

### Features

- ◆ Up to 1A Max Output Current
- ◆ 2.7V to 5.5V Input Voltage Range
- ◆ Fixed 1.5MHz Switching Frequency
- ◆ Light Load Operation
- ◆ 100% Duty Operation
- ◆ Internal Compensation
- ◆ Available in SOT23-5
- ◆ RoHS Compliant and Halogen Free

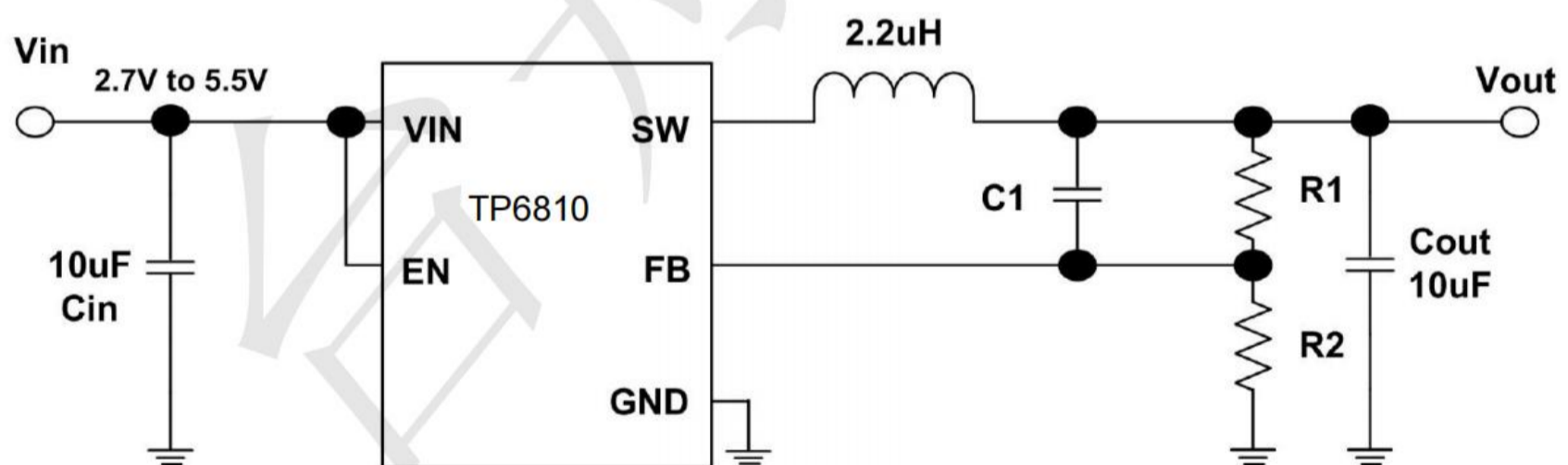
### Applications

- ◆ USB ports/Hubs
- ◆ Hot Swaps
- ◆ Cell phones
- ◆ Tablet PC
- ◆ Set Top Boxes

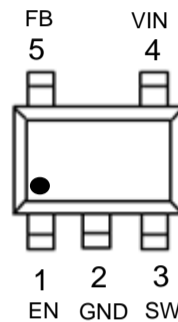
### General Description

TP6810 is a high-efficiency DC to DC step down switching regulator, capable of delivering up to 1A output current. The TP6810 operates in a wide range input voltage from 2.7V to 5.5V making the IC ideal for low voltage power conversions. Running at a fixed frequency of 1.5MHz allows the use of small inductance value and low DCR inductors, thereby achieving higher efficiency.

### TYPICAL APPLICATION



**PIN CONFIGURATION**



**Marking: A1xy**  
**xy=date code**

SOT23-5

Pin Num	Pin Name	Description
1	EN	Turns on/turns off control input
2	GND	Power ground pin
3	SW	Inductor pin. Connect this pin to the switching node of inductor
4	VIN	Power input pin
5	FB	Output feedback pin

**Absolute Maximum Rating** (T =25°C unless otherwise noted)

Parameter	Value
Max Input Voltage	6V
Max Voltage All Pins	6V
Max Operating Junction Temperature(Tj)	125°C
Ambient Temperature(Ta)	-40°C~85°C
Maximum Power Dissipation SOT23-5	400mW
Storage Temperature(Ts)	-40°C~50°C
Lead Temperature & Time	260°C, 10S

