

**■ General Description**

The OCP2158 is a 1.5MHz constant frequency, high efficiency, slope compensated current mode PWM step-down converter. The devices integrate a main switch and a synchronous rectifier for high efficiency without an external Schottky diode. The OCP2158 can operate from a 2.0V to 6.5V input voltage and is ideal for powering portable equipment that runs from a single cell lithium-ion (Li+) battery. It can supply 700mA output current and can also run at 100% duty cycle for low dropout operation, extending battery life in portable system.

The OCP2158 features a Power Saving Mode which reduces quiescent current to just 30 $\mu$ A and significantly improves efficiency at light load.

The OCP2158 is offered in a low profile (1mm) 5-pin, SOT 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
- DSP Core Supplies
- Digital Still Cameras
- Portable instruments

**■ Pin Description**

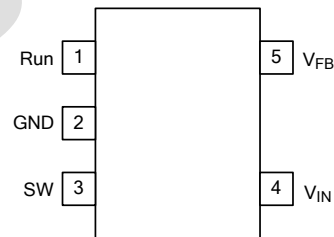
Pin Number	Pin Name	Pin Function
1	RUN	Regulator Enable control input. Drive RUN above 1.5V to turn on the part. Drive RUN below 0.3V to turn it off. In shutdown, all functions are disable drawing <1 $\mu$ A supply current. Do not leave RUN floating.
2	GND	Ground
3	SW	Power Switch Output. It is the Switch 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 $\mu$ F or greater ceramic capacitor.
5	FB/VOUT	VFB (OCP2158): Feedback Input Pin. Connected FB to the center point of the external resistor divider. The feedback threshold voltage is 0.6V. VOUT (OCP2158-1.2/1.5/1.8): Output Voltage Feedback Pin. An internal resistive divider divides the output voltage down for comparison to the internal reference voltage.

**■ Features**

- High Efficiency : Up to 96%
- 1.5MHz Constant Switching Frequency
- 700mA Output Current at  $V_{IN}=3.0V$
- Integrated Main switch and synchronous rectifier
- No Schottky Diode Required
- 2.0V to 6.5V Input Voltage Range
- Output Voltage as low as 0.6V
- 100% Duty Cycle in Dropout
- Low Quiescent Current : 30 $\mu$ A
- <1 $\mu$ A 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 SOT23 package

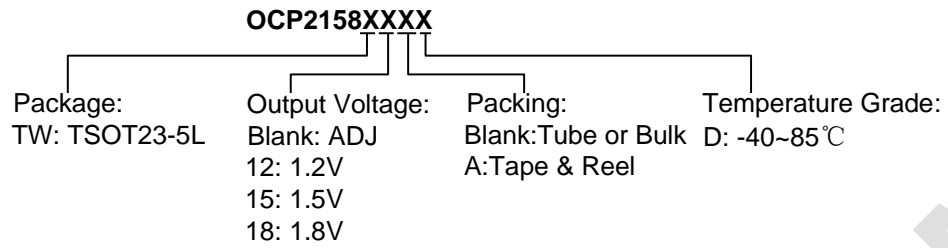
**■ Pin Configuration**

(Top View)





### ■ Ordering Information



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