

300mA、8V、Low Power LDO

SSP6206

General Description

SSP6206 series are a highly precise, lower consumption, 3 terminal, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage .

The SSP6206 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. Output voltages are internally by laser trimming technologies. It is selectable in 0.1V increments within a range of 1.5V to 3.6V. SSP6206 series are available in SOT-23,SOT23-3 and SOT89 packages.



Features

- Low power consumption
- Low voltage drop
- Low temperature coefficient
- Low Quiescent Current: 5 μ A @ 6V
- Output voltage accuracy: tolerance \pm 2%

Applications

- Battery-powered equipment
- Reference voltage sources
- Cameras, video cameras
- Portable AV systems
- Mobile phones
- Portable games

Order information

Device	Package	Packaging style	SPQ
SSP6206-XXNX	SOT23	Reel	3000
SSP6206-XXMX	SOT23-3	Reel	3000
SSP6206-XXPX	SOT89	Reel	1000

Order Information

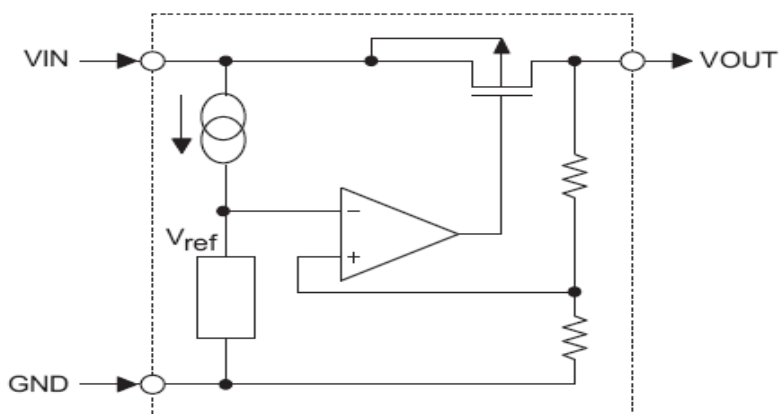
SSP6206-①②③④

Designator	Symbol	Description
① ②	Integer	Output Voltage(1.5V~3.6V)
③	N	Package:SOT23
	M	Package:SOT23-3
	P	Package:SOT89
④	R	RoHS / Pb Free
	G	Halogen Free

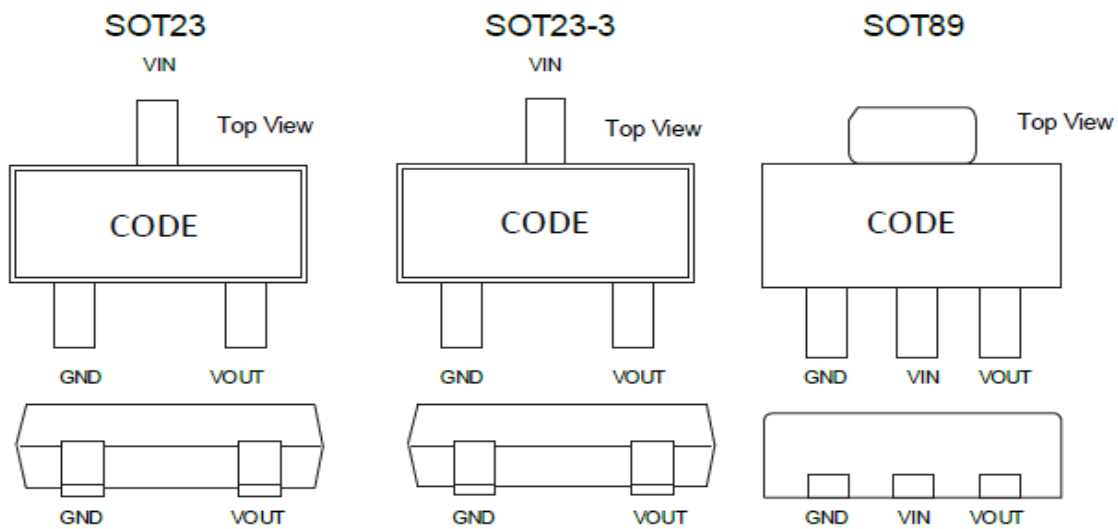
Note: "①②" stands for output voltages. Other voltages can be specially customized.

