



Description

The PJ6206A Series are highly precise, low power consumption, 3 terminal, positive voltage regulators manufactured using CMOS technologies.

The PJ6206A 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.

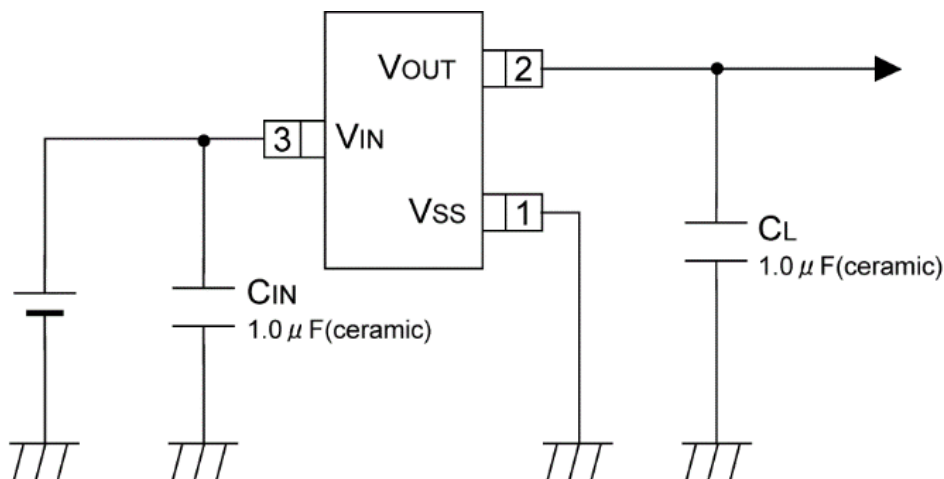
Features

- Low Quiescent Current: 2.1uA
- Input Voltage Range: Max.6V
- Output Current: 300mA
- Low Dropout Voltage: 290mV@100mA ($V_{OUT}=3.3V$)
- Output Voltage: 1.2~5.0V
- Output Voltage Accuracy: $\pm 2\%$ (Typ.)
- Available Packages: SOT-23、SOT-23-3、SOT-89

Applications

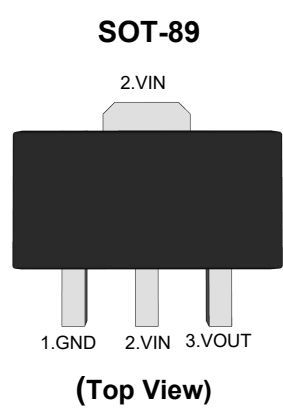
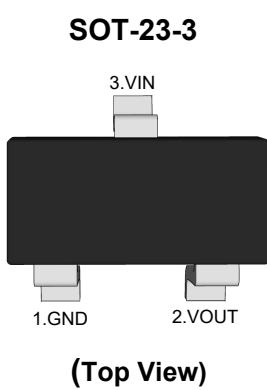
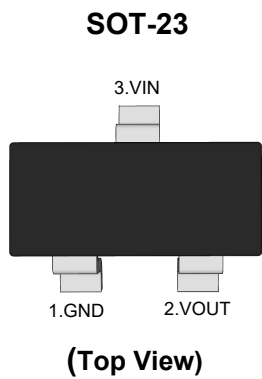
- Battery-Powered Equipment
- Mobile Phones
- Portable game consoles
- Reference voltage sources

