General Description

The XC6201Pxx2PR-G 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 XC6201Pxx2PR-G 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.SOT-89 package are available.

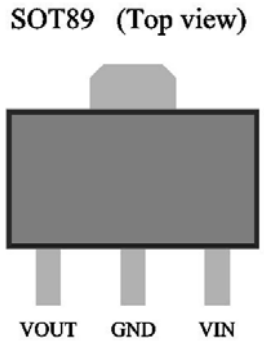
Features

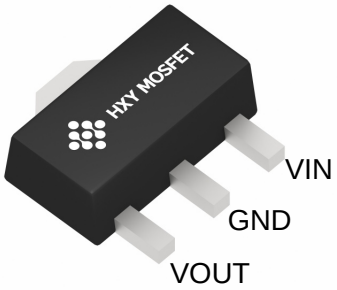
- Low voltage drop: 0.17V@100mA
- High input voltage: 12V
- Low temperature coefficient
- Large Output Current: >0.5A
- Low Quiescent Current: 2.0uA
- Output Voltage Accuracy: tolerance ±2%
- Built-in current limiter
- SOT-89 package

Application

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

Pin Configuration And Descriptions





Order Information

Orderable Device	Package	Output Voltage	Packing Option
XC6201Pxx2PR-G	SOT-89	3.0V,3.3V,4.0V,4.5V,5.0V	1000/Reel

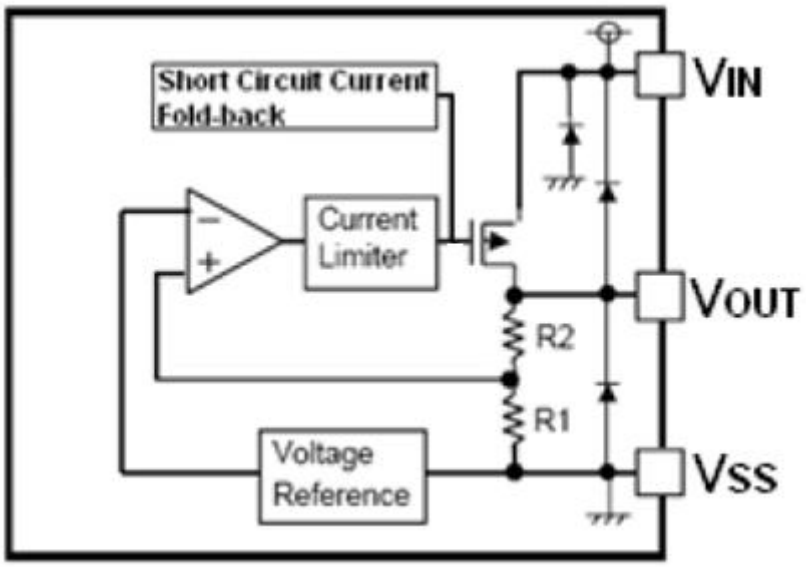
xx:From 30-50

Absolute Maximum Ratings

Description	Symbol	Value Range	Unit
Supply Voltage	V_{IN}	-0.3～+15	V
Storage Temperature Range	T_{STG}	-40～+125	°C
Operating Free-air Temperature Range	T_A	-40～+85	°C

Note:Stresses greater than those listed under "Absolute Maximum Ratingsmay" cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditionsis" not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Block Diagram



DC Characteristics (unless otherwise noted T_A= 25°C)

