YH6206

300mA Low Consumption CMOS LDO

GENERAL DESCRIPTION

The YH6206 series are low dropout linear regulators and optimized to provide a high performance solution for battery power system to deliver low quiescent current. The devices offer a new level of cost effective performance in cellular phones, laptop and notebook computers, and other portable devices.

The YH6206 series are designed to make use of low cost ceramic capacitors which ensure the stability of the output current, and enhance the efficiency in order to prolong the battery life of those portable devices.

The YH6206 regulators are available in SOT-23-3L packages. Standard products are Pb-free and Halogen free products.

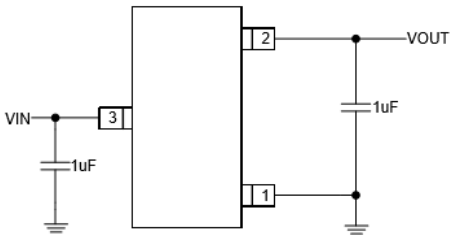
FEATURES

- Input voltage: 2.3V~6.5V
- Output range: 1.2V~3.3V
- Output current: 300mA@Vout>2V
- Dropout voltage: 100mV @ I_{OUT}=100mA
- Quiescent current : 1μA Typ.
- Recommend capacitor: 1uF

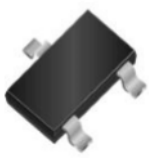
APPLICATIONS

- Reference voltage source
- Toys
- Bluetooth, wireless handsets
- Low Consumption Decive
- Others portable electronics device

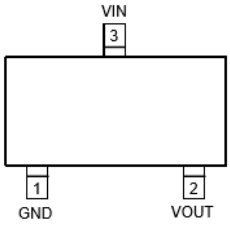
TYPICAL APPLICATION CIRCUIT



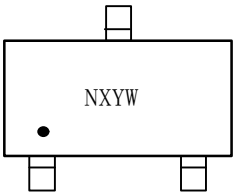
PIN ASSIGNMENT



SOT-23-3L



MARKING DESCRIPTION:



"N" stands for product code, here use "E" stands for "YH6206 "

"X" stands for output voltage, pls ref. the "output voltage code table"

"Y" stands for wafer ID.

"W" The week of manufacturing. "A" stands for week 1,"Z" stands for week 26, "$\overline{A}$ " stands for week 27," $\overline{Z}$ " stands for week 52.

ORDER INFORMATION

PART NO	PACAKGE	TEMPERATURE	TAPE & REEL
YH6206 RT3FXX	SOT23-3	-40 ~ +85℃	3000/REEL

"XX" For Output Voltage: 3.3V XX=33 2.8V XX=28

PIN DESCRIPTION

PIN NO	SYMBOL	DESCRIPTTION
SOT23-3		
1	GND	Ground
2	VOUT	Output
3	VIN	Input

ABSOLUTE MAXIMUM RATINGS (Note)

SYMBOL	ITEMS		VALUE	UNIT
V_{IN}	Input Voltage		-0.3～7	V
V_{pin}	All Other Pins		GND-0.3 to VDD+0.3	V
P_{DMAX}	Power Dissipation	SOT23-3	0.3	W
T_J	Junction Temperature		-40~125	℃
Tstg	Storage Temperature		-55 to 150	℃
Tsolder	Package Lead Soldering Temperature		260℃, 10s	

Note: *Exceed these limits to damage to the device. Exposure to absolute maximum rating conditions may affect device reliability.*

RECOMMANDED OPERATING RANGE

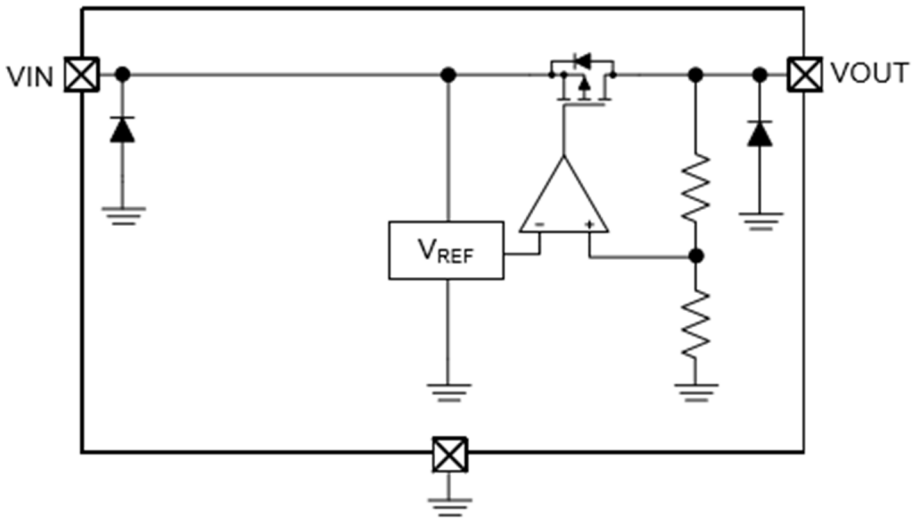
SYMBOL	ITEMS	VALUE	UNIT
V_{IN}	VIN Supply Voltage	0.9 to 6.5	V
T_{OPT}	Operating Temperature	-40 to +85	℃

