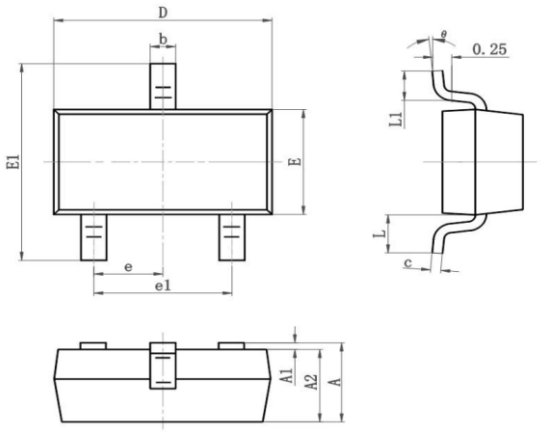
Low Dropout Voltage Regulator

Primary characteristics		
Parameter	**Value**	**Unit**
Input voltage	3.6~10.3	V
Output voltage	3.3	V
Max. output current	300	mA

Features

- Output voltage accuracy within ±2%
- Low quiescent current
- Low dropout voltage
- Short circuit protection

Case dimensions



SOT-23

Unit mm	A	A1	A2	b	c	D	E	E1	e	e1	L	L1	θ
MIN	0.9	0	0.9	0.3	0.08	2.8	1.2	2.25	0.9	1.8	0.5	0.3	0°
MAX	1.15	0.1	1.05	0.5	0.15	3.0	1.4	2.55	1.0	2.0	0.6	0.5	8°

Absolute maximum ratings (T_a=25℃)

Parameter	Symbol	Value	Unit
Input voltage	V_{IN}	3.6 ~ 10.3	V
Operating current	I_O	300	mA
Output voltage	V_{OUT}	3.3	V
Power dissipation	P_D	300	mW
Operating temperature	T_a	-40 ~ +85	°C
Storage temperature	T_{stg}	-55 ~ +150	°C

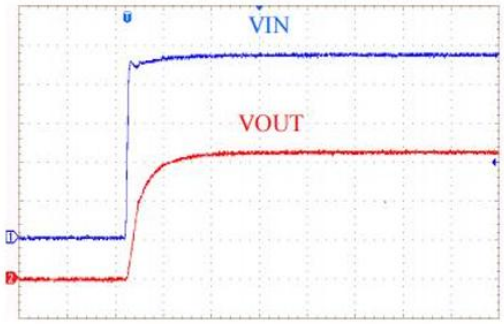
Electrical characteristics

(C_I =1μF, C_O = 1μF, T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output voltage	V_{out}	V_{IN} = 4.3V , I_O = 10mA	3,234	-	3,366	V
Output current	I_o	V_{IN} = 4.3V	-	300	-	μA
Dropout voltage	V_D	I_O = 100mA	-	160	350	mV
Quiescent current	I_q	V_{IN} = 4.3V	-	3.5	6.5	μA
Line regulation	ΔV_{line}	V_{IN} = 4.3V ~ 6.0V, I_O = 40mA	-	0.05	0.2	%
Load regulation	ΔV_{load}	V_{IN} = 4.3V, 1mA < I_{OUT} < 80mA	-	15	30	mV
Output noise voltage	V_N	10Hz ≤ f ≤ 100kHz	-	30	-	μV
Ripple rejection	RR	V_{IN} = 4.3V, f=1kHz, I_O = 10mA	-	50	-	dB

