

### Features

- Low voltage drop: 0.26V@100mA
- High input voltage: 15V
- Low temperature coefficient
- Large Output Current: >0.5A
- Low Quiescent Current: 2.0uA
- Output voltage accuracy: tolerance  $\pm 2\%$
- Built-in current limiter
- SOT23-3L Package Available

### Applications

- Battery-powered equipment
- Hand-Hold Equipment
- GRS Receivers
- Wireless LAN

### General Description

The XC6202P series is a group of positive voltage output, three-pin regulators, that provide a high current even when the input/output voltage differential is small. Low power consumption and high accuracy is achieved through CMOS and laser trimming technologies.

The XC6202P consists of a high-precision voltage reference, an error amplification circuit, and a current limited output driver. Transient response to load variations have improved in comparison to the existing series. SOT23-3 packages is available.

### Marking

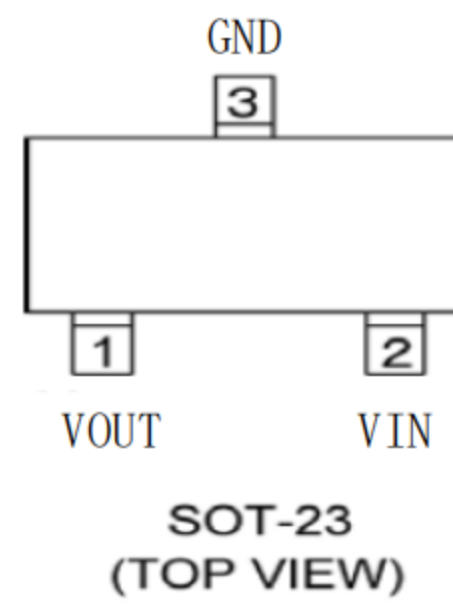
**XC6202P332MR: 252X**  
**XC6202P502MR: 25MX**  
**XC6202P302MR: 24ZX**

**XC6202P302MR**

MR:SOT23-3L Package

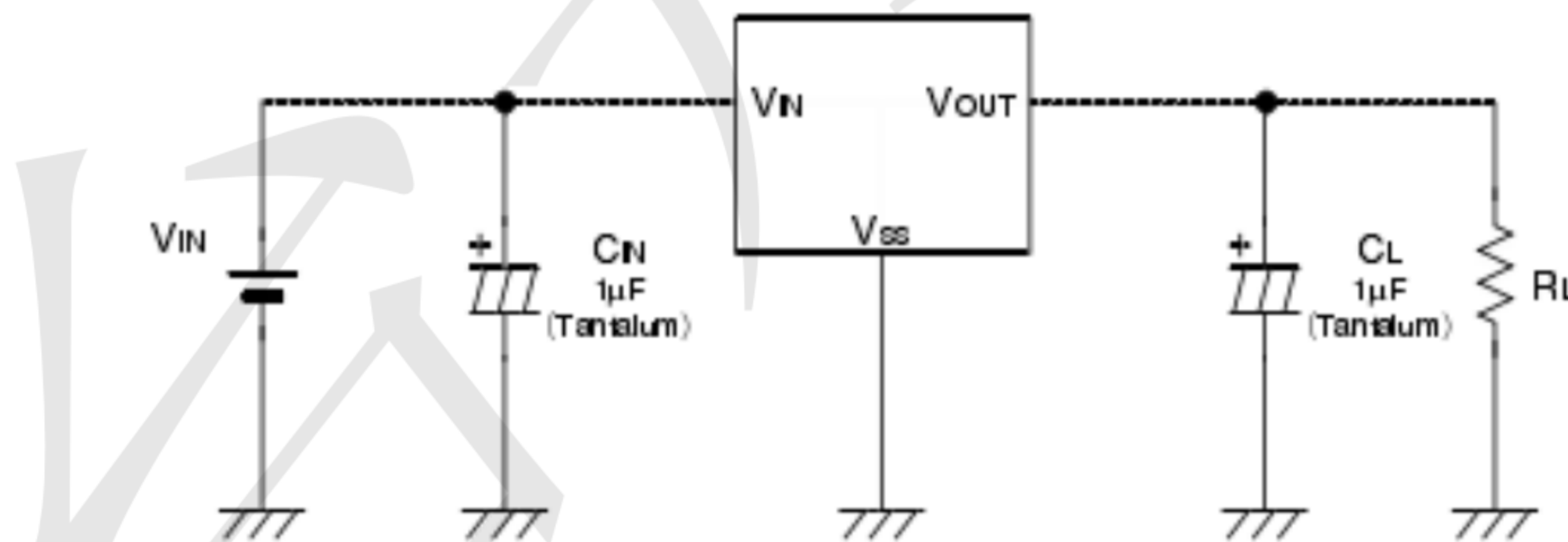
Output voltage: 332=3.3V  
502=5.0V  
302=3.0V

## PIN CONFIGURATION



Pin No	Pin Name	Pin Function
1	VOUT	Output of the Regulator
2	VIN	Input of Supply Voltage.
3	GND	Ground