Typical Application Circuit





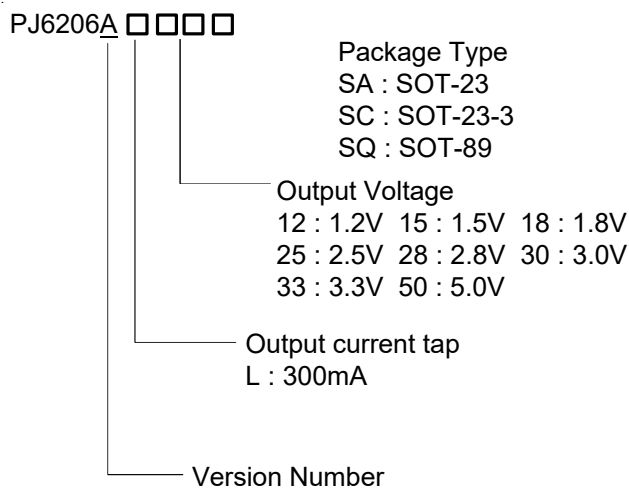
Pin Distribution



Functional Pin Description

Pin Name	Pin Function
GND	Ground
VOUT	Output Voltage
VIN	Power Input Voltage

Ordering Information





PJ6206A Series

Low Dropout Regulators

Ordering Information Continue

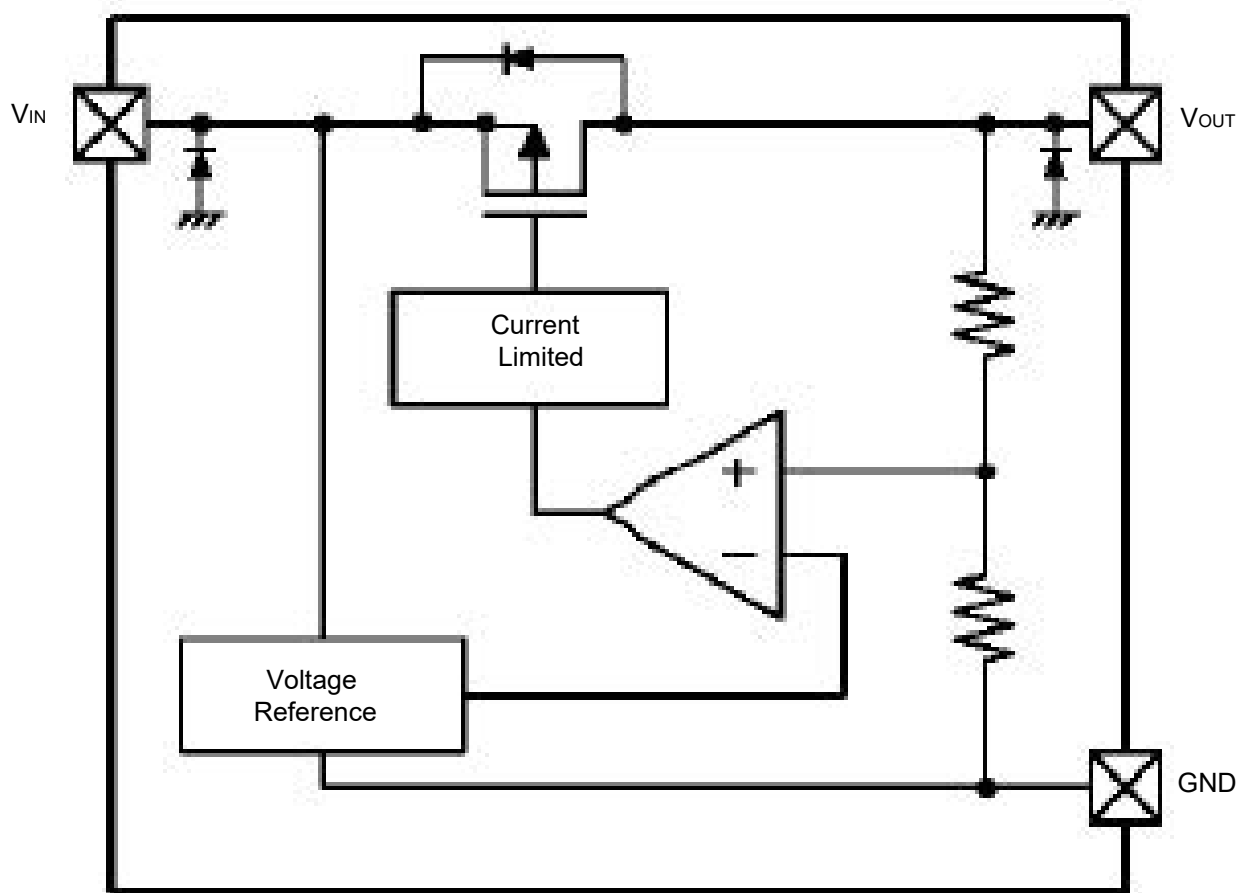
Orderable Device	Package	Reel (inch)	Package Qty (PCS)	Eco Plan ^{Note}	MSL Level	Marking Code
PJ6206AL12SA	SOT-23	7	3000	RoHS & Green	MSL1	 XX:Output Voltage e.g. 3.0:3.0V
PJ6206AL15SA						
PJ6206AL18SA						
PJ6206AL25SA						
PJ6206AL28SA						
PJ6206AL30SA						
PJ6206AL33SA						
PJ6206AL50SA						
PJ6206AL12SQ	SOT-89	7/13	1000/3000	RoHS & Green	MSL1	 XX:Output Voltage e.g. 3.0:3.0V
PJ6206AL15SQ						
PJ6206AL18SQ						
PJ6206AL25SQ						
PJ6206AL28SQ						
PJ6206AL30SQ						
PJ6206AL33SQ						
PJ6206AL50SQ						
PJ6206AL12SC	SOT-23-3	7	3000	RoHS & Green	MSL3	 XX:Output Voltage e.g. 3.0:3.0V
PJ6206AL15SC						
PJ6206AL18SC						
PJ6206AL25SC						
PJ6206AL28SC						
PJ6206AL30SC						
PJ6206AL33SC						
PJ6206AL50SC						