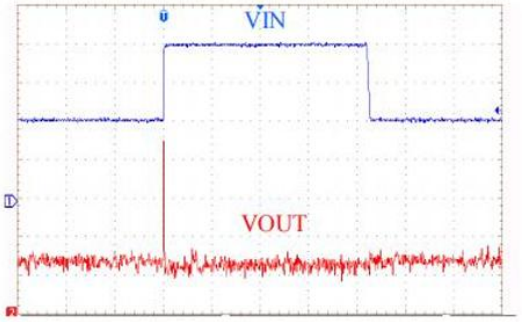
Typical electrical curves

Power up response



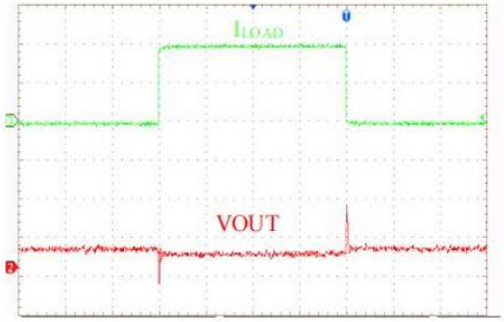
V_{IN}=0~5V, C_{IN}=1μF, C_{OUT}=1μF, I_{LOAD}=20mA,
CH1: V_{IN} (1V/DIV), CH2: V_{OUT} (1V/DIV) Time: 40μs/DIV

Line transient response



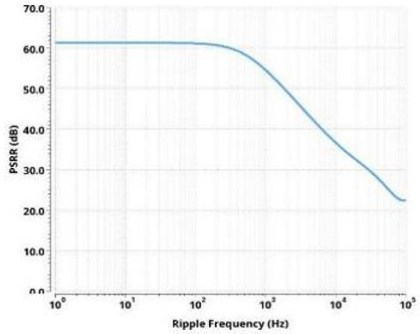
V_{IN}=4~6V, C_{IN}=1μF, C_{OUT}=1μF, I_{LOAD}=20mA,
CH1: V_{IN} (1V/DIV), CH2: V_{OUT} (20mV/DIV) Time: 2ms/DIV

Load transient response



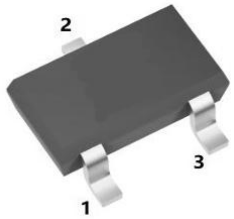
V_{IN}=4.3V, C_{IN}=1μF, C_{OUT}=1μF, I_{LOAD}=1~100mA,
CH2: V_{OUT} (100mV/DIV), CH3: I_{LOAD} (50mA/DIV) Time: 2ms/DIV

Power supply rejection rate VS. Frequency



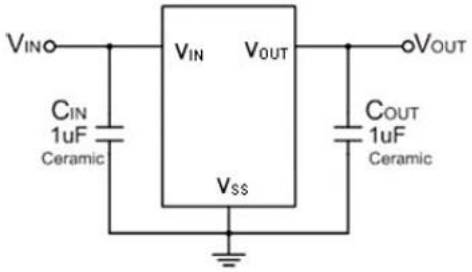
V_{IN}=4.3V +1$V_{p\text{-}p}$AC , C_{OUT}=1μF, I_{LOAD}=10mA

Application circuit

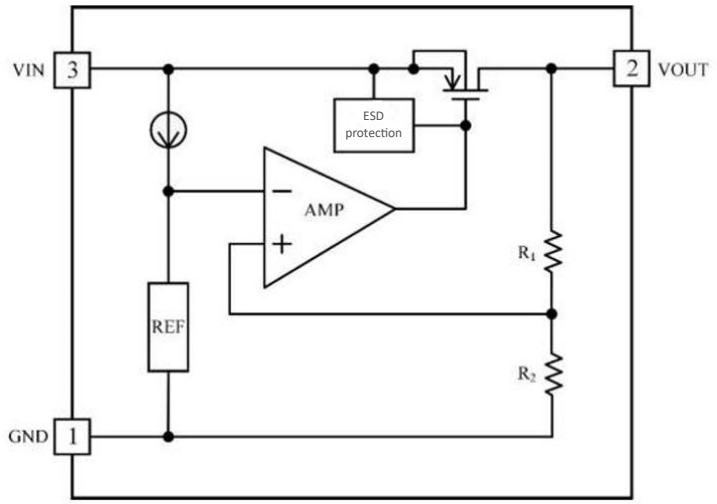


1.V_{ss} 2.Vin 3.V_{out}

Application circuit



Function block diagram



Ordering information

Product model	Package type	Packing	Packing quantity
AK6206-3.3V	SOT-23	Tape	3000 pcs / reel

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