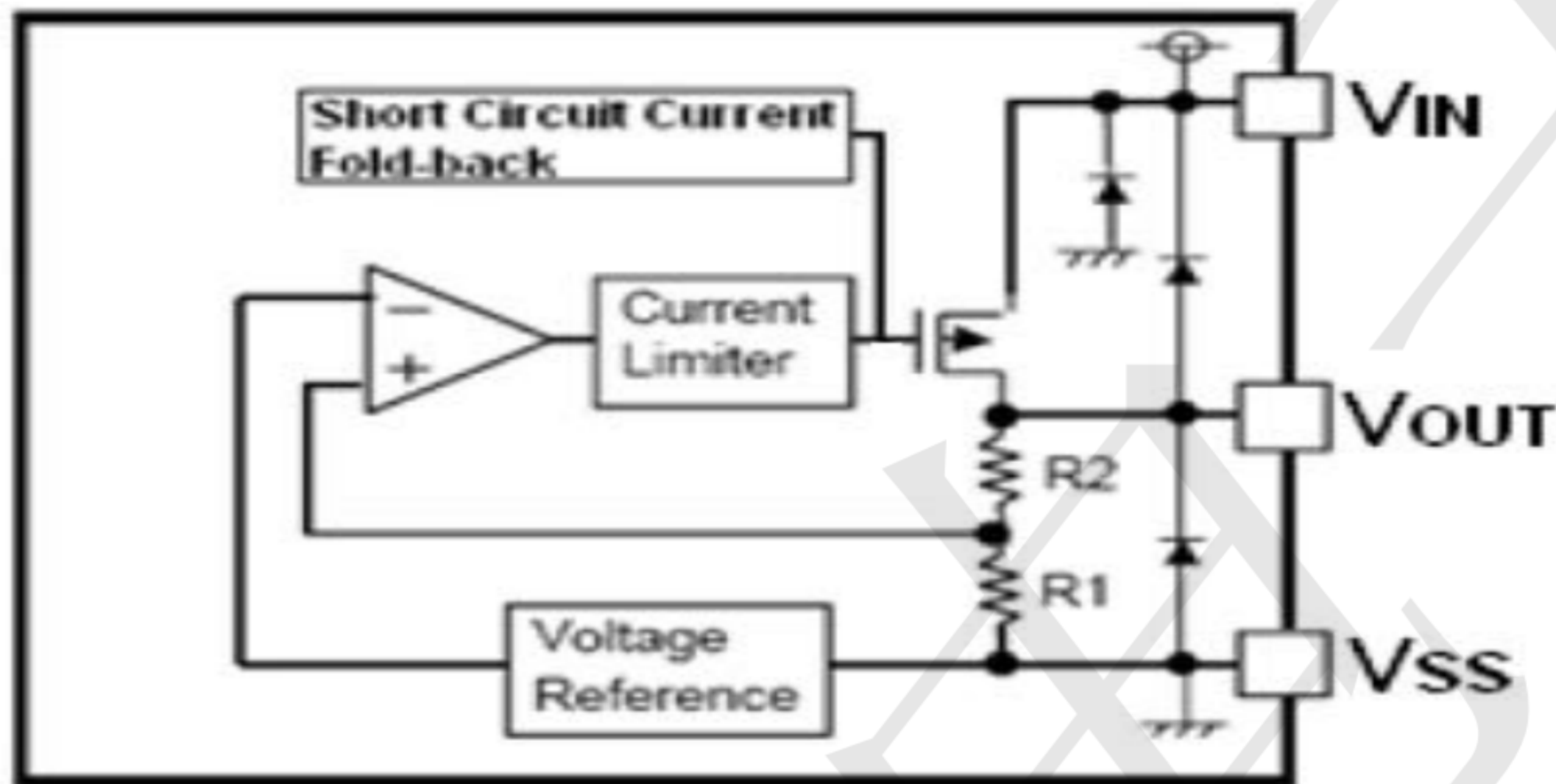
## Typical Application Circuit



Note1: Input capacitor  $C_{IN}=1\mu F$ .

Note2: Output capacitor  $C_{OUT}=1\mu F/6.8\mu F$  (1µF Tantalum capacitor or 6.8µF ceramic capacitor is recommended).

