

**35mΩ, Over-Voltage Protector****GENERAL DESCRIPTION**

PW2609 is a high voltage 36V over voltage protector (OVP) which has a very low 35mohm on resistance, by only change the external connecting. It can be used as an OVP device or a high voltage switch.

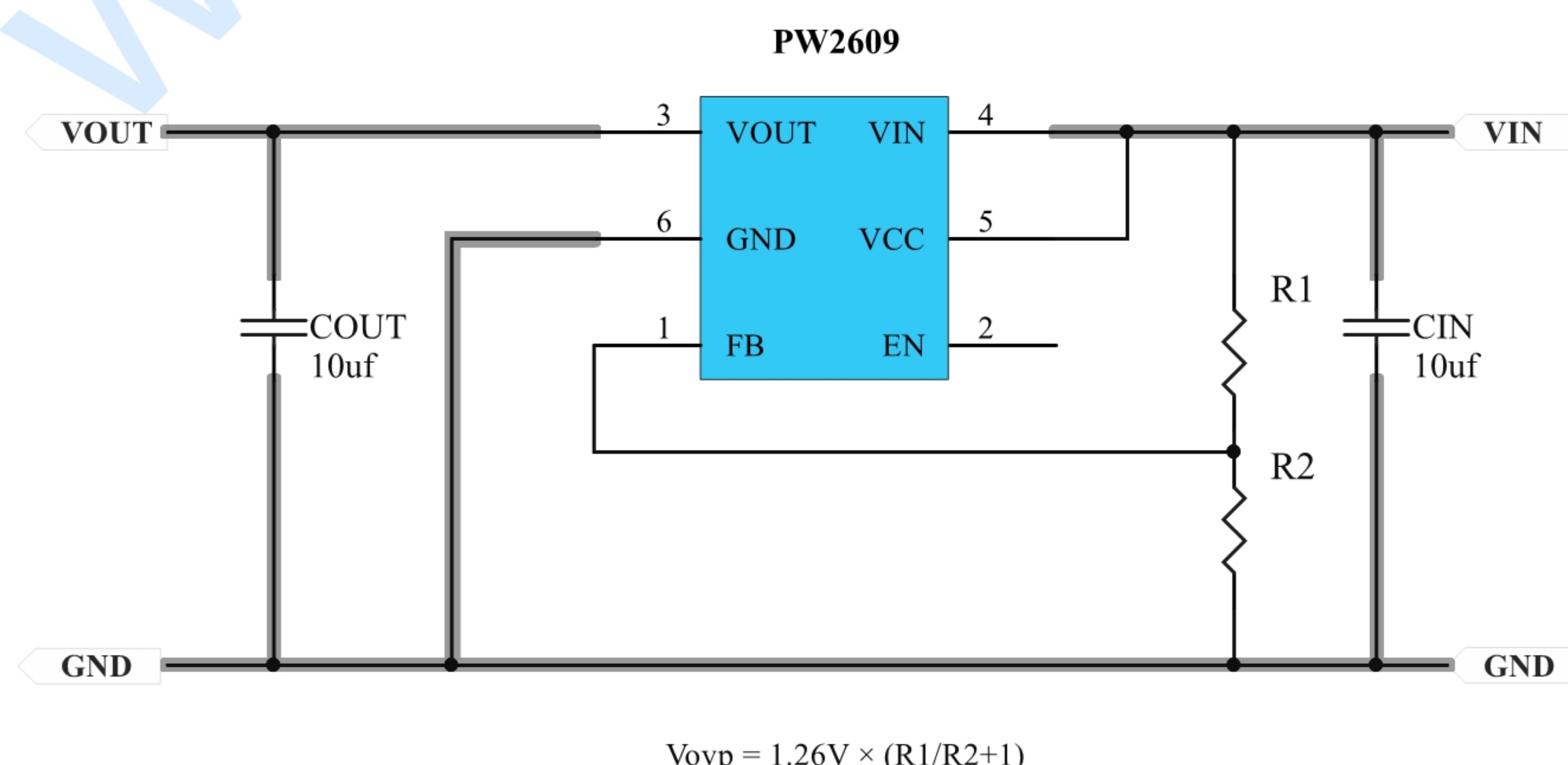
PW2609 consists of a charge pump, a configurable power MOSFET, a voltage reference, a gate driver and some logics and protection modules. PW2609 can react to an input surge very fast and shut off the switch in less than 0.1us and stand the voltage spike as high as 20V.

