

### General Description

The XC6206P Series are highly precise, low power consumption, 3 terminal, positive voltage regulators manufactured using CMOS technologies

The XC6206P Series consists of a current limiter circuit, a driver transistor, a precision reference voltage and an error correction circuit. The series is compatible with low ESR ceramic capacitors. The current limiter's foldback circuit operates as a short circuit protection as well as the output current limiter for the output pin.

**SOT-23**



### Features

- Quiescent Current: 8 $\mu$ A
- Input Voltage Range: Max.6V
- Output Current: 300mA
- Low Dropout Voltage: 290mV@100mA (V<sub>OUT</sub>=3.3V)
- Output Voltage: 1.2~5.0V
- Output Voltage Accuracy:  $\pm$ 2% (Typ.)
- Low Power Consumption

**SOT-89**



### Applications

- Mobile Phones
- Battery powered equipment
- Portable game consoles
- Reference voltage sources

### Absolute Maximum Ratings Note1

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	V <sub>IN</sub>	-0.3 ~ +6	V
Output Voltage	V <sub>OUT</sub>	-0.3 ~ (V <sub>IN</sub> +0.3)	V
Output Current	I <sub>OUT</sub>	300	mA
Power Dissipation	SOT-23	200	mW
	SOT-23-3	250	mW
	SOT-89	500	mW
Operating Temperature Range	T <sub>opr</sub>	-20 ~ 85	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 125	°C

product model	utput voltage	Output Voltage Accuracy:	Product packaging	Minimum packaging
XC6206P122MR (-G)	1.2V	±2%	MR / SOT--23 MR-G / SOT-23-3	3000
XC6206P152MR (-G)	1.5V	±2%		
XC6206P182MR (-G)	1.8V	±2%		
XC6206P252MR (-G)	2.5V	±2%		
XC6206P282MR (-G)	2.8V	±2%		
XC6206P302MR (-G)	3.0V	±2%		
XC6206P332MR (-G)	3.3V	±2%		
XC6206P362MR (-G)	3.6V	±2%		
XC6206P502MR (-G)	5.0V	±2%		

product model	utput voltage	Output Voltage Accuracy:	Product packaging	Minimum packaging
XC6206P122PR	1.2V	±2%	PR / SOT-89-3L	1000
XC6206P152PR	1.5V	±2%		
XC6206P182PR	1.8V	±2%		
XC6206P252PR	2.5V	±2%		
XC6206P282PR	2.8V	±2%		
XC6206P302PR	3.0V	±2%		
XC6206P332PR	3.3V	±2%		
XC6206P362PR	3.6V	±2%		
XC6206P502PR	5.0V	±2%		

