

## 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.

## Features

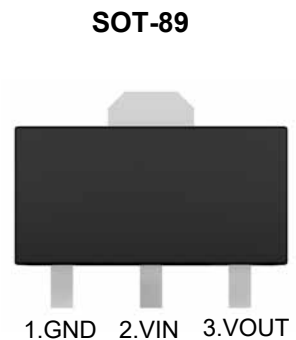
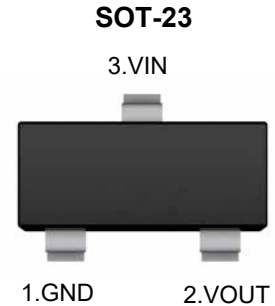
- Quiescent Current: 8 $\mu$ A
- Input Voltage Range: Max.6V
- Output Current: 300mA
- Low Dropout Voltage: 290mV@100mA (VOUT=3.3V)
- Output Voltage: 1.2~5.0V
- Output Voltage Accuracy:  $\pm 2\%$  (Typ.)
- Low Power Consumption

## Applications

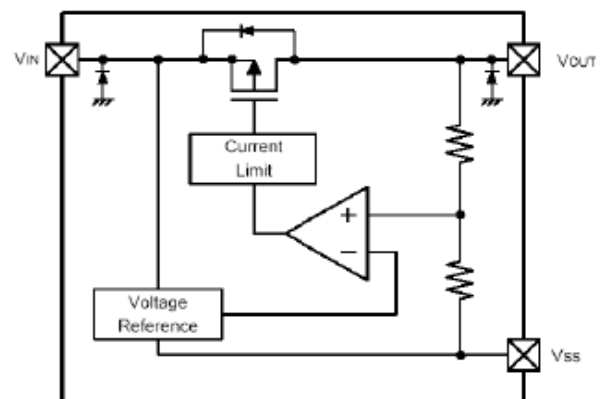
- Mobile Phones
- Battery powered equipment
- Portable game consoles
- Reference voltage sources

## Ordering Information

XC6206P-	□□□□	
		Package Type
		MR : SOT-23
		PR : SOT-89
		Output Voltage Accuracy:
		1 : $\pm 1\%$
		2 : $\pm 2\%$
		Output Voltage
		12 : 1.2V 15 : 1.5V 18 : 1.8V
		25 : 2.5V 28 : 2.8V 30 : 3.0V
		33 : 3.3V 50 : 5.0V



## Block Diagram

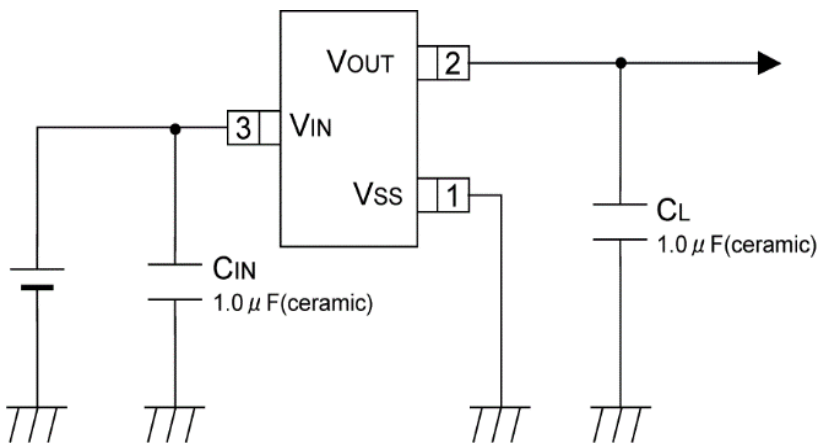


## Absolute Maximum Ratings Note1

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Input Voltage	$V_{IN}$	-0.3 ~ +6	V
Output Voltage	$V_{OUT}$	-0.3 ~ ( $V_{IN}+0.3$ )	V
Output Current	$I_{OUT}$	300	mA
Power Dissipation	SOT-23	200	mW
	SOT-23-3	250	mW
	SOT-89	500	mW
Operating Temperature Range	$T_{opr}$	-20 ~ 85	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 125	°C

