Asynchronous Step-Up DC/DC Converter with 50V 1A Integrated Switch

Description

The MT5080 is a current mode step-up converter operating at a fixed frequency of 1.5MHz. It can be configured as a boost, SEPIC or inverting converter consuming as low as 100μA of quiescent current. The internally compensated current mode architecture results in stable operation over a wide range of input and output voltages.

The 50V 1A internal switch makes the part perfect for boosting to voltages of 12V or greater. The MT5080 has a logic-level shutdown pin be used to reduce quiescent current and extend battery life. Protection is provided through cycle-by-cycle current limiting and thermal shutdown. The MT5080 is available in a low profile 5 leads SOT23 and 6 leads DFN 2mmx2mm package.

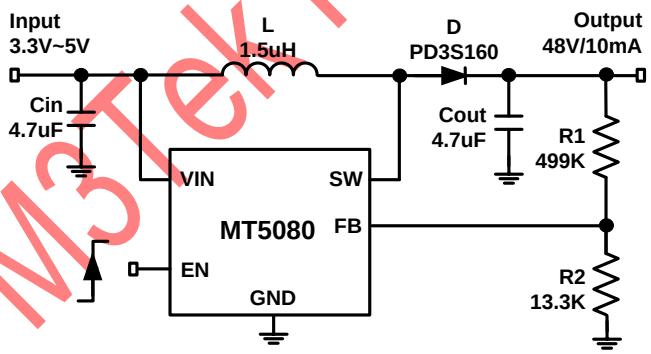
Features

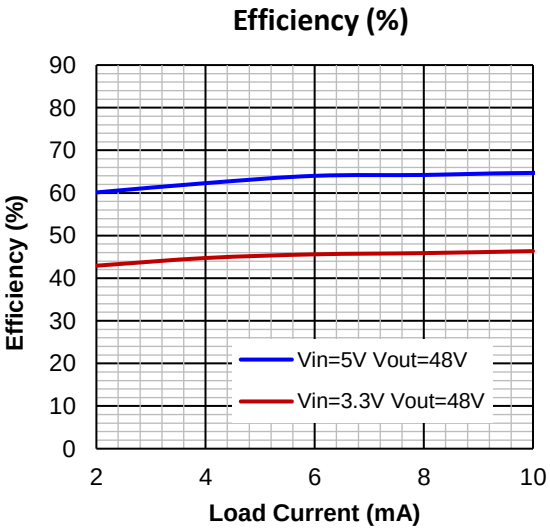
- 2.7V to 6V Input Voltage Range
- +/-2% 1.25V Feedback Voltage Accuracy
- Output Voltage Up to 50V
- High Efficiency up to 92%
- Built it 1A 50V 280mΩ Power Switch
- 1.5MHz Constant Frequency Operation
- Internal Compensation and Soft-Start
- Thermal Shutdown
- Input Under-Voltage Lockout (UVLO)
- < 0.1μA Shutdown Current
- Available in Low Profile SOT23_5L and DFN2x2_6L Packages
- RoHS Compliant (100% Green available)

Applications

- Boost Conversions from 3.3V, 5V and 12V Rails
- ADP Bias for GPON and EPON
- Telecom
- Portable Instruments

Typical Applications



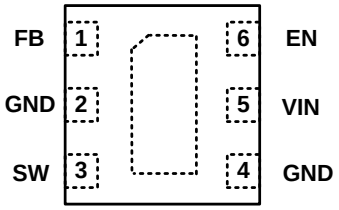


Ordering Information

Part No.	Marking	Temp. Range	Package	MOQ
MT5080NSBR	5080 YWWxx	-40°C ~+85°C	SOT23_5L	3000/Tape & Reel
MT5080NDER	5080 YWxx	-40°C ~+85°C	DFN2x2_6L	3000/Tape & Reel

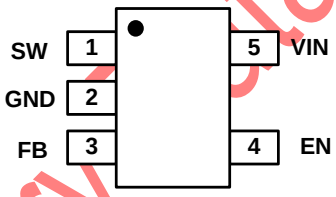
Note: Y: Year, WW: Week, xx: Manufacture Code

Pin Configuration



EXPOSED PAD ON BACKSIDE

TOP VIEW



TOP VIEW

Pin Description

SOT23_5L Pin No.	DFN2x2_6L Pin No.	Symbol	Description
1	3	SW	Power Switch Output. Minimize the metal trace area connected to this pin to reduce EMI.
2	2, 4	GND	Ground connection. The ground plane should be connected to large copper layers to spread heat dissipated by the MT5080.
3	1	FB	Voltage Regulation Feedback Pin. Connect this pin to a resistor divider between the output and GND.
4	6	EN	Regulator Enable Control Input. The MT5080 is shut down when this pin is low and active when this pin is high. If shutdown feature is not required, connect this pin to system input supply.
5	5	VIN	Input Supply. This pin must be locally bypassed. Be sure to place the positive terminal of the input capacitor as close as possible to the VIN pin, and the negative terminal as close as possible to the GND pin.