### Ordering Information

### Typical Application Circuit

### Block Diagram

XC6206P- □□□□

Package Type  
MR : SOT-23  
MR-G : SOT-23-3  
PR : SOT-89

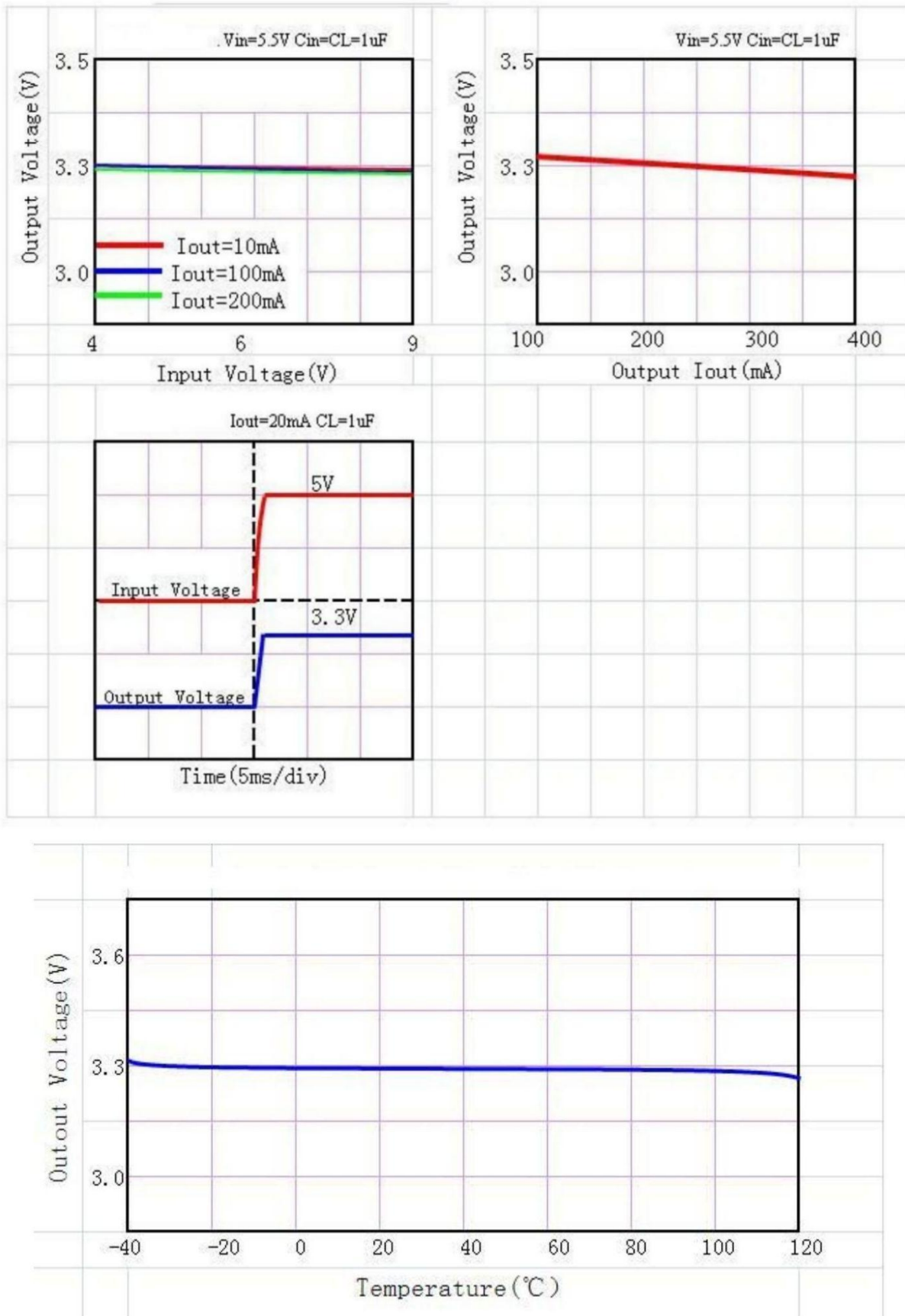
Output Voltage Accuracy:  
1 : ±1%  
2 : ±2% Output Voltage  
12 : 1.2V 15 : 1.5V 18 : 1.8V  
25 : 2.5V 28 : 2.8V 30 : 3.0V  
33 : 3.3V 36 : 3.6V 50 : 5.0V

### Electrical Characteristics

(VIN=VOUT+1, CIN=COU=1μF, TA=25°C , unless otherwise noted.)

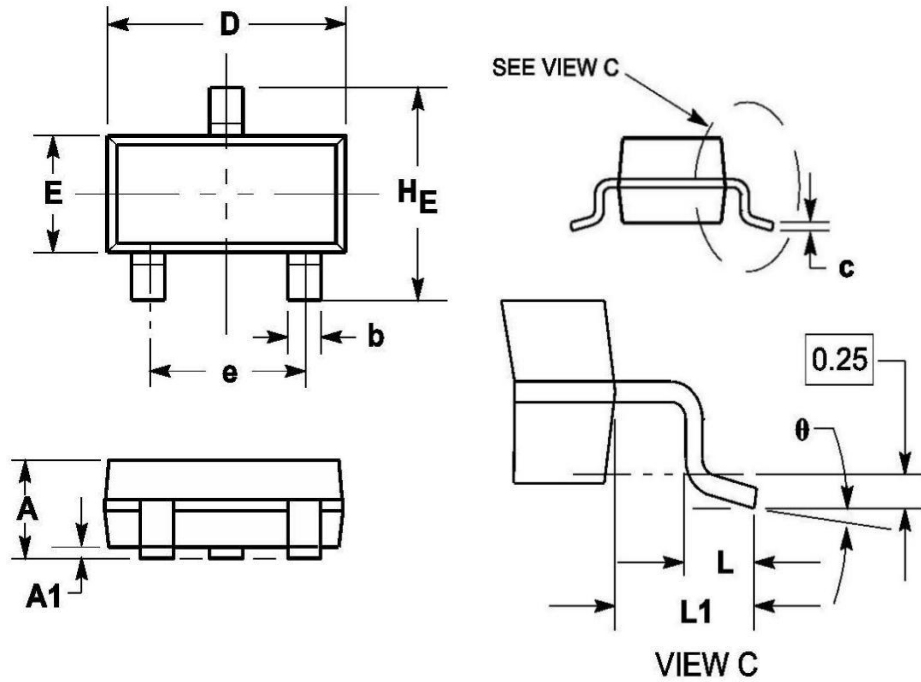
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input Voltage	VIN				6	V
Output Voltage Accuracy	ΔVOUT	IOUT=30mA	-2		+2	%
Quiescent Current	IQ	IOUT=0mA		8	15	μA
Dropout Voltage	VDROP	IOUT=100mA, VOUT≤1.5V			570	mV
		IOUT=100mA, 1.8V≤VOUT≤2.5V			420	
		IOUT=100mA, 2.8V≤VOUT≤5V			350	
Line Regulation	ΔVLINE	VIN=VOUT+1 to 6V IOUT=40mA			0.2	V
Load Regulation	ΔVLOAD	1mA<IOUT<80mA		12	30	mV
Output Voltage Temperature Coefficient	TCVOUT	IOUT=30mA, TA=0~70 °C		±100		ppm/°C
PSRR	f=1KHz	PSRR		-70		dB
Output Noise	ENO	BW=10Hz~100KHz		160		μVRMS

