

5V 6A 1.25MHz 15µA Low Iq FAST-PWM Synchronous Step-Down Converter

DESCRIPTION

The MT3125 is a 6A 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 advanced constant on-time control Fast-PWM scheme simplifies loop compensation and offers excellent load transient response while maintaining a relatively constant 1.25MHz switching frequency. MT3125 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. For fault tolerant operation, MT3125 has cycle-by-cycle current limit protection and hiccup mode for short circuit or over-load condition.

MT3125 is available in 16 leads QFN 3mmx3mm package and ideal for high performance, portable applications.

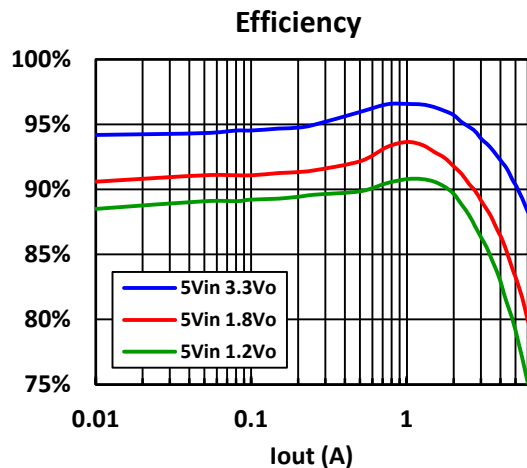
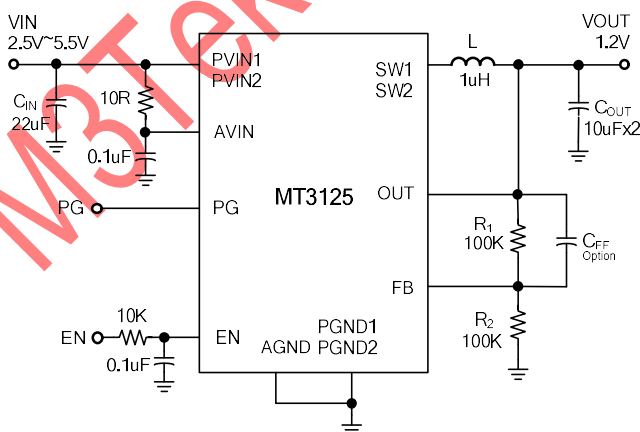
FEATURES

- Wide Input Range from 2.5V to 6V
- High Efficiency up to 97%
- Output Voltage as low as 0.6V
- 100% Duty Cycle Operation
- +/-1% 0.6V Feedback Voltage Accuracy
- 1.25MHz Pseudo Constant Switching Frequency
- 15µA Quiescent Current
- Continuous Output Current up to 6A
- Built-in 38mΩ HS and 30mΩ 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 a Small QFN3x3_16L 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



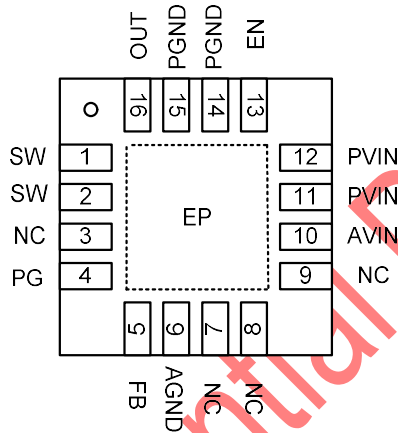
5V 6A 1.25MHz 15µA Low Iq FAST-PWM Synchronous Step-Down Converter

Ordering Information

Part No.	Marking	Temp. Range	Package	MOQ
MT3125NQAR	MT3125 YWWxx	-40°C ~ 85°C	QFN3X3_16L	5,000/Reel

Note: Y: Year, WW: Week

PIN CONFIGURATION



QFN3x3_16 TOP VIEW

Pin Description

PIN NAME	MT3125 PIN NO.	DESCRIPTION
SW	1, 2	Switching pin, connect to external inductor
NC	3, 7, 8, 9	No Connection, leave float
PG	4	Open-drain power good indication.
FB	5	Feedback voltage input, connect to external feedback resistors
AGND	6	Analog ground
AVIN	10	Analog Input Supply voltage
PVIN	11, 12	Power Input Supply voltage
PGND	14, 15	Power ground
EN	13	Enable input, Integrated 1MΩ pull down resistor.
OUT	16	Output voltage