ELECTRICAL CHARACTERISTICS

The following specifications apply for V_{OUT}=3.3V T_A=25 °C, unless specified otherwise.

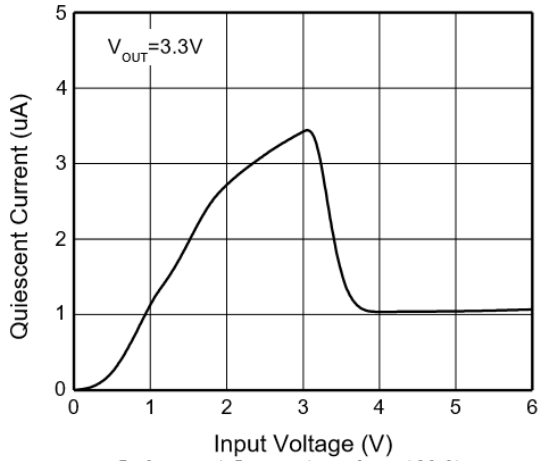
SYMBOL	ITEMS	CONDITIONS	MIN	TYP	MAX	UNIT
V_{IN}	Input Voltage				6.5	V
Vout	Vout range	I_{OUT}=1mA	-1%	Vout	1%	V
		I_{OUT}=1mA	-2%	Vout	2%	
I_q	Quiescent Current	V_{OUT}=3.3V I_{OUT}=0		1	3	μA
I_{limit}	Current Limit	Vin=Ven Vin=5V Vout=3.3V		450		mA
V_{drop}	Dropout Voltage	V_{OUT}=3.3V I_{OUT}=200mA		170	200	mV
		V_{OUT}=3.3V I_{OUT}=300mA		250	300	
$\triangle V_{LINE}$	Line Regulation	V_{IN}=2.7~5.5V, I_{OUT}=1mA		0.01	0.15	%/V
$\triangle V_{Load}$	Load Regulation	V_{OUT}=2.8V , I_{OUT}=1~300mA		20	30	mV
I_{SHORT}	Short Current	V_{EN}=V_{IN}, V_{OUT} Short to GND with 1Ω		90		mA
I_{SHDN}	Shut-down Current	V_{EN}=0V		0.1	1	μA
I_{EN}	EN Input Current	V_{EN}= 0 to 5.5V			1.0	uA

SIMPLIFIED BLOCK DIAGRAM

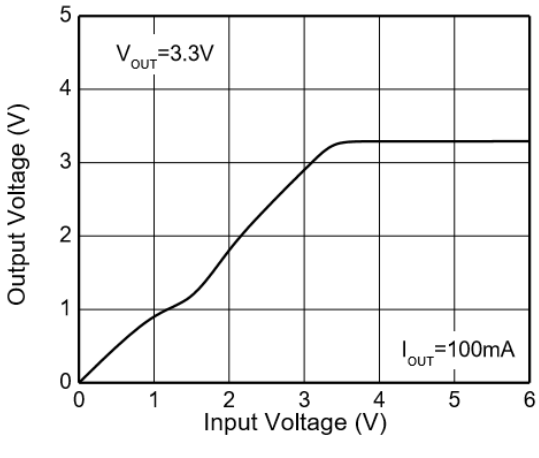


TYPICAL PERFORMANCE CHARACTERISTICS

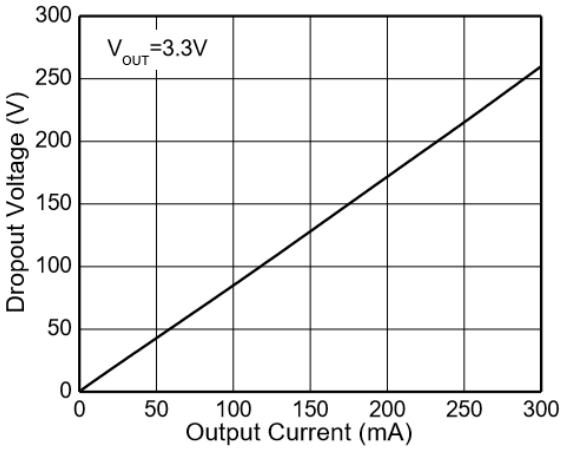
Cin=1uF, Cout=1uF, Topt=25°C, Vin=5V Vout=3.3V