Typical Characteristics Curves

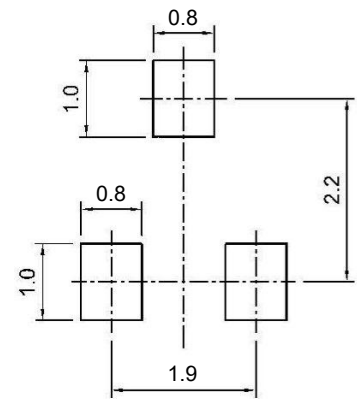


Package Outline

SOT-23



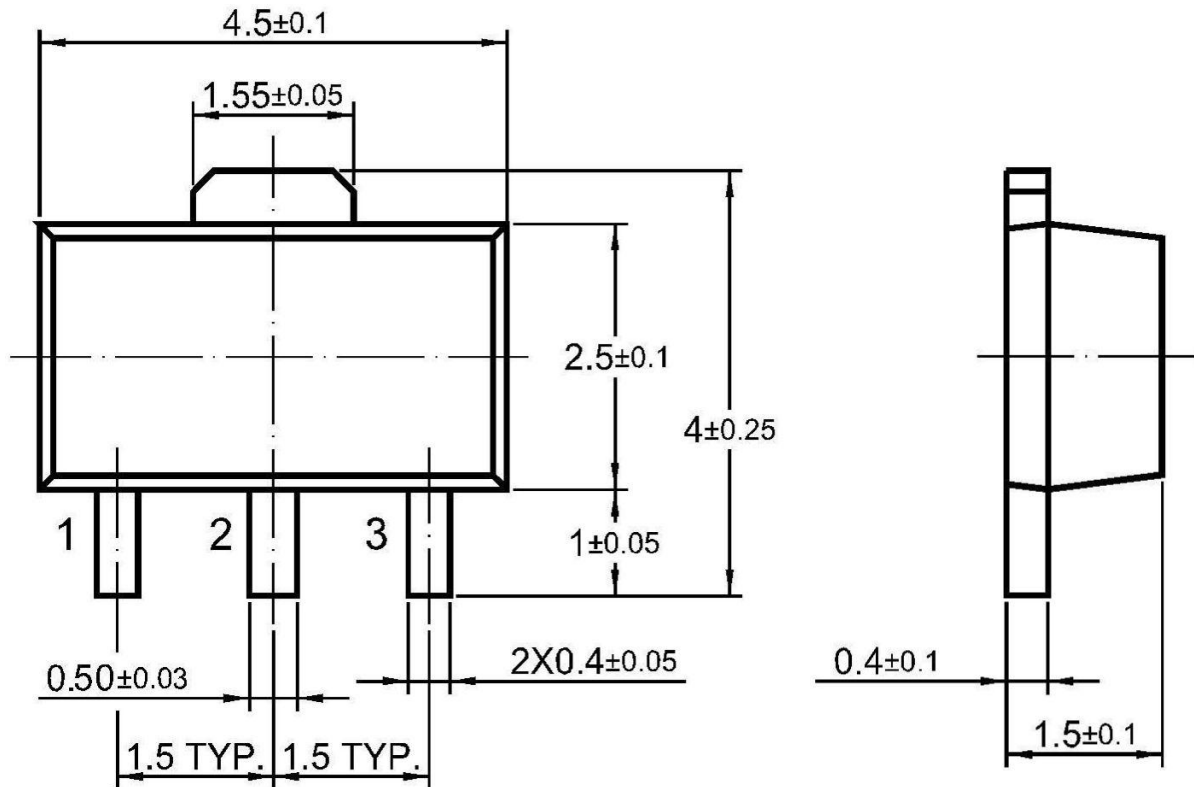
Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°



SOT-23

Recommended soldering pad

Package Outline  
 SOT-89  
 Dimensions in mm



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