

SK6218

300mA Low Power LDO

General Description

SK6218 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 SK6218 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 1.8V to 3.6V. SK6218 series are available in SOT-23 package.

Features

- Low power consumption
- Low voltage drop
- Low temperature coefficient
- Low Quiescent Current: 5uA at 6V
- Output voltage accuracy: tolerance $\pm 2\%$

Applications

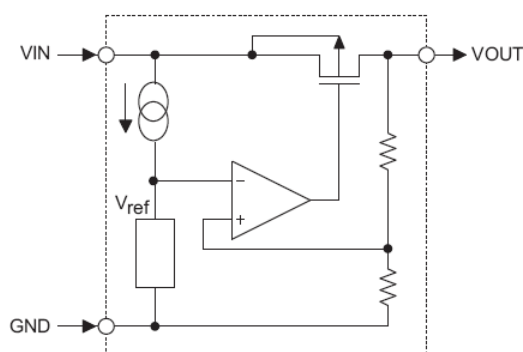
- Battery-powered equipment
- Reference voltage sources
- Cameras, video cameras
- Portable AV systems
- Mobile phones
- Portable games

Ordering Information

Order Number	Package	Temperature	RoHS	Shipping Type
SK6218-XXNR	SOT23	-40°C to +85°C	YES	3000PCS/REEL

Note:"XX" stands for output voltages within a range of 1.8V to 3.6V.

Block Diagram



Pin Assignment

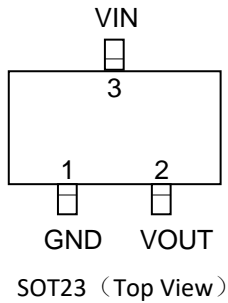
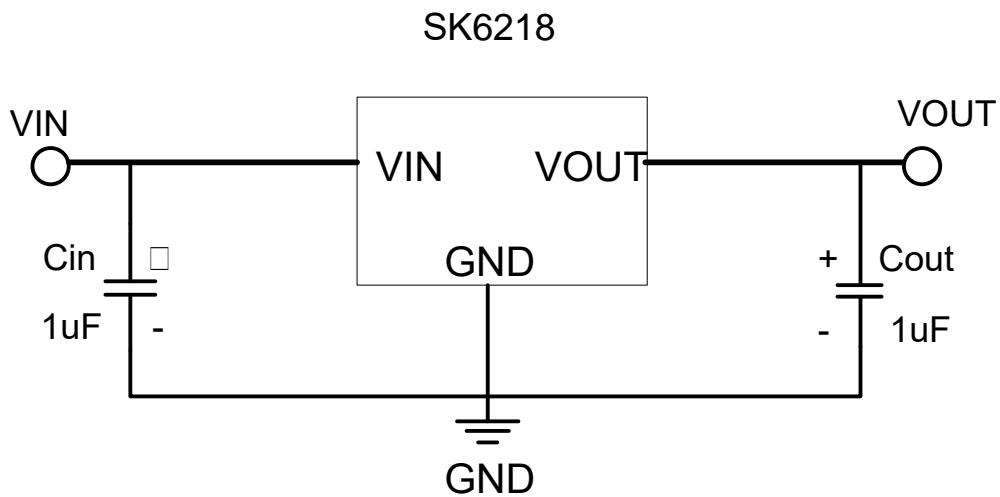


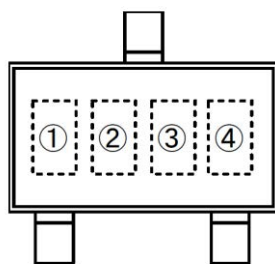
Table1: SK6218 series (SOT23 PKG)

PIN NO.	PIN NAME	FUNCTION
1	GND	GND pin
2	VOUT	Output voltage pin
3	VIN	Input voltage pin

Typical Application



Marking Rule



SOT-23
(TOP VIEW)

① represents product number

MARK	PRODUCT SERIES
6	SK6218

② represents 3 pins regulator

MARK		PRODUCT SERIES
VOLTAGE=0.1~3.0V	VOLTAGE=3.1V~6.0V	
5	6	SK6218

③ represents output voltage

MARK	VOLTAGE(V)			MARK	VOLTAGE(V)		
0	-	3.1	-	F	1.6	4.6	-
1	-	3.2	-	H	1.7	4.7	-
2	-	3.3	-	K	1.8	4.8	-
3	-	3.4	-	L	1.9	4.9	-
4	-	3.5	-	M	2.0	5.0	-
5	-	3.6	-	N	2.1	-	-
6	-	3.7	-	P	2.2	-	-
7	-	3.8	-	R	2.3	-	-
8	-	3.9	-	S	2.4	-	-
9	-	4.0	-	T	2.5	-	-
A	-	4.1	-	U	2.6	-	-
B	1.2	4.2	-	V	2.7	-	-
C	1.3	4.3	-	X	2.8	-	-
D	1.4	4.4	-	Y	2.9	-	-
E	1.5	4.5	-	Z	3.0	-	-