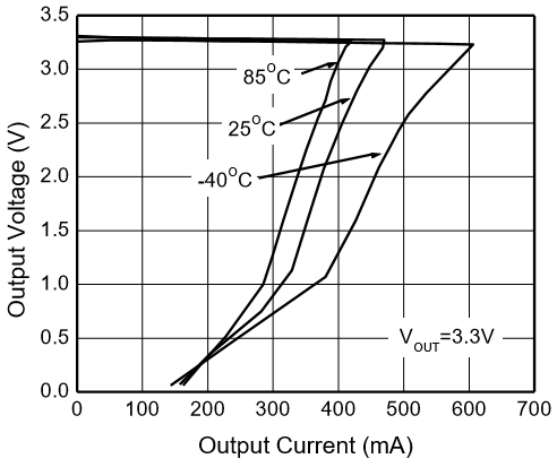
Quiescent Current vs. Input Voltage



Output Voltage vs. Input Voltage



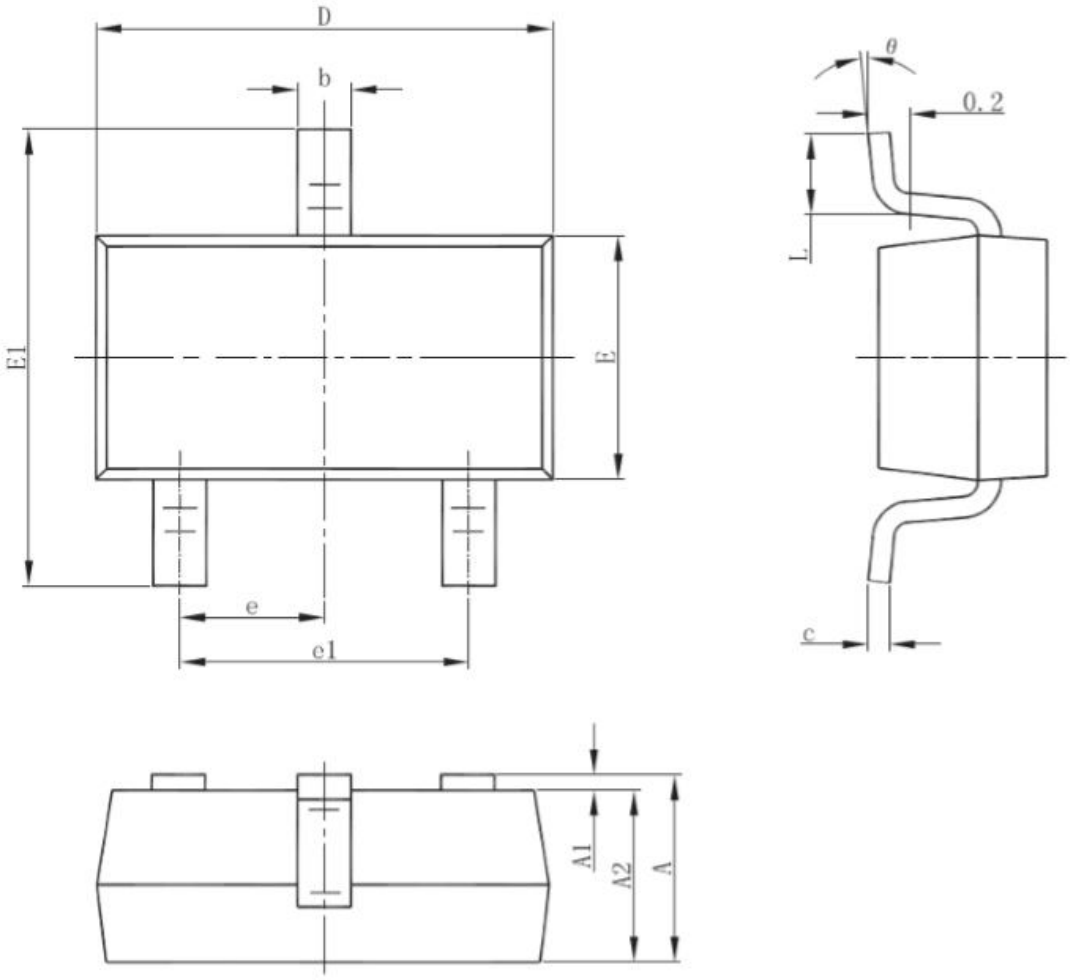
Dropout Voltage vs. Output Current



Output Short Protection

PACKAGE OUTLINE

SOT23-3



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950(Basic)	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°