Marking Rule (SOT23)

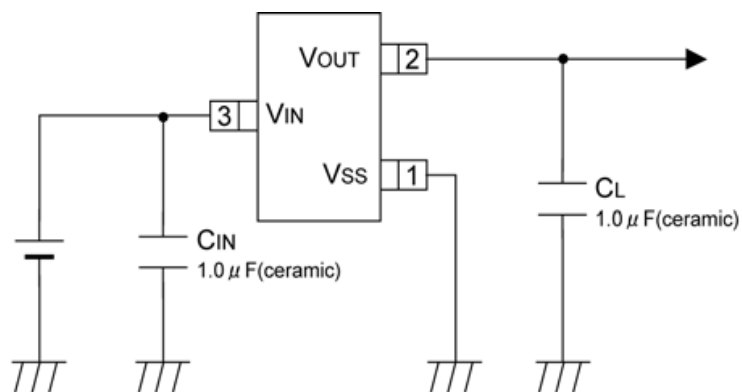
产品名称	编码			
	(1)	(2)	(3)	(4)
SSP6206-15NR	6	5	E	9
SSP6206-18NR	6	5	K	5
SSP6206-25NR	6	5	T	5
SSP6206-28NR	5	4	F	K
SSP6206-30NR	6	5	Z	5
SSP6206-33NR	6	6	2	K
SSP6206-36NR	6	6	5	K

Block Diagram


Pin Assignment



Typical Application



Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Input Voltage	V _{IN}	8	V
Output Current	I _{OUT}	300*	mA
Output Voltage	V _{OUT}	V _{SS} -0.3~V _{IN} +0.3	V
Power Dissipation	SOT-23	P _d	0.20
	SOT23-3		0.25
	SOT89		0.50
Operating Temperature Range	T _{opr}	-40~+85	°C
Storage Temperature Range	T _{stg}	-55~+125	°C

*I_{OUT}=P_d/(V_{IN}-V_{OUT})

Electrical Characteristics

SSP6206 for any output voltage

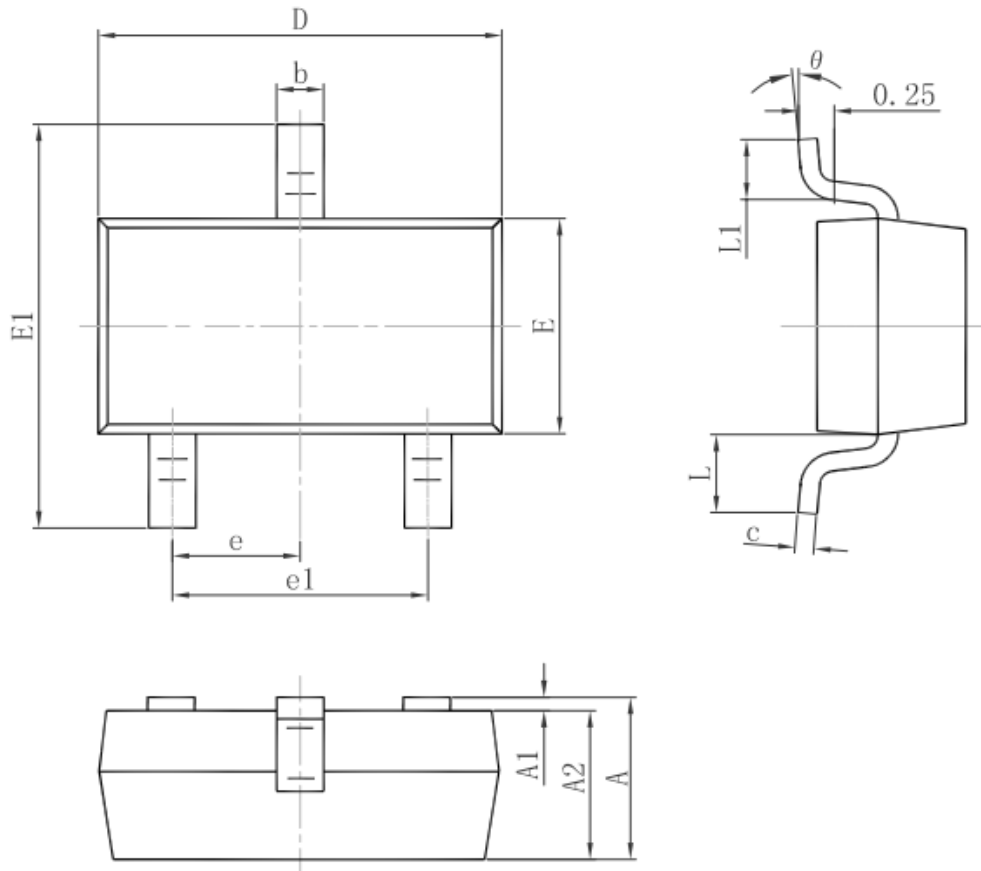
(Ta=25°C)