## Typical Application Circuit

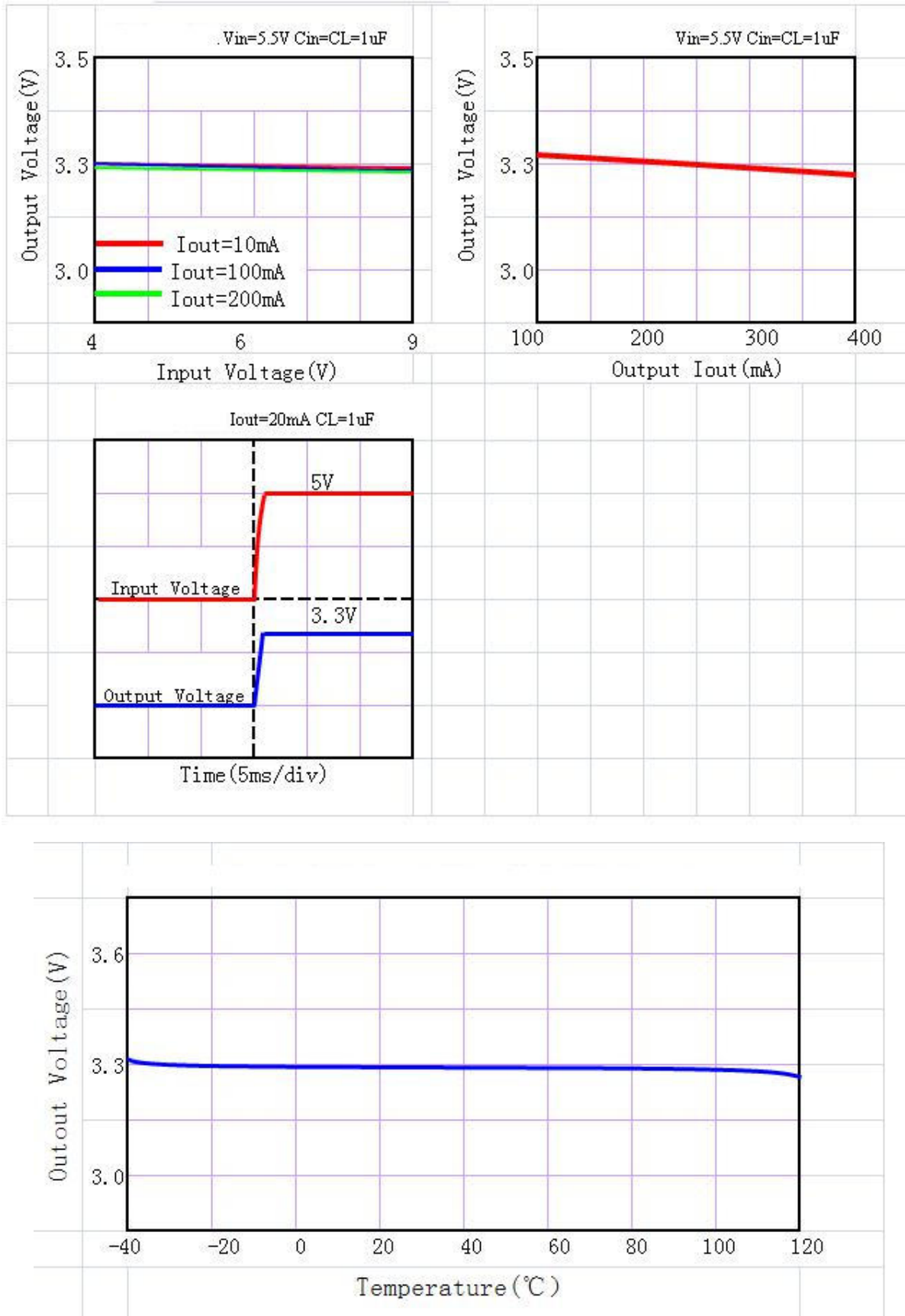


### Electrical Characteristics

( $V_{IN}=V_{OUT}+1$ ,  $C_{IN}=C_{OUT}=1\mu F$ ,  $T_A=25^\circ C$ , unless otherwise noted.)

