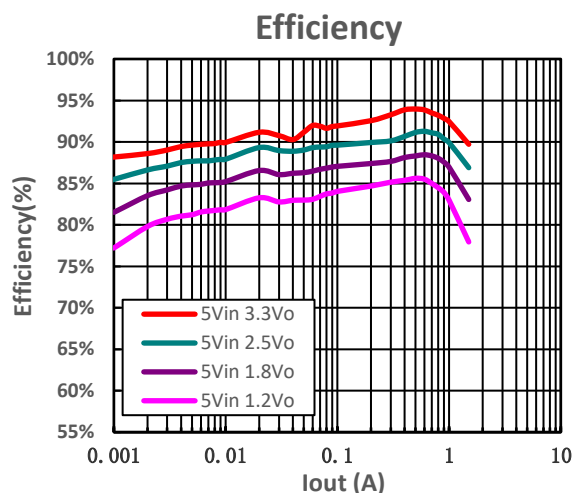
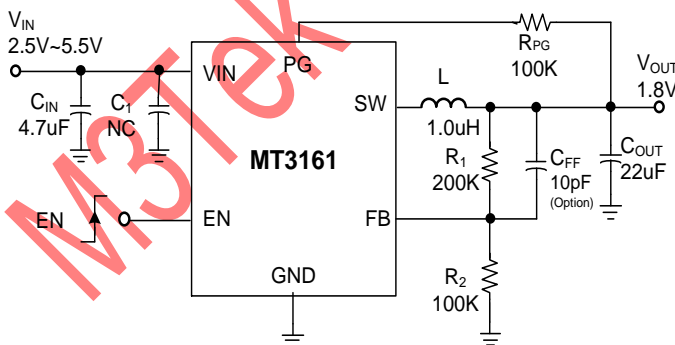
FEATURES

- Wide Input Range from 2.5V to 6V
- Proprietary Fast Transient Constant On Time Architecture Stable with low ESR Ceramic Output Capacitors
- +/- 1.5% 0.6V Feedback Voltage
- 1.21V Accurate Enable Threshold for Power On Sequencing
- 2.5MHz Switching Frequency
- 15µA Low Quiescent Current
- 1.5A Continuous and 2A Peak Output Current
- 100% Duty Cycle Operation
- Built-in 170mΩ/110mΩ Power Switches
- Internal 1msec Soft-Start
- Open Drain Power Good Indicator
- Cycle-by-cycle Current Limit Protection
- Input Under/Over Voltage Lockout
- Output Discharging Function in Shutdown
- Thermal Shutdown Protection
- Hiccup Mode for Short Circuit and Over-Load Protection
- Available in SOT563_6L Package
- Pb-Free RoHS Compliant

APPLICATIONS

- Solid-State and Hard Disk Drives
- WiFi RF Modules
- DC/DC Micro Modules
- Smart Phone and Tablets

TYPICAL APPLICATION



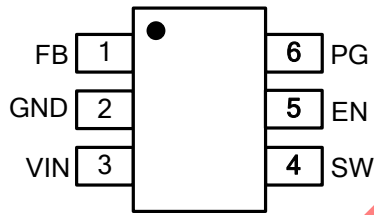
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Ordering Information

Part No.	Marking	Temp. Range	Remark	Package	MOQ
MT3161NSLR	GNYW	-40°C ~+85°C	Adjustable Vout	SOT563	5000/Tape & Reel

Note: Y: Year, W: Week

Pin Configuration



Top View SOT563

Pin Description

Pin Name	SOT563 Pin No.	Description
PG	6	Power Good Open-drain Output. Connect a 100kΩ pull-up resistor to V_{IN} or V_{OUT}
FB	1	Voltage Feedback Input. Connect a resistor divider between output And FB to program the output voltage. V_{FB} is regulated to 0.6V.
GND	2	Ground.
VIN	3	Input Supply Voltage.
SW	4	Power Switch Node
EN	5	Regulator Enable Control Input with accurate 1.21V enable threshold which can be used to build precision R-C turn-on delay and input under-voltage lockout. This pin has a pull-down resistor of typically 1MΩ to GND. <ul style="list-style-type: none"> • Drive EN above 1.21V to turn on the converter • Drive EN below 1.11V to turn off the converter and discharge output