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	Iout	Vin-Vout=1V	--	300	--	mA
Low dropout	Vdrop	Refer to the next table				
Line Regulation	$\Delta V_{out1}/(V_{in} \cdot V_{out})$	1.6V≤Vin≤8V Iout=40mA	--	0.05	0.2	%/V
Load Regulation	$\Delta V_{out} / \Delta I_{out}$	Vin= Vout+1V 1.0mA≤Iout≤80mA	--	12	30	mV
Output voltage Temperature Coefficiency	$\Delta V_{out}/(T_a \cdot V_{out})$	Iout=30mA 0°C≤Ta≤70°C	--	±100	--	ppm/°C
Supply Current	Issl	--	--	5	10	μA
Input Voltage	Vin	--	--	6	8	V
PSRR	PSRR	F=1KHz Vin=Vout+1V	--	50	--	dB
Output Noise	EN	BW=10Hz~ 100KHz	--	30	--	μVrms

Electrical Characteristics by Output Voltage:

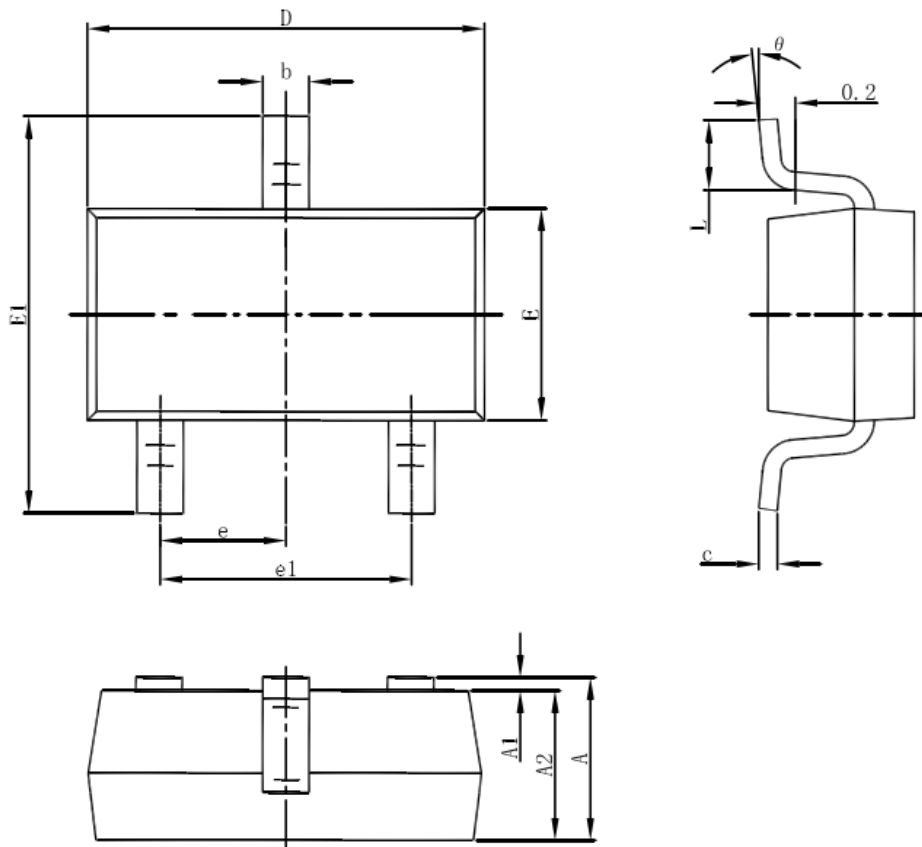
Output Voltage Vout(V)	Dropout Voltage Vdif (V)		
	Conditions	Typ.	Max.
Vout≤1.5V	Iout=100 mA	0.5	0.68
1.8 ≤ Vout ≤ 2		0.39	0.53
2.8 ≤ Vout ≤ 5.0		0.23	0.39