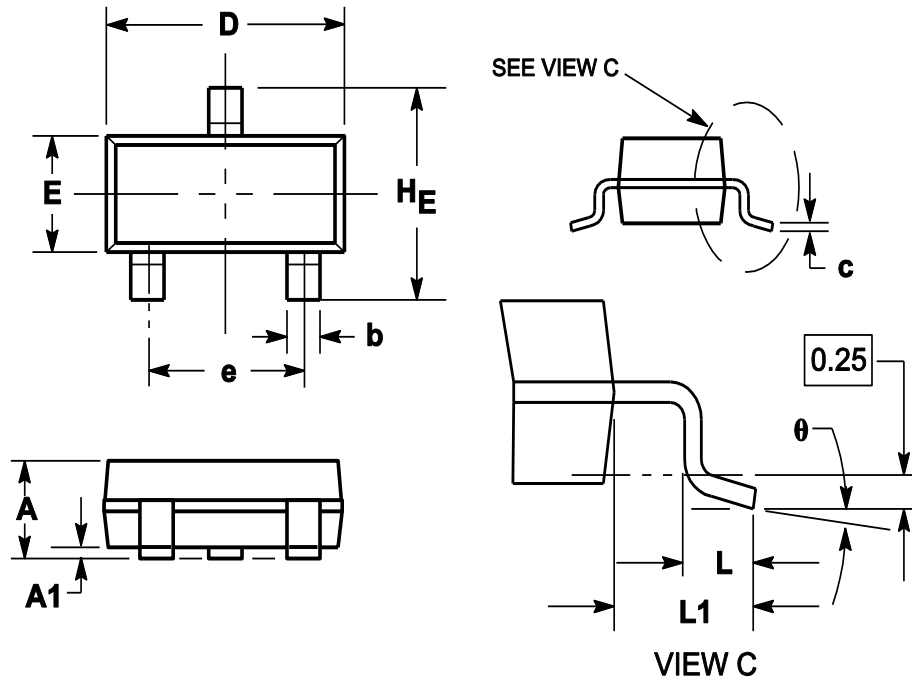
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input Voltage	$V_{IN}$				6	V
Output Voltage Accuracy	$\Delta V_{OUT}$	$I_{OUT}=30mA$	-2		+2	%
Quiescent Current	$I_Q$	$I_{OUT}=0mA$		8	15	$\mu A$
Dropout Voltage	$V_{DROP}$	$I_{OUT}=100mA, V_{OUT}\leq 1.5V$			570	mV
		$I_{OUT}=100mA, 1.8V\leq V_{OUT}\leq 2.5V$			420	
		$I_{OUT}=100mA, 2.8V\leq V_{OUT}\leq 5V$			350	
Line Regulation	$\Delta V_{LINE}$	$V_{IN}=V_{OUT}+1$ to 6V $I_{OUT}=40mA$			0.2	%/V
Load Regulation	$\Delta V_{LOAD}$	$1mA < I_{OUT} < 80mA$		12	30	mV
Output Voltage Temperature Coefficient	$TC_{VOUT}$	$I_{OUT}=30mA$ , $T_A=0\sim 70^\circ C$		$\pm 100$		ppm/ $^\circ C$
PSRR	f=1KHz	PSRR		-70		dB
Output Noise	$E_{NO}$	BW=10Hz~100KHz		160		$\mu V_{RMS}$

## Typical Characteristics Curves

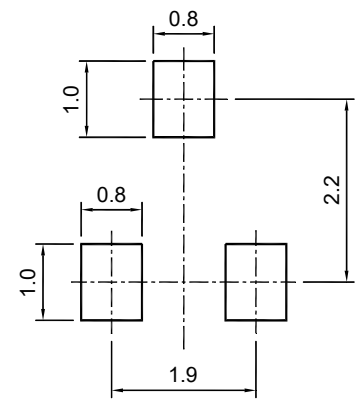


## Package Outline

### 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
$\theta$	0°		8°



SOT-23

**Recommended soldering pad**

Package Outline

SOT-89

Dimensions in mm