④ Z

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	W
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

SK6218 for any output voltage

(T_a=25°C)

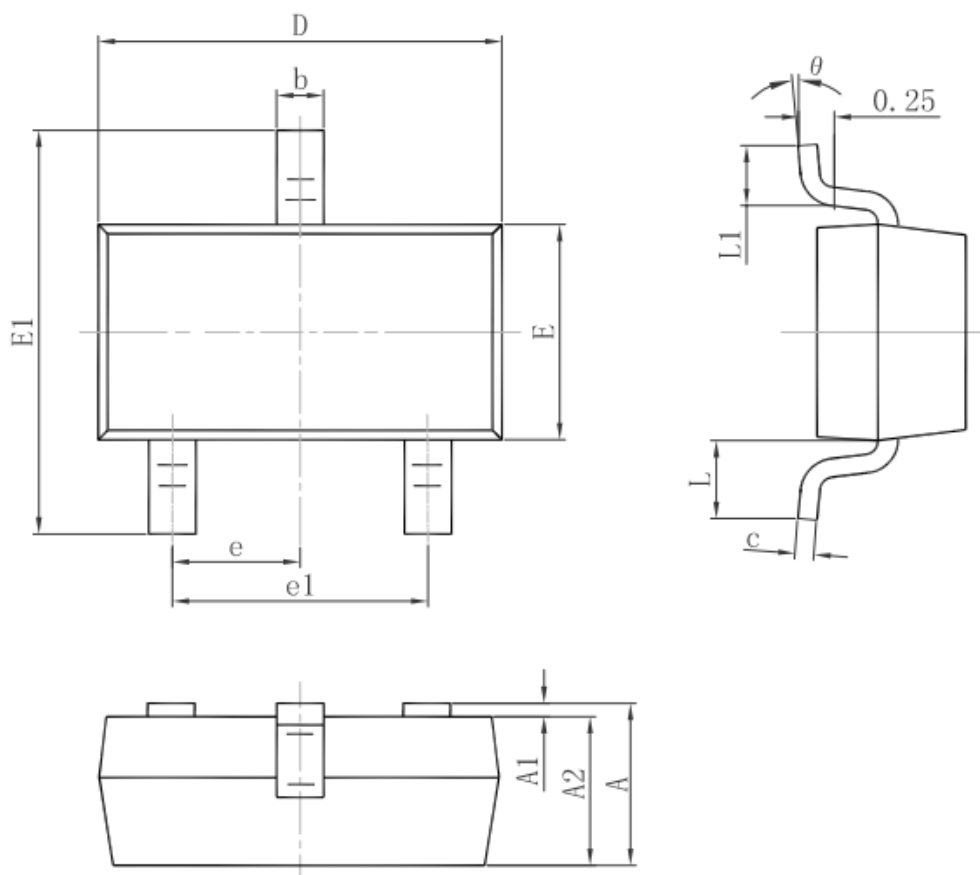
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V _{out}	V _{in} =V _{out} +1V 1.0mA≤I _{out} ≤30mA	V _{out} ×0.98	--	V _{out} ×1.02	V
Output Current*1	I _{out}	V _{in} -V _{out} =1V	--	300	--	mA
Low dropout*2	V _{drop}	Refer to the next table				
Line Regulation	$\Delta V_{out}/(V_{in}-V_{out})$	1.6V≤V _{in} ≤8V I _{out} =40mA	--	0.05	0.2	%/V
Load Regulation	$\Delta V_{out} / \Delta I_{out}$	V _{in} =V _{out} +1V 1.0mA≤I _{out} ≤80mA	--	12	30	mV
Output voltage Temperature Coefficiency	$\Delta V_{out}/(T_a-V_{out})$	I _{out} =30mA 0°C≤T _a ≤70°C	--	±100	--	Ppm/°C
Supply Current	I _{ss}	--	--	5	10	uA
Input Voltage	V _{in}	--	--	6	8	V
PSRR	PSRR	F=1KHz V _{in} =V _{out} +1V	--	50	--	dB
Output Noise	EN	BW=10Hz~100KHz	--	30	--	uVrms

Electrical Characteristics by Output Voltage:

Output Voltage V _{out} (V)	Dropout Voltage V _{dif} (V)		
	Conditions	Typ.	Max.
V _{out} ≤1.5V	I _{out} =100 mA	0.50	0.68
1.8 ≤ V _{out} ≤ 2		0.39	0.53
2.8 ≤ V _{out} ≤ 5.0		0.28	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°