

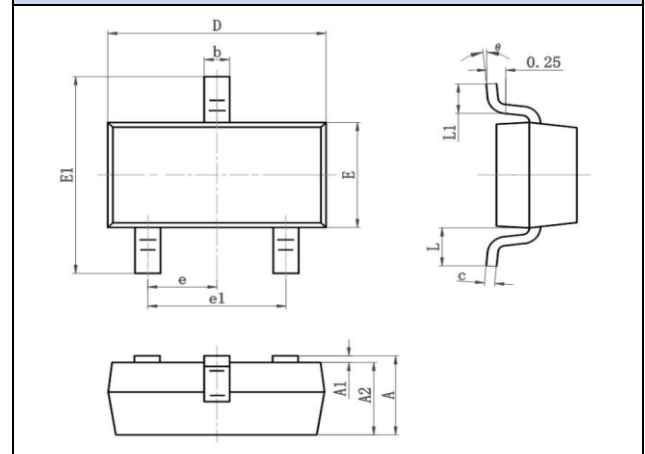
## Low Dropout Voltage Regulator

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  $\pm 2\%$
- 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	$\theta$
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°

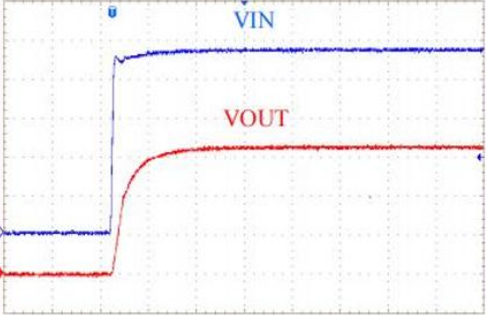
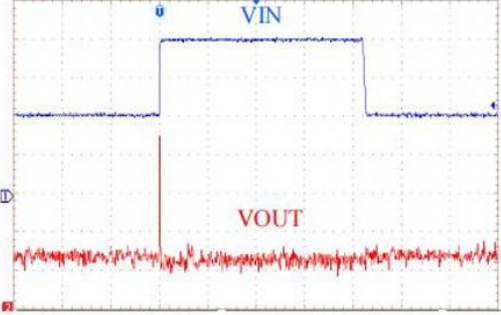
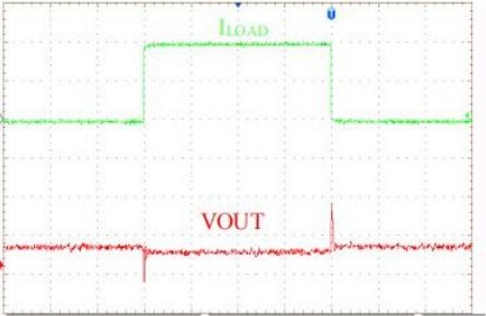
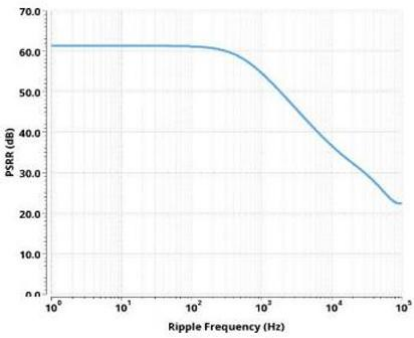
### Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

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

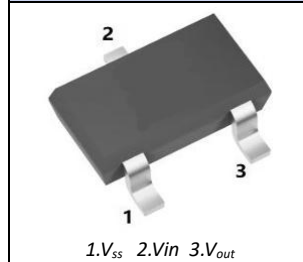
### Electrical characteristics

( $C_i = 1\mu\text{F}$ ,  $C_o = 1\mu\text{F}$ ,  $T_a = 25^\circ\text{C}$  unless otherwise specified)

