

5V 3.5A 1.2MHz 15uA Low Iq Fast-PWM Synchronous Step-Down Converter

DESCRIPTION

The MT3124 is a 3.5A 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 1.2MHz switching frequency. MT3124 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, MT3124 has cycle-by-cycle current limit protection and hiccup mode for short circuit or over-load condition.

MT3124 is available in QFN2x2mm package and ideal for high performance, portable applications.

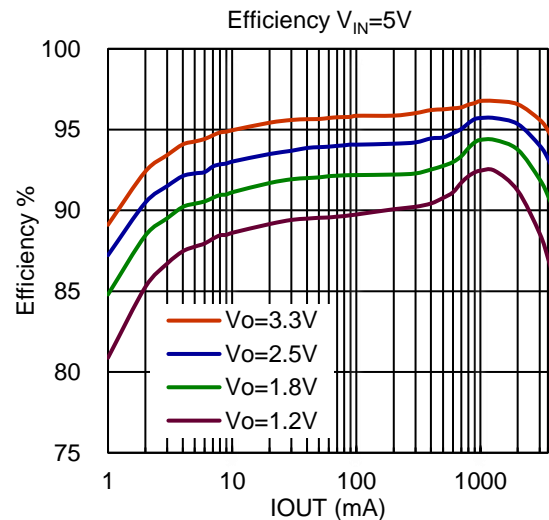
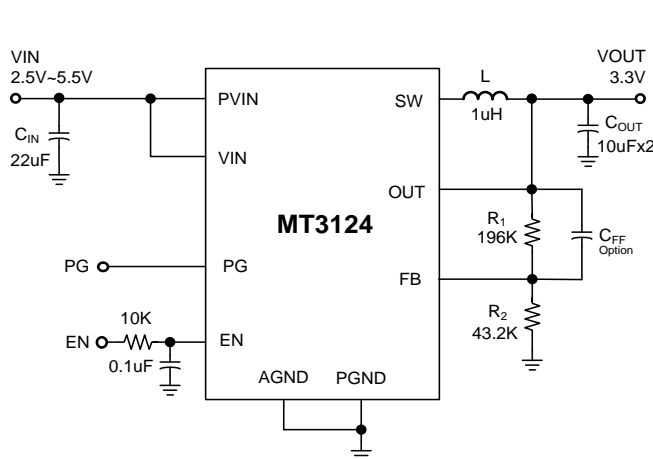
FEATURES

- Wide Input Range from 2.5V to 6V
- High Efficiency up to 97%
- Output Voltage as low as 0.6V
- 100% Duty Cycle Operation
- +/-1.5% 0.6V Feedback Voltage Accuracy
- 1.2MHz Pseudo Constant Switching Frequency
- 15µA Quiescent Current
- Continuous Output Current up to 3.5A
- Built-in 46mΩ HS and 38mΩ 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
- Pb-Free RoHS Compliant

APPLICATIONS

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

TYPICAL APPLICATIONS

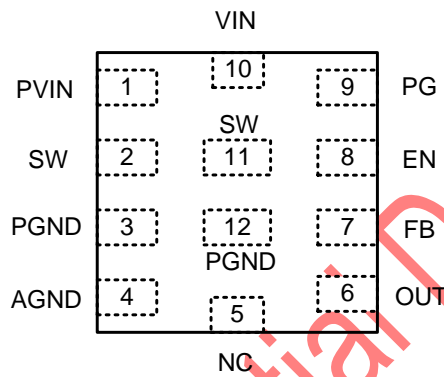


Ordering Information

Part No.	Marking	Temp. Range	Package	MOQ
MT3124NQER	3124 YWxx	-40°C ~ 85°C	QFN2X2_12L	3,000/Reel

Note: Y: Year, W: Week

PIN CONFIGURATION



QFN2x2_12 TOP VIEW

Pin Description

PIN NAME	MT3124 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