**BLOCK DIAGRAM**



**Absolute Maximum Ratings**

Supply Voltage .....-0.3V to 18V      Storage Temperature .....-40°C to 125°C  
 Operating Temperature .....-40°C to 85°C

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

## Electrical Characteristics

TP6202P for any output voltage

(Ta=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	Vin=Vout+1V 1.0mA≤Iout≤30mA	Vout×0.98	--	Vout×1.02	V
Output Current*1	Iout	Vin-Vout=1V	--	150	--	mA
Low dropout*2	Vdrop	Refer to the next table				
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	1.6V≤Vin≤8V Iout=100mA	--	0.05	0.2	%/V
Load Regulation	ΔVout	Vin= Vout+1V 1.0mA≤Iout≤100mA	--	12	30	mV
Output voltage Temperature Coefficiency	$\frac{\Delta V_{OUT}}{\Delta Ta}$	Iout=30mA 0°C≤Ta≤70°C	--	±100	--	Ppm/°C
PSRR	PSRR	F=1KHz Vin=Vout+1V	--	40	--	dB
Supply Current	Iss1	--	--	2	--	uA
Input Voltage	Vin	--	--	--	15	V

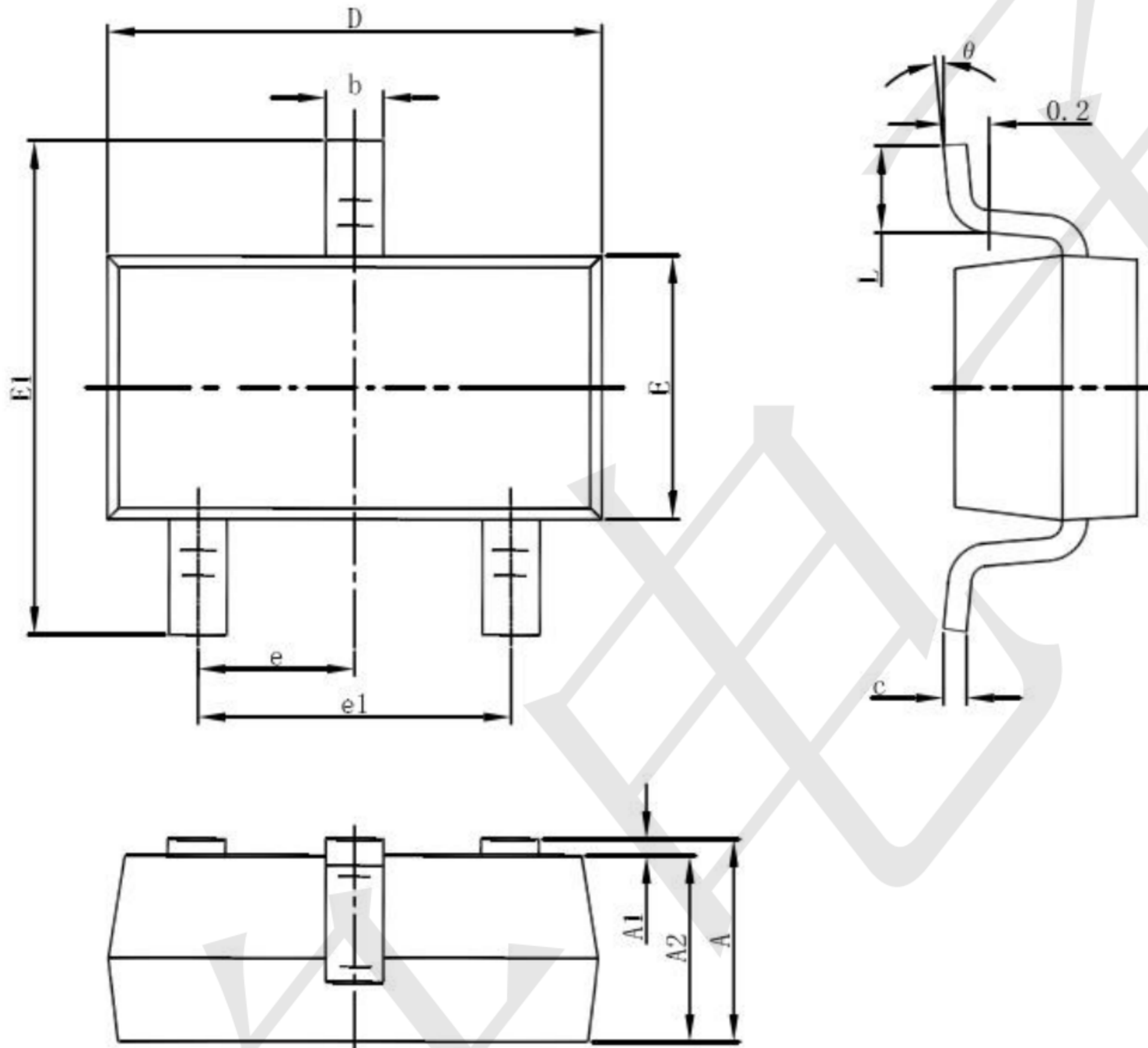
### Electrical Characteristics by Output Voltage

Output Voltage Vout(V)	Dropout Voltage Vdif (V)		
	Conditions	Typ.	Max.
Vout ≤ 2.0V	Iout=60 mA	0.1	0.12
2.0 < Vout ≤ 3.0	Iout=80 mA	0.12	0.14
3.0 < Vout ≤ 4.0	Iout=100 mA	0.16	0.18
4.0 < Vout ≤ 5.0		0.17	0.18



**Package information**

**3-pin SOT23-3L Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
theta	0°	8°	0°	8°

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