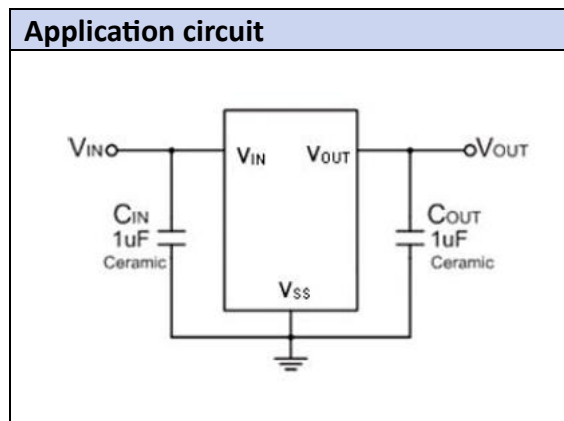
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output voltage	$V_{out}$	$V_{IN} = 4.3\text{V}$ , $I_o = 10\text{mA}$	3,234	-	3,366	V
Output current	$I_o$	$V_{IN} = 4.3\text{V}$	-	300	-	$\mu\text{A}$
Dropout voltage	$V_D$	$I_o = 100\text{mA}$	-	160	350	mV
Quiescent current	$I_q$	$V_{IN} = 4.3\text{V}$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

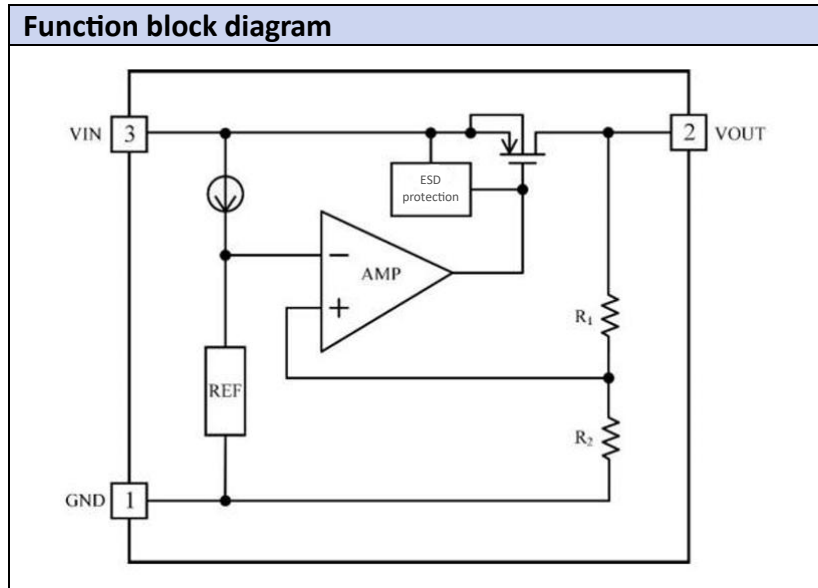
Typical electrical curves	
<b>Power up response</b>  $V_{IN}=0\sim 5V$ , $C_{IN}=1\mu F$ , $C_{OUT}=1\mu F$ , $I_{LOAD}=20mA$ , CH1: $V_{IN}$ (1V/DIV), CH2: $V_{OUT}$ (1V/DIV) Time: 40 $\mu s$ /DIV	<b>Line transient response</b>  $V_{IN}=4\sim 6V$ , $C_{IN}=1\mu F$ , $C_{OUT}=1\mu F$ , $I_{LOAD}=20mA$ , CH1: $V_{IN}$ (1V/DIV), CH2: $V_{OUT}$ (20mV/DIV) Time: 2ms/DIV
<b>Load transient response</b>  $V_{IN}=4.3V$ , $C_{IN}=1\mu F$ , $C_{OUT}=1\mu F$ , $I_{LOAD}=1\sim 100mA$ , CH2: $V_{OUT}$ (100mV/DIV), CH3: $I_{LOAD}$ (50mA/DIV) Time: 2ms/DIV	<b>Power supply rejection rate VS. Frequency</b>  $V_{IN}=4.3V + 1V_{p-p}AC$ , $C_{OUT}=1\mu F$ , $I_{LOAD}=10mA$

### Application circuit



### Application circuit





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

## Disclaimer

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