



General Description

The OCP2156 is a 1.5MHz constant frequency; slope compensated current mode PWM step-down converter. The device integrates a main switch and a synchronous rectifier for high efficiency without an external Schottky diode. It is ideal for powering portable equipment that runs from a single cell lithium-Ion (Li+) battery. The OCP2156 can supply 500mA of load current from a 2.5V to 5.5V input voltage. The output voltage can be regulated as low as 0.6V. The OCP2156 can also run at 100% duty cycle for low dropout operation, extending battery life in portable system. Idle mode operation at light loads provides very low output ripple voltage for noise sensitive applications.

The OCP2156 is offered in a low profile (1mm) 5-pin, TSOT package, and is available in an adjustable version and fixed output voltage of 1.2V, 1.5V and 1.8V.

Applications

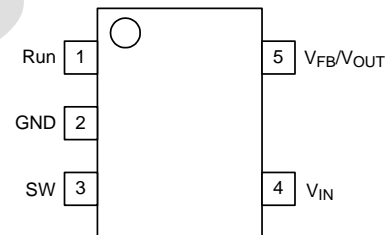
- Cellular and Smart Phones
- PDAs
- MP3 Player
- Digital Still and Video Cameras
- Portable instruments
- Microprocessors and DSP Core Supplies
- Wireless and DSL Modems

Features

- High Efficiency : Up to 96%
- 1.5MHz Constant Switching Frequency
- 500mA Output Current at $V_{IN}=3.0V$
- Integrated Main switch and synchronous rectifier. No Schottky Diode Required
- 2.5V to 5.5V Input Voltage Range
- Output Voltage as low as 0.6V
- 100% Duty Cycle in Dropout
- Low Quiescent Current : 300 μA
- <1 μA Shutdown Current
- Slope Compensated Current Mode Control for Excellent Line and Load Transient Response
- Short Circuit and Thermal Fault Protection
- Space Saving 5-pin Thin TSOT23 package

Pin Configuration

(Top View)

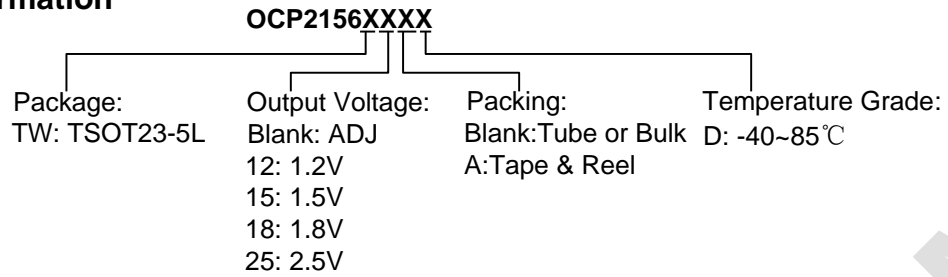


Pin Description

Pin Number	Pin Name	Pin Function
1	RUN	Regulator Enable control input. Drive RUN above 1.5V to turn on the part. Drive RUN below 0.3V to turn it off. In shutdown, all functions are disable drawing <1 μA supply current. Do not leave RUN floating.
2	GND	Ground
3	SW	Power Switch Output. It is the Switch node connection to inductor. This pin connects to the drains of the internal P-CH and N-CH MOSFET switches.
4	IN	Supply Input Pin. Must be closely decoupled to GND, pin2, with a 2.2 μF or greater ceramic capacitor.
5	FB/VOUT	VFB (OCP2156): Feedback Input Pin. Connected FB to the center point of the external resistor divider. The feedback threshold voltage is 0.6V. VOUT (OCP2156-1.2/1.5/1.8): Output Voltage Feedback Pin. An internal resistive divider divides the output voltage down for comparison to the internal reference voltage.



■ Ordering Information



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