Package Information
3-pin SOT23 Outline Dimensions



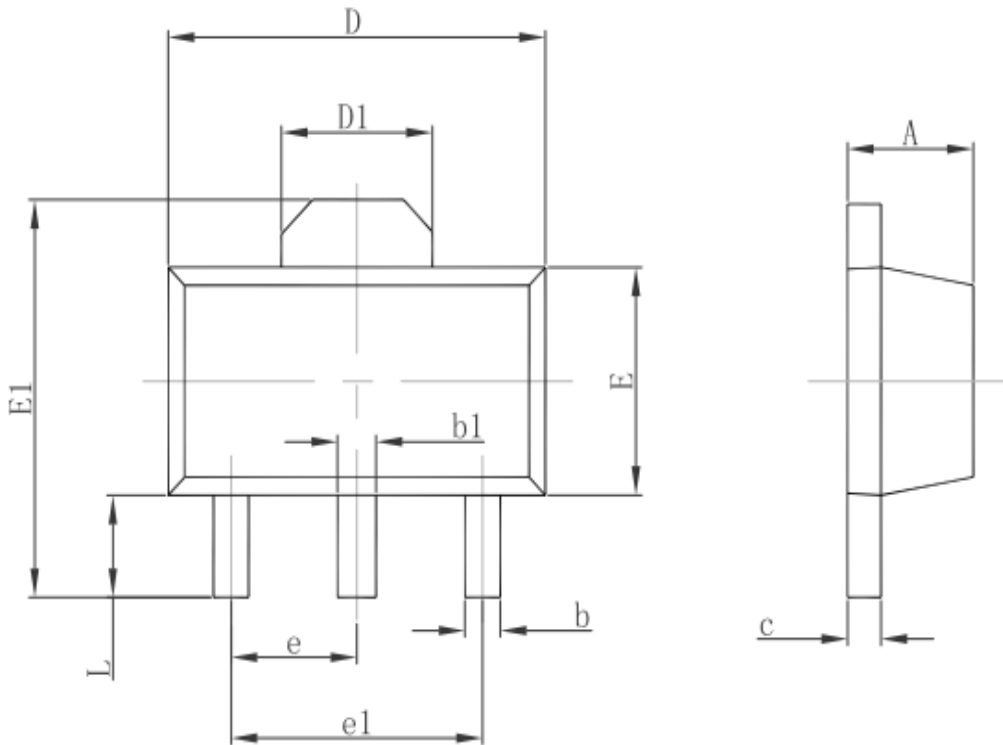
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

3-pin SOT23-3 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
θ	0°	8°	0°	8°

3-pin SOT89 Outline Dimensions



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

Special Version

The company reserves the right of final interpretation of this specification.

Version Change Description

Versions: V1.6	Writer: Xin CHun Li	Time: 2021.10.15
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Amendant record:

1.Re-typesetting the manual and checking some data

Versions: V2.0	Writer: Yang	Time: 2023.2.8
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Amendant record:

1.Checking and correcting Quiescent Current parameter

Statement

The information in the usage specification is correct at the time of publication, Shanghai Siproin Microelectronics Co. has the right to change and interpret the specification, and reserves the right to modify the product without prior notice. Users can obtain the latest version information from our official website or other effective channels before confirmation, and verify whether the relevant information is complete and up to date.

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