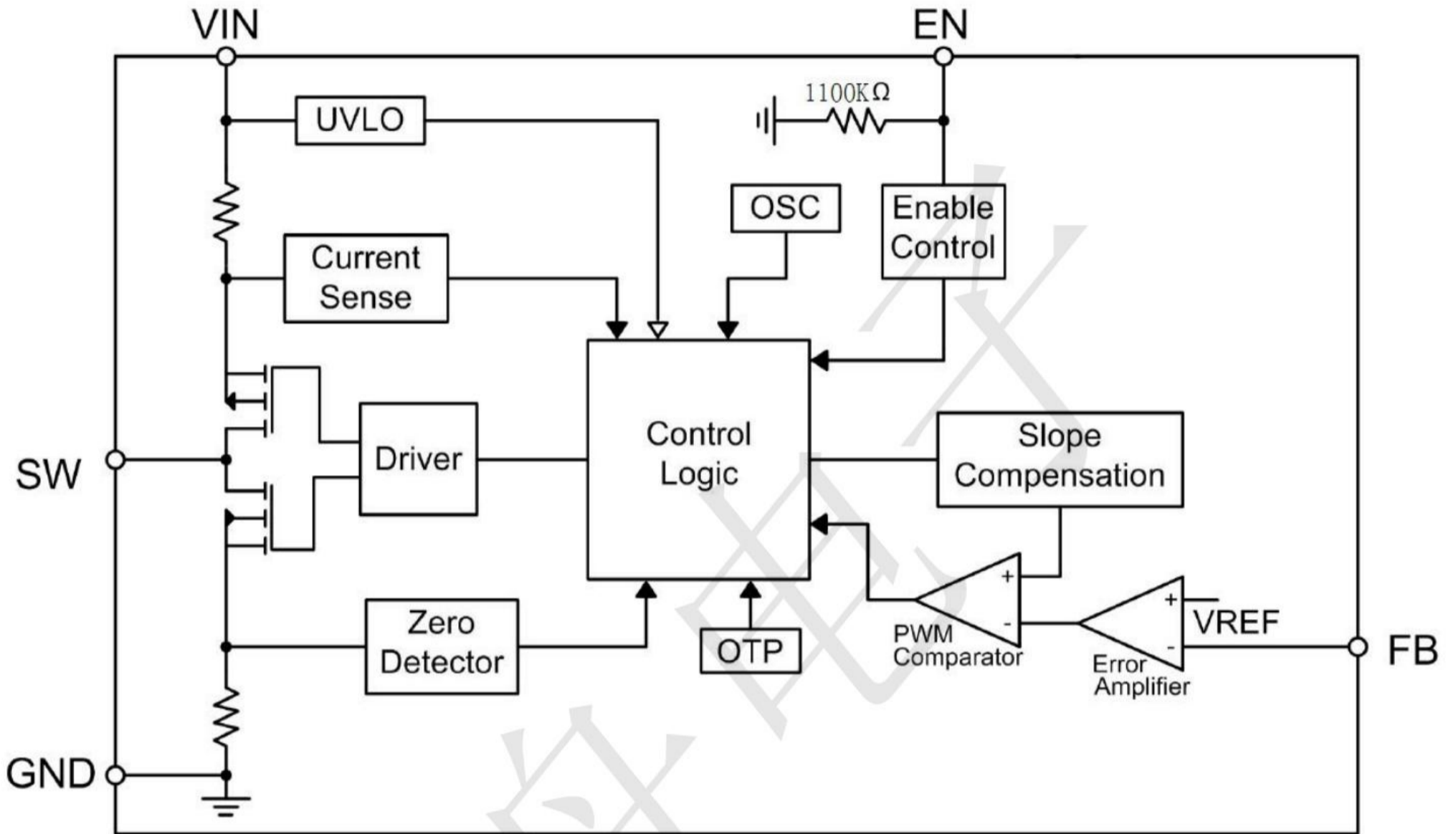


### Electrical Characteristics

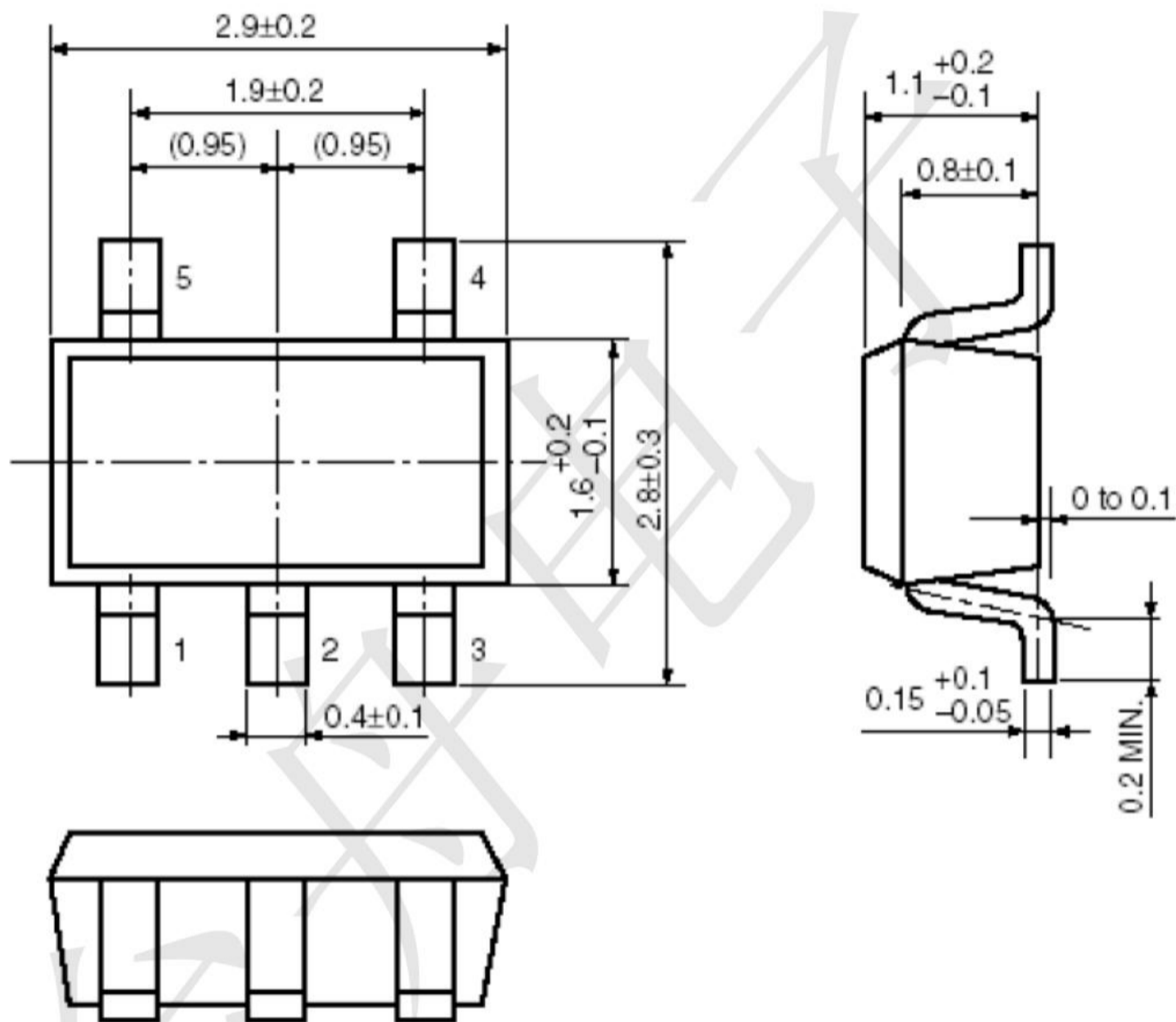
( $V_{IN}=5V$ ,  $T_A = 25^{\circ}C$  unless otherwise specified)

Parameters	Condition	Min	Typ	Max	Units
Input Voltage		2.7		5.5	V
UVLO Threshold			2.5		V
UVLO Hysteresis			0.15		V
Quiescent Current	$V_{FB} = 0.7V$		40		$\mu A$
Shutdown Supply Current	$V_{EN}=0V$			1	$\mu A$
Reference Voltage	$V_{IN}=2.7$ to $5.5V$	0.591	0.6	0.609	V
Reference Current			0.01		$\mu A$
Maximum Duty		100			%
Switching Frequency			1.5		MHz
Short Switching Frequency			380		KHz
Internal Soft-Start Time			1		ms
High Side MOSFET On-Resistance			150		m $\Omega$
Low Side MOSFET On-Resistance			130		m $\Omega$
High Side MOSFET Current Limit			2.4		A
High Side MOSFET Leakage Current	$V_{IN}=5V$ , $V_{FB}=0.7V$			10	$\mu A$
EN Pin Pull-Low Resistance			950		K $\Omega$
EN Pin Input Low Voltage				0.4	V
EN Pin Input High Voltage		1.5			V
Power Good Rising			93		%
Power Good Falling			88		%
Output Discharge Switch On Resistance	$V_{EN}=0V$		60		$\Omega$
Thermal Shutdown Temperature			160		$^{\circ}C$

**BLOCK DIAGRAM**



**Package information**  
 SOT23-5



UNIT: mm