Note:

RoHS: PJ defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials.

Green: PJ defines "Green" to mean Halogen-Free and Antimony-Free.

Function Block Diagram





PJ6206A Series

Low Dropout Regulators

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

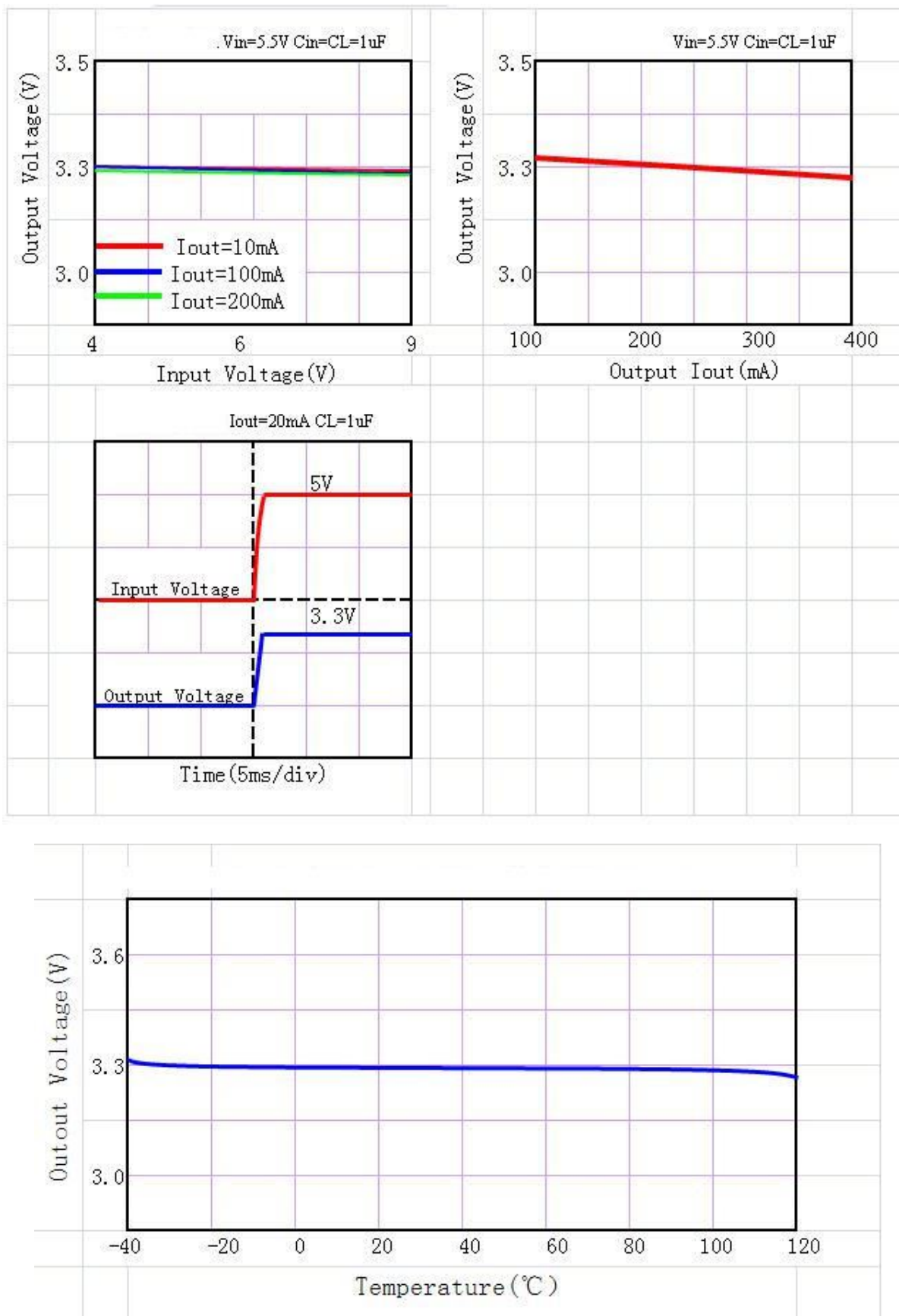
Parameter		Value	Unit
Input Voltage	V_{IN}	-0.3 ~ +6	V
Output Voltage	V_{OUT}	-0.3~ V_{IN} +0.3	V
Output Current	I_{OUT}	300	mA
Power Dissipation	SOT-23	200	mW
	SOT-89	500	mW
	SOT-23-3	250	mW
Operating Temperature Range		-20 ~ +85	°C
Storage temperature range		-55 ~ +125	°C

