

300mA,Low Dropout Linear Regulator

Features

- Low Quiescent Current: 6 μ A
- Input Voltage Range: up to 5.5V
- Output Current: 300mA
- Low Dropout Voltage: 180mV@100mA
- Output Voltage: 1.2~5.0V
- Output Voltage Accuracy: $\pm 2\%$
- Low Power Consumption
- Available Packages: SOT23/SOT23-3

Applications

- Mobile Phones
- Battery powered equipment
- Portable game consoles
- Reference voltage sources

Description

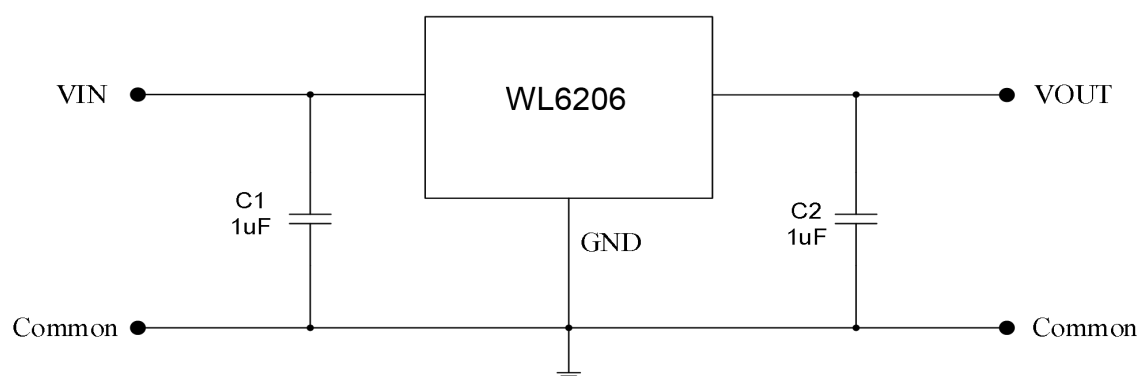
The WL6206 Series are highly precise, low power consumption, 3 terminal, positive voltage regulators manufactured using CMOS technologies voltage and an error correction circuit. The series is compatible with low ESR ceramic capacitors.

The current limiter fold back circuit operates as a short circuit protection as well as the output current limiter for the output pin.

PART NUMBER	PACKAGE	BODY SISE(NOM)
WL6206M3-XX	SOT23	2.9mm*2.8mm
WL6206S3-XX	SOT23-3	2.9mm*2.8mm

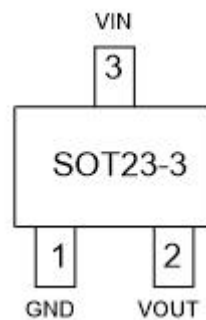
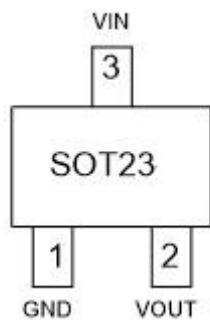
(1) For all available packages, see the orderable addendum at the end of the data sheet.

Typical Application



300mA,Low Dropout Linear Regulator

Pin Configuration and Functions



NAME	WL6206		description
	SOT23	SOT23-3	
GND	1	1	Ground Pin
VOUT	2	2	Output Pin
VIN	3	3	Input Pin

Absolute Maximum Ratings

Parameter	Description	Min	Max	Unit
Input Voltage	VIN to GND	-0.3	6	V
	VOUT to GND	-0.3	6	V
	VIN to VOUT	-0.3	6	V
Current	Peak output current	Internally limited		
Temperature	Operating Temperature Range	-40	125	°C
	Storage Temperature	-40	150	°C
Thermal Resistance (Junction to Ambient)	SOT23-3	300		°C/W
Power Dissipation	SOT23-3	300		mW

Note:

Exceeding the range specified by the rated parameters will cause damage to the chip, and the working state of the chip beyond the range of rated parameters cannot be guaranteed. Exposure outside the rated parameter range will affect the reliability of the chip.

ESD Ratings

Parameter	Description	Range	Unit
V _{ESD}	Human Body Model(HBM)	6	KV
	Charged Device Model(CDM)	200	V

Note:

JEDEC document JEP155 states that 500-V HBM allows safe manufacturing with a standard ESD control process.

JEDEC document JEP157 states that 200-V CDM allows safe manufacturing with a standard ESD control process.