FEATURE

- 36V standoff voltage
- 35mohm on resistance
- Input OVP with 0.1us reaction time
- Protection voltage programmable by $V_{fb}=1.26V$
- SCP and OTP
- Enable pin available for switch on and off

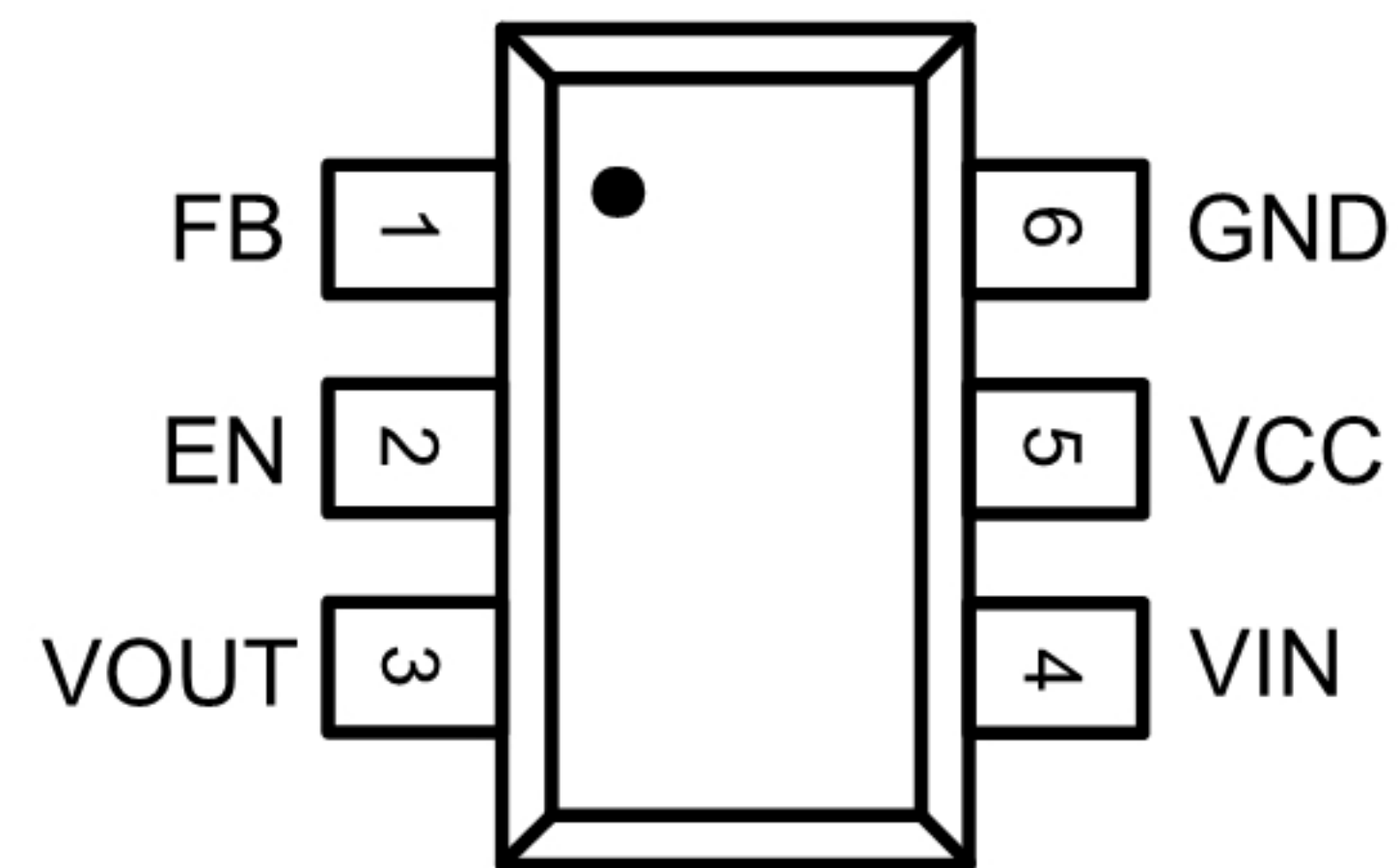
APPLICATIONS

- All electronic devices with input DC power plug
- E-Cigarette
- Car Camera
- Cellphone

TYPICAL APPLICATION CIRCUIT



PIN ASSIGNMENT/DESCRIPTION



Pin No	Pin Name	Functions
1	FB	OVP feedback input pin. A resistor divider from IN to AGND thru this pin. $V_{FB}=1.26V$. When FB floating, default OVP=6.1V. $V_{ovp} = 1.26V \times (R1/R2+1)$ where Vovp has to be within the range from 3.5 to 20V.
2	EN	Enable pin, pull high to turn on the chip and pull low to shut down the chip
3	Vout	OUTPUT pin, Bypass with a 1uF capacitor from this pin to ground
4	VIN	A Bias voltage input pin. Bypass with a 1uF capacitor from this pin to ground.
5	VCC	The independent supply voltage for control logic and charge pump, tied to IN in normal application
6	GND	Ground

Absolute Maximum Ratings

ITEMS	VALUE	UNIT
FB Voltage	-0.3~6	V
VIN Voltage	-0.3~36	V
VOUT Voltage	-0.3~36	V
EN Voltage	-0.3~36	V
Operating Temperature Range	-40~85	°C
Storage Temperature Range	-55 to 150	°C
R θ JA	100	°C/W
R θ JC	50	°C/W
Package Lead Soldering Temperature (10s)	260	°C
ESD Human Body Model	2	KV
ESD Machine Model	200	V

Note: Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.



