

6V 6A/10A 1.2MHz Fast-PWM Synchronous Step-Down Converter

DESCRIPTION

The MT3127 is a 6A/10A high efficiency constant on-time controlled synchronous step-down converter. It operates with input voltage from 2.7V to 6V and provides output range from 0.61V to as high as input level, thanks to its 100% duty cycle operation. Its advanced constant on-time control Fast-PWM scheme simplifies loop compensation and offers excellent load transient response while maintaining a relatively constant 1.2MHz switching frequency. MT3127N consumes extremely low 18µA quiescent current hence achieves superior light load efficiency. The high gain error amplifier in the control loop provides excellent load and line regulation. For fault tolerant operation, MT3127 has cycle-by-cycle current limit protection and hiccup mode for short circuit or over-load condition. MT3127 is available in 9 lead QFN3mmx3mm package and ideal for high performance, portable applications.

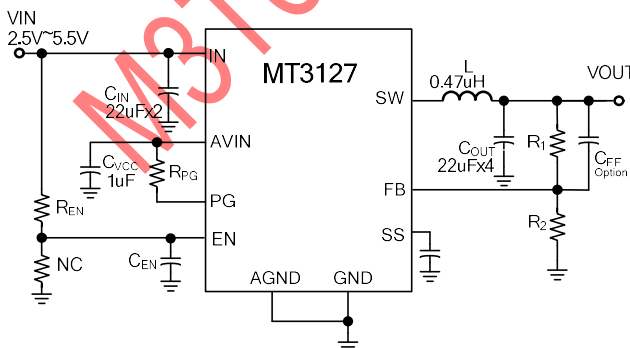
FEATURES

- Wide Input Range from 2.7V to 6V
- MT3127N: 1.2MHz with Pulse Skip Mode (PSM)
MT3127A: 1.2MHz with Forced PWM Mode (FPWM)
- MT3127_06: 6A Output Current, Peak up to 8A
MT3127_10: 10A Output Current, Peak up to 12A
- High Efficiency up to 97%
- Output Voltage as low as 0.61V
- 100% Duty Cycle Operation
- 1% 0.61V Feedback Voltage Accuracy
- 18µA Quiescent Current (MT3127N)
- Built-in Ultra Low Ron High Side and Low Side Power Switches
- Cycle-by-cycle Current Limit Protection
- Hiccup Mode for Short Circuit and Over-Load Protection
- Open Drain Power Good Indicator
- Thermal Shutdown Protection
- Stable with low ESR ceramic Output Capacitors
- Available in a Small QFN3mmx3mm_9L Package
- Pb-Free RoHS Compliant

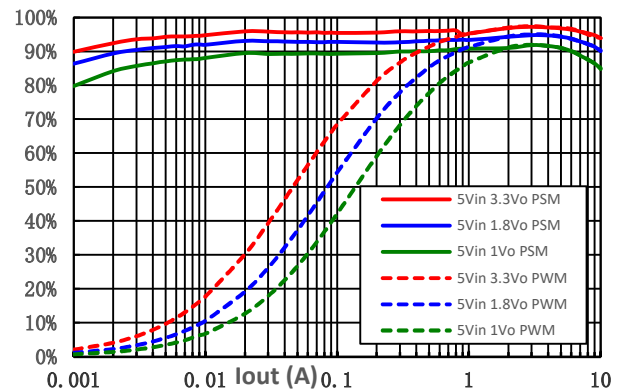
APPLICATIONS

- Solid-State and Hard Disk Drives
- Portable / Handheld Devices
- WiFi Moudule, Set-top Boxes
- DC/DC Micro Modules

TYPICAL APPLICATIONS



Efficiency



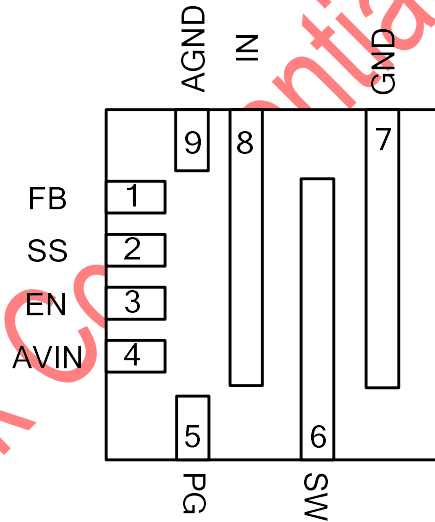
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Ordering Information

Part No.	Marking	Temp. Range	Package	MOQ
MT3127N06QMR	MT3127 YWWxx 06	-40°C ~+85°C	QFN3X3_9L	5,000/Reel
MT3127N10QMR	MT3127 YWWxx 10	-40°C ~+85°C	QFN3X3_9L	5,000/Reel
MT3127A06QMR	3127A YWWxx 06	-40°C ~+85°C	QFN3X3_9L	5,000/Reel
MT3127A10QMR	3127A YWWxx 10	-40°C ~+85°C	QFN3X3_9L	5,000/Reel

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

PIN CONFIGURATION



MT3127_QFN3x3_9L TOP VIEW