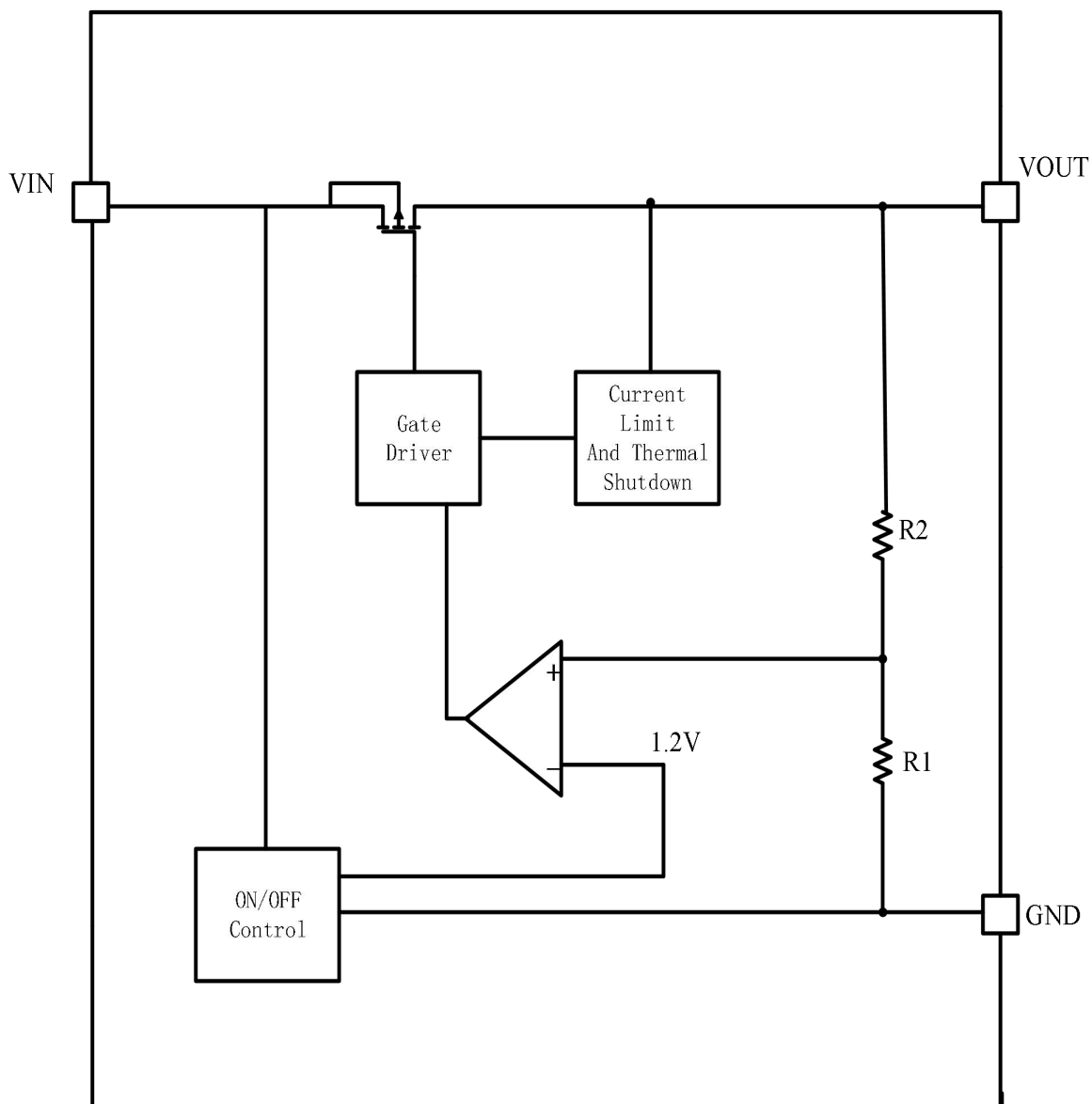
Electrical Characteristics

(At $T_A=25^{\circ}\text{C}$, $C_{IN}=1\mu\text{F}$, $V_{IN}=V_{OUTNOM}+1.0\text{V}$, $C_{OUT}=1\mu\text{F}$, unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{IN}	Operating Input Voltage		1.8	—	5.5	V
V_{OUT}	Output Voltage	$V_{IN}=5\text{V}$, $I_{OUT}=10\text{mA}$	$V_{OUTNOM} * 0.98$	V_{OUTNOM}	$V_{OUTNOM} * 1.02$	V
Short Current	ISHORT	$V_{IN}=5\text{V}$		150		mA
I_{LIMIT}	Current Limit			530		mA
I_{GND}	Quiescent Current	$V_{IN}=5\text{V}$	—	6	—	uA
V_{DROP}	Dropout Voltage ⁽¹⁾	$I_{OUT}=10\text{mA}$, $V_{IN}=V_{OUTNOM}-0.1\text{V}$	—	80	—	mV
		$I_{OUT}=100\text{mA}$, $V_{IN}=V_{OUTNOM}-0.1\text{V}$	—	180	—	mV
$\Delta V_{OUT}/\Delta I_{OUT}$	Load Regulation	$V_{IN}=5\text{V}$, $1\text{mA} \leq I_{OUT} \leq 300\text{mA}$	—	25	—	mV
$\Delta V_{OUT}/\Delta V_{IN}$	Line Regulation	$I_{OUT}=1\text{mA}$, $V_{OUTNOM}+0.5\text{V} \leq V_{IN} \leq 5\text{V}$	—	0.26	—	mV
T_{SHDN}	Thermal Shutdown Temperature	Shutdown, temperature increasing	—	150	—	$^{\circ}\text{C}$
		Reset, temperature decreasing	—	126	—	
PSRR	Power Supply Rejection Ratio	$V_{IN} = 5\text{V}$, $I_{OUT} = 100\text{mA}@1\text{kHz}$	—	78	—	dB

Note : (1) Dropout Voltage is the voltage difference between the input and the output at which the output voltage drops 2% below its nominal value.