Electrical Characteristics

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage	V_{IN}		--	--	6	V
Output Voltage Accuracy	ΔV_{OUT}	$I_{OUT}=30mA$	-2	--	+2	%
Quiescent Current	I_Q	$I_{OUT}=0mA$	--	8	15	μA
Dropout Voltage ^{Note1}	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	ΔV_{LINE}	$V_{IN}=V_{OUT}+1$ to 6V, $I_{OUT}=40mA$	--	--	0.2	%/V
Load Regulation	ΔV_{LOAD}	$1mA<I_{OUT}<80mA$	--	12	30	mV
Output Noise Voltage	e_{NO}	BW=10Hz~100KHz	--	160	--	μV_{RMS}
Power Supply Rejection Rate	PSRR	$I_{OUT}=100mA$, $f=1KHz$	--	-70	--	dB
Output Voltage Temperature Coefficient	TC_{VOUT}	$I_{OUT}=30mA$, $T_A=0\sim 70^\circ C$	--	± 100	--	ppm/°C

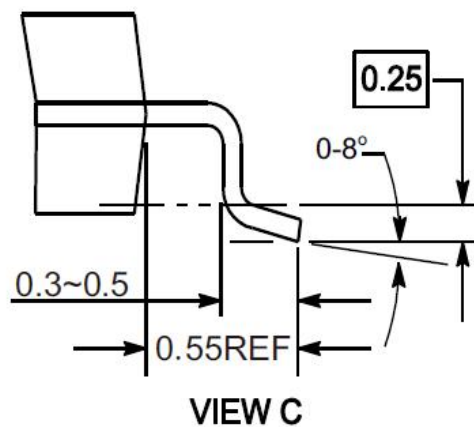
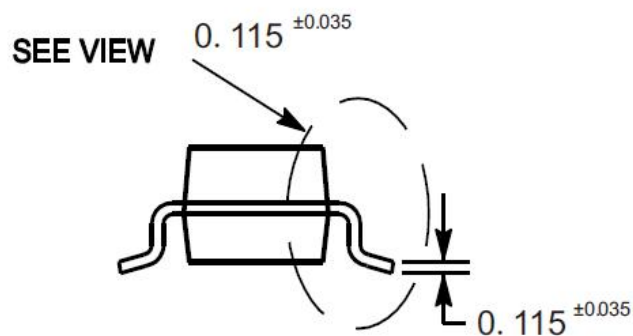
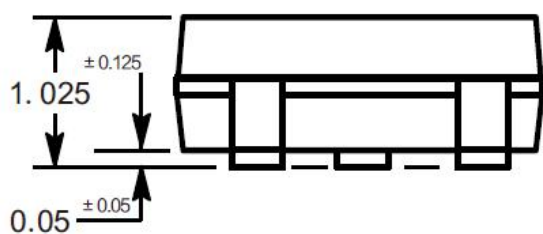
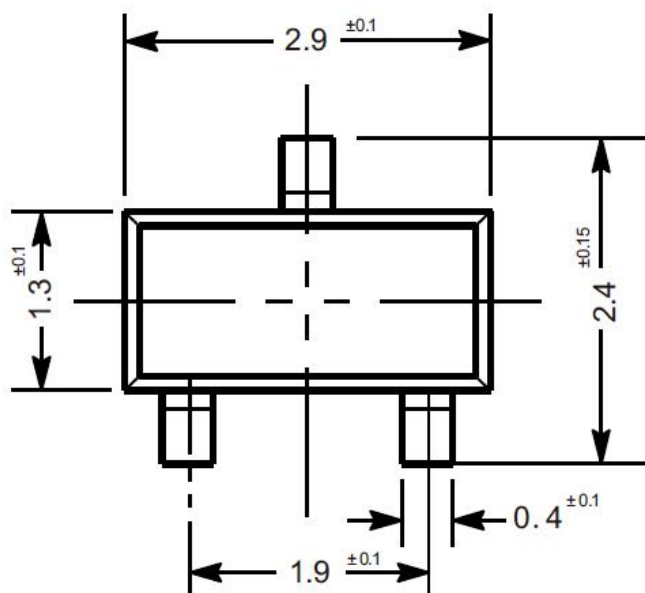
Typical Characteristics Curves



