

6V 5A 1.2MHz 15uA Fast-PWM Synchronous Step-down Converter

DESCRIPTION

The MT3126 is a 5A fully integrated high efficiency constant on-time controlled synchronous step-down converter. It operates with input voltage from 2.5V to 6V and provide output range from 0.6V to as high as input level, thanks to its 100% duty cycle operation. Its proprietary Fast-PWM control scheme simplifies loop compensation and offers excellent load transient response while maintaining a relatively constant 1.2MHz switching frequency. MT3126 consumes extremely low 15uA 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, MT3126 has cycle-by-cycle current limit protection and hiccup mode for short circuit or over-load condition.

MT3126 is available in QFN2x2mm package and ideal for high performance, portable applications.

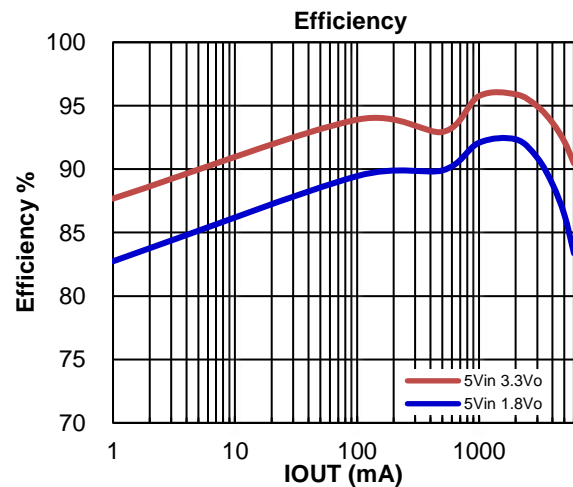
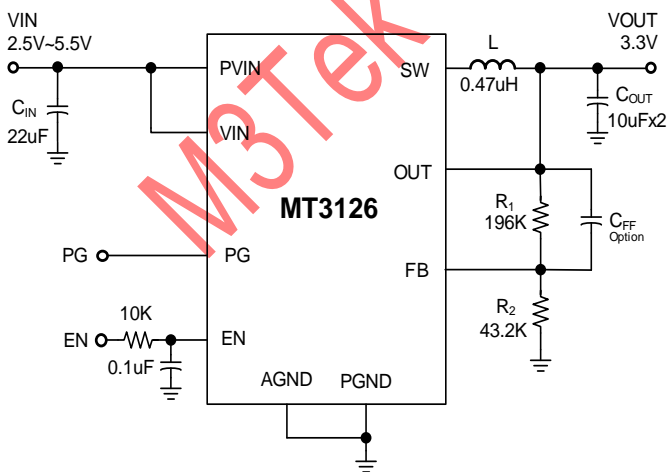
FEATURES

- Wide Input Range from 2.5V to 6V
- 5A Continuous, 6A Peak Output Current
- +/- 1% 0.6V Feedback Voltage Accuracy
- High Efficiency up to 97%
- Output Voltage as low as 0.6V
- 100% Duty Cycle Operation
- 1.2MHz Switching Frequency
- 15uA Quiescent Current (MT3126N)
- Built-in 31mΩ HS and 20mΩ LS Power Switches
- Cycle-by-Cycle Current Limit Protection
- Hiccup Mode for Short Circuit and Over-Load Protection
- Open Drain Power Good Indication with Internal Pull-up Resistor
- Thermal Shutdown Protection
- Stable with low ESR ceramic Output Capacitors
- Available in Small QFN2x2mm\_12L Package
- RoHS Compliant (100% Green Available)

APPLICATIONS

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

TYPICAL APPLICATIONS



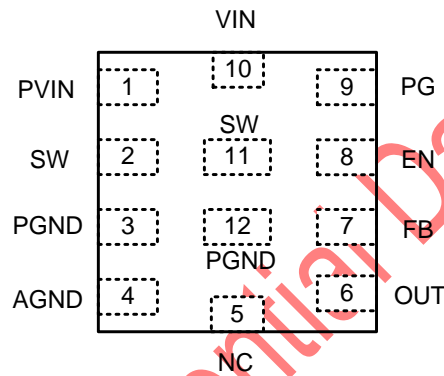
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**Ordering Information**

Part No.	Marking	Temp. Range	Remark	Package	MOQ
MT3126NQER	3126 YWxx	-40°C ~ 85°C	COT PFM mode	QFN2X2_12L	3,000/Reel
MT3126AQER	126A YWxx	-40°C ~ 85°C	COT Forced PWM mode	QFN2X2_12L	3,000/Reel

Note: Y: Year, W: Week, x: Manufacture Code

**PIN CONFIGURATION**



**QFN2x2\_12 TOP VIEW**

**Pin Description**

PIN NAME	MT3126 PIN NO.	DESCRIPTION
PVIN	1	Power Input Supply voltage
SW	2, 11	Switching pin, connect to external inductor
PGND	3, 12	Power ground
AGND	4	Analog ground
NC	5	No Connection, Leave Float
OUT	6	Output voltage
FB	7	Feedback voltage input, connect to external feedback resistors
EN	8	Enable input
PGOOD	9	Open-drain power good indication.
VIN	10	Input Supply voltage