ELECTRICAL CHARACTERISTICS

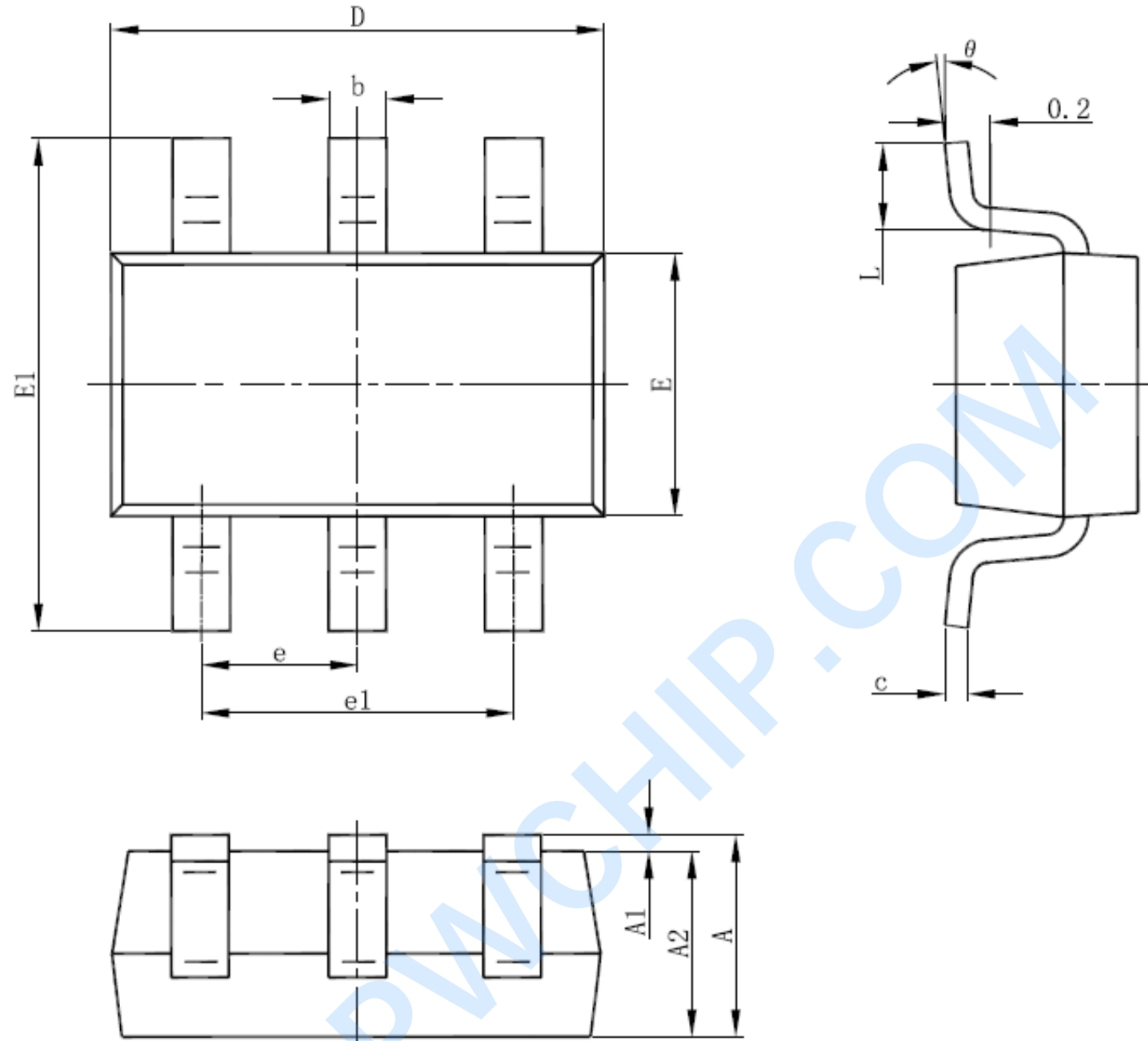
(VIN = 5V, TA = 25°C, unless otherwise noted)

Symbol	Test Conditions	MIN	TYP	MAX	UNIT
VIN Range		3.4		36	V
VIN UVLO	Hys=400mV		3.35		V
OVP	Default OVP=6.1V when floating fb		6.1		V
OVP FB		1.21	1.26	1.31	μA
OVP Range		3.5		20	V
Ron	VCC=5V, Iout=2A		35		mΩ
Iq	Standby current, IN and Vcc < OVP voltage		150		uA
I _{sd}	Shutdown current		10		uA
Thermal Shutdown	Rising, Hys=50°C	5.9	6.1	6.3	V



PACKAGE DESCRIPTION

SOT23-6L



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.900	1.450
A1	0.000	0.150
A2	0.900	1.300
b	0.300	0.500
c	0.100	0.200
D	2.800	3.000
E	1.500	1.700
E1	2.650	2.950
e	0.950(BSC)	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°



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