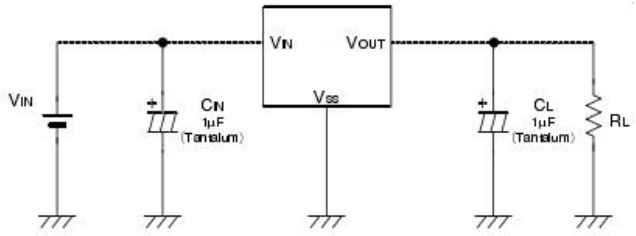
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	Vin=Vout+1V 1.0mA≤Iout≤30mA	Vout×0.98	-	Vout×1.02	V
Output Current*1	Iout	Vin-V_{out}=1V	--	250	--	mA
Low dropout*2	V_{drop}	Refer to the next table				
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	1.6V≤Vin≤8V Iout=100mA	--	0.05	0.2	%/V
Load Regulation	△Vout	Vin= Vout+1V 1.0mA≤Iout≤100mA	--	12	30	mV
Output voltage Temperature Coefficiency	$\frac{\Delta V_{OUT}}{\Delta Ta}$	Iout=30mA 0℃≤Ta≤70℃	--	±100	--	Ppm/℃
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
3.0 < Vout ≤ 4.0	Iout=200 mA	0.21	0.24
4.0 < Vout ≤ 14.0		0.20	0.22
3.0 < Vout ≤ 4.0	Iout=500 mA	0.7	0.75
4.0 < Vout ≤ 14.0		0.72	0.76

Application Circuit

Basic Circuits

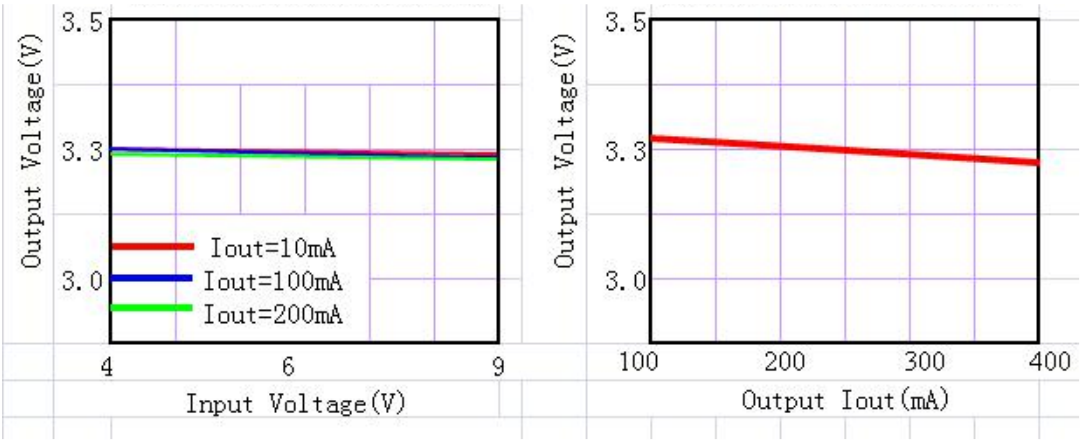


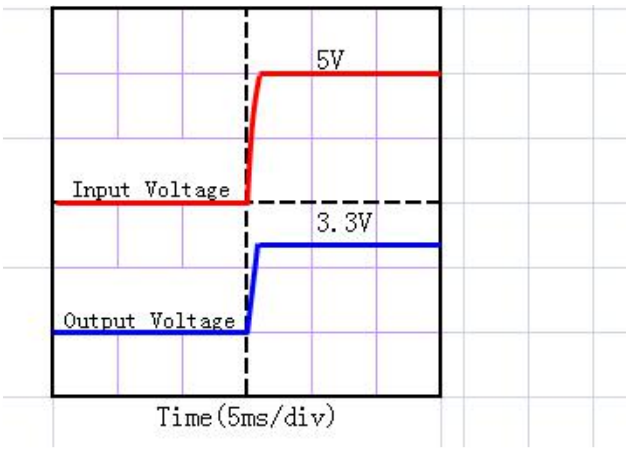
Note1:Input capacitor C_{IN}=1uF.

Note2:Ouput capacitor C_{OUT}=1uF/6.8uF(1uF Tantalum capacitor or 6.8uF ceramic capacitor is recommended).