Functional Block Diagram



Functional Block Diagram

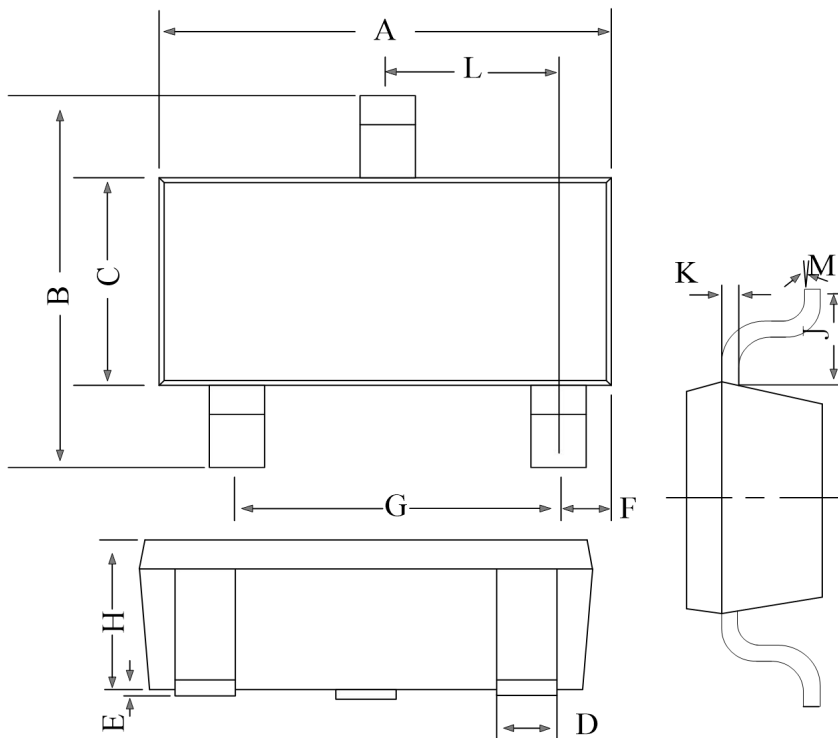
Ordering Information

WL6206XX-XX

Package	Output Voltage
M3:SOT23	12:1.2V
S3:SOT23-3L	18:1.8V
	25:2.5V
	30:3.0V
	33:3.3V
	36:3.6V
	50:5.0V

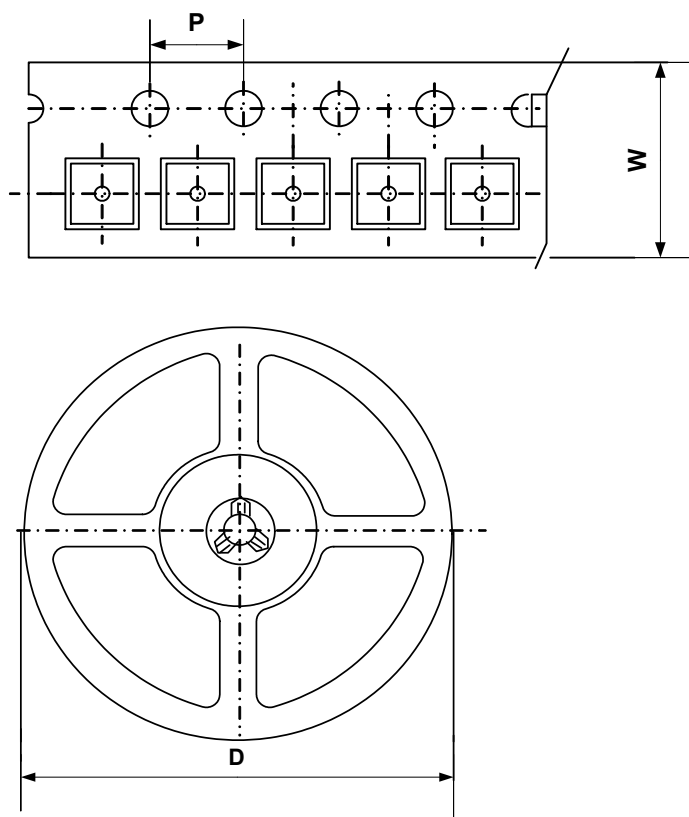
Package Outline

SOT23/SOT23-3



REF.	Millimeter	
	Min.	Max.
A	2.82	2.92
B	2.65	2.95
C	1.56	1.60
D	0.35	0.55
E	0	0.1
F	0.45	0.55
G	1.90	REF.
H	1.0	1.3
K	0.10	0.20
J	0.40	—
L	0.85	1.15
M	0°	10°

Packing Information



Type	W(mm)	P(mm)	D(mm)	Qty (pcs)
SOT23-3	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

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