Package Outline

SOT-23

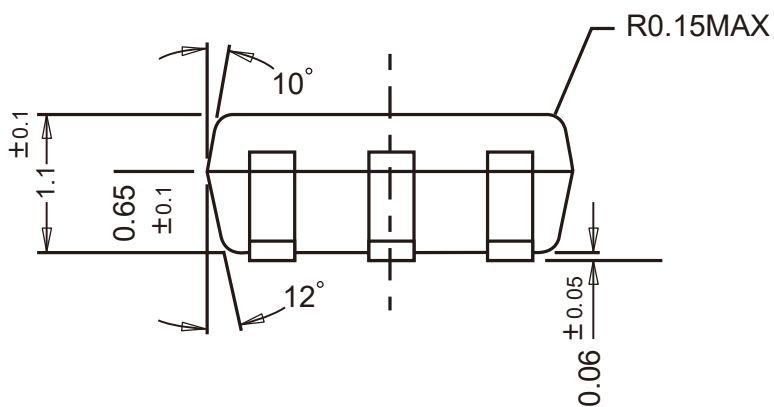
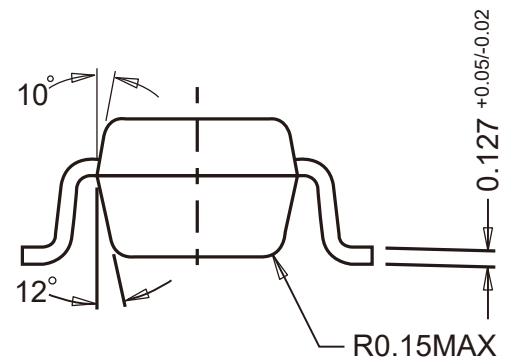
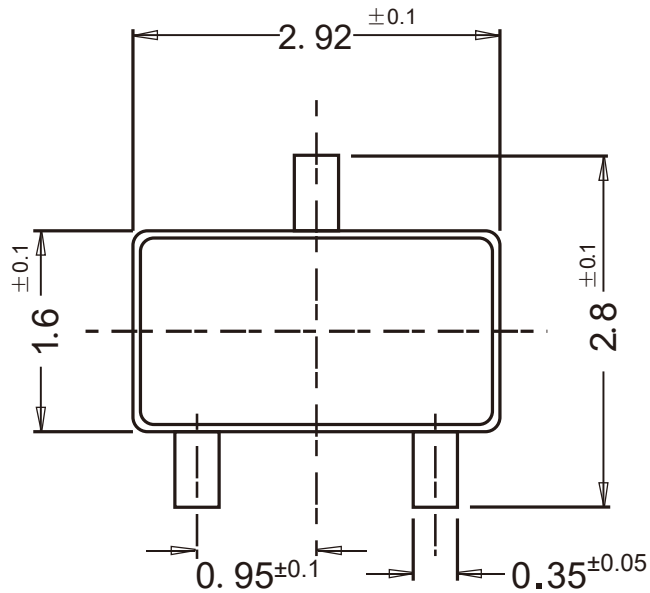
Dimensions in mm



Package Outline

SOT-23-3

Dimensions in mm





Package Outline

SOT-89

Dimensions in mm