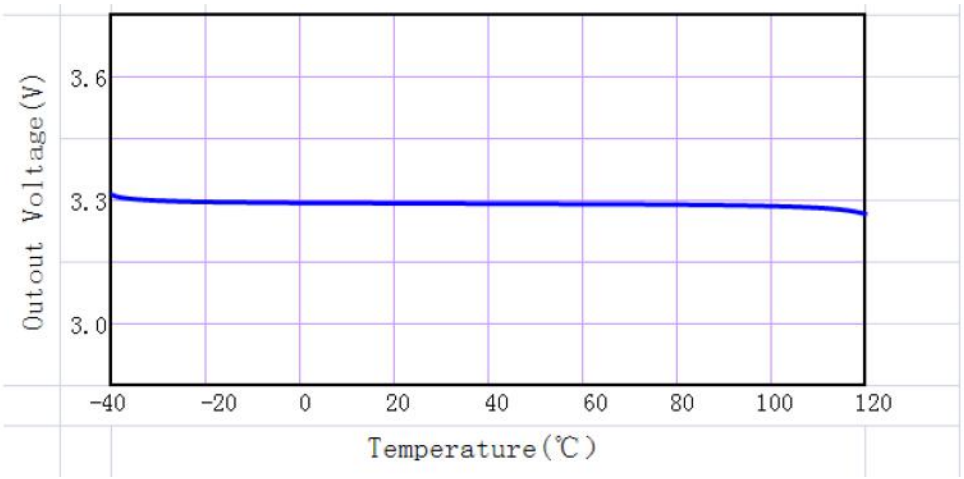
Typical Characteristics

(1) Output Voltage vs Input voltage and Output Voltage vs.Output Current and Input Transient Response



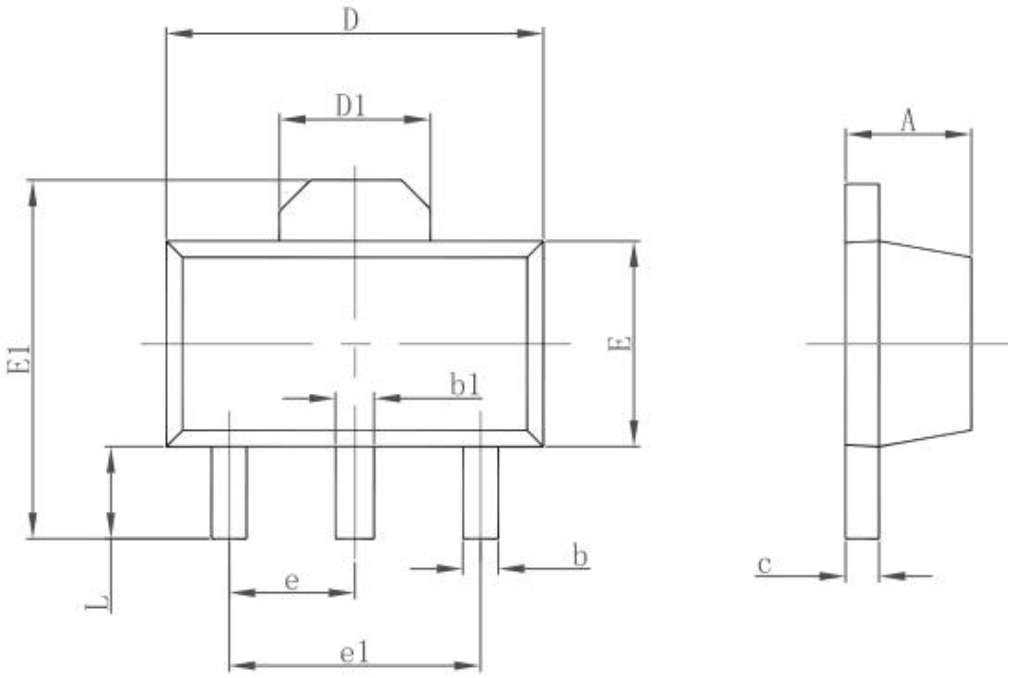


(2) Output Voltage vs. Ambient Temperature



Package Outline Dimensions

SOT-89



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

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