LD6206

Description

The HT6206 is 250mA ultra-low quiescent current CMOS low dropout (LDO) regulator designed for battery-powered equipments. The fixed output voltages are 1.5V, 1.8V ,2.8V,3.0Vand 3.3V.

The other features include 50μA low power consumption, low dropout voltage, high output accuracy, current limiting protection, and high ripple rejection ratio.

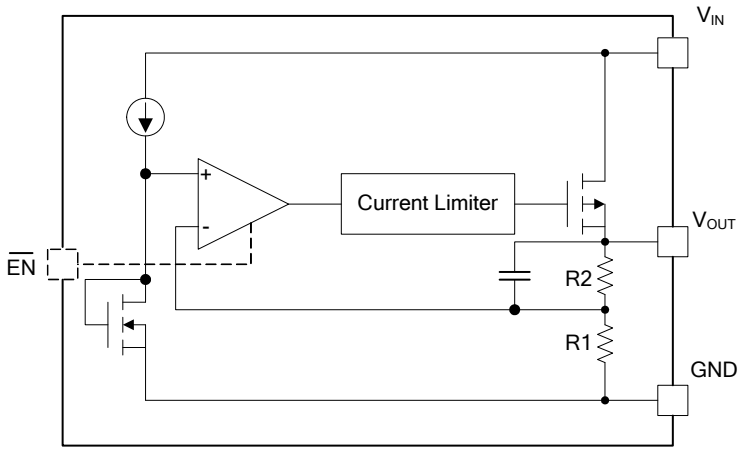
Features

- Maximum Output Current: 250mA
- Dropout Voltage: 200mV (IOUT = 100mA)
- Maximum Operating Voltage: 7V
- Fixed Output Voltage: 1.5V, 1.8V , 2.8V, 3.0V and 3.3V.
- Low Power Consumption: TYP 50μA
- Operating Temperature Range: -40℃ ~+80℃

Applications

- Battery-powered equipment
- Palmtops, Notebook Computers
- Hand-held Instruments
- PCMCIA Cards

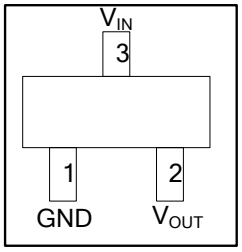
Block Diagram



Ordering Information

PART NUMBER	TEMP RANGE	PIN-PACKAGE	Output Voltage(V)
0615	-40°C to +80°C	3 SOT23（L-Type）	1.5
0618			1.8
0628			2.8
0630			3.0
0633			3.3

Pin Configuration (Top View)



SOT-23(L-Type)

Pin Assignment

Pin NO.	Pin Name	Function
3	VIN	Power Input
1	GND	Ground
2	VOUT	Output Voltage

Absolute Maximum Ratings

Parameter		Symbol	Ratings	Units
Input Voltage		VIN	7	V
Power Dissipation	SOT-23	Pd @Ta=25℃	0.4	W
Operating Junction Temperature Range		Topr	-40~+80	℃
Storage Temperature		Tstg	-65~+150	℃
Package Thermal Resistance (Note1)		Θ_{JA}	250	℃/W

Electrical Characteristics

(VIN=5.5V, CIN=1μF, COUT=1μF, TA=25℃, unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Input Voltage Range	V_{IN}		2	--	7	V
Output Voltage Accuracy	ΔV_{OUT}	I_L=1mA	-2	--	+2	%
Maximum Output Current	I_{MAX}	V_{IN}= V_{OUT}+0.6V, V_{IN}≥3.6V	100	250	--	mA
Current Limit	I_{LIM}	I_L=100mA	150	--	--	mA
GND Pin Current	I_G	No Load	--	4	7	μA
		I_{out}=100mA		4	10	
Dropout Voltage	V_{DROP}	I_{out}=1mA, V_{IN}≥3.6V	--	4	10	mV
		I_{out}=50mA, V_{IN}≥3.6V	--	200	300	
		I_{out}=100mA, V_{IN}≥3.6V	--	450	600	
Line Regulation	ΔV_{LINE}	V_{IN}=(V_{OUT}+0.3V) to 6V V_{IN}≥3.6V, I_{out}=1mA	-0.2	--	+0.2	%/V
Load Regulation	ΔV_{LOAD}	I_{LOUT}=0mA to 100mA	--	0.01	0.04	%/mA
Output Noise	e_{NO}	BW=100Hz to 50kHz C_{OUT}=10μF	--	250	--	μV
Ripple Rejection	PSRR	F=1kHz, C_{OUT}=1μF	--	30	--	dB
$\overline{EN}$ Threshold			0.6	1	2	V
Thermal Shutdown Protection			125	--	--	℃

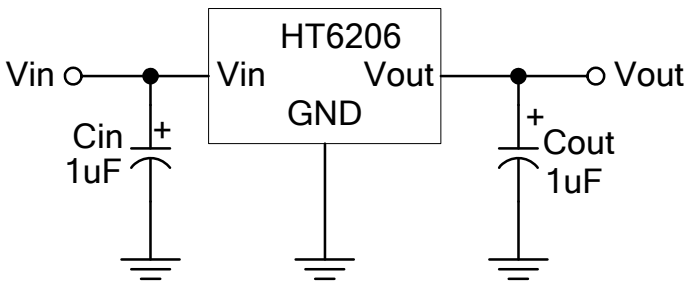
Note1. θJA is measured in the natural convection at TA = 25°C on a low effective thermal conductivity test board of JEDEC 51-3 thermal measurement standard.

Application Information

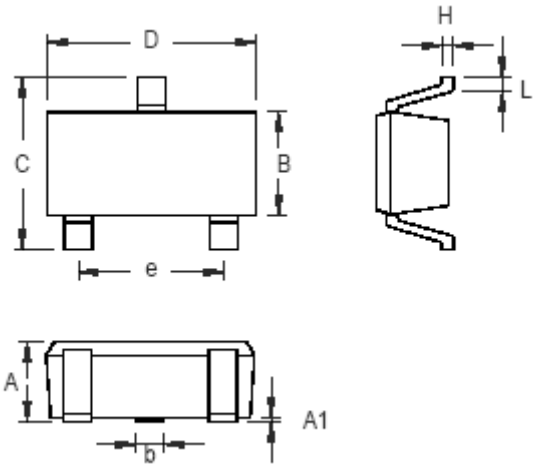
A 1μF (or larger) capacitor is recommended between VOUT and GND for stability. The part may oscillate without the capacitor. Any type of capacitor can be used, but not Aluminum electrolytes when operating below –25°C. The capacitance may be increased without limit.

A 1μF capacitor (or larger) should be placed between VIN to GND.

Typical Application Circuit



Package



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.295	0.035	0.051
A1	0.000	0.152	0.000	0.006
B	1.397	1.803	0.055	0.071
b	0.356	0.508	0.014	0.020
C	2.591	2.997	0.102	0.118
D	2.692	3.099	0.106	0.122
e	1.803	2.007	0.071	0.079
H	0.080	0.254	0.003	0.010
L	0.300	0.610	0.012	0.024