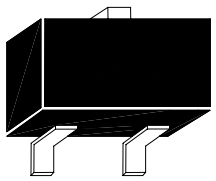
Low Dropout CMOS Voltage Regulators

LM6206N3



SOT-23

Product Description

The LM6206N3 series is a set of three-terminal high current low voltage regulator implemented in CMOS technology. They can deliver 250mA output current and allow an input voltage as high as 6.5V. CMOS technology ensures low voltage drop and low quiescent current. They are available with several fixed output voltage ranging from 1.5V to 3.3V. In addition, output voltage can be set internally. It is selectable in 0.1V increments within a range of 1.5V to 3.3V.

Features

- Low dropout voltage
- Maximum output current 250mA
- Output voltage : 1.5V~3.3V (0.1V increments)
- Output voltage accuracy : tolerance ±2%
- Low temperature coefficient

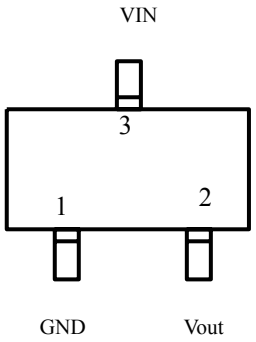
Applications

- Battery powered equipment
- Reference voltage sources
- Cameras and video cameras
- Portable AV systems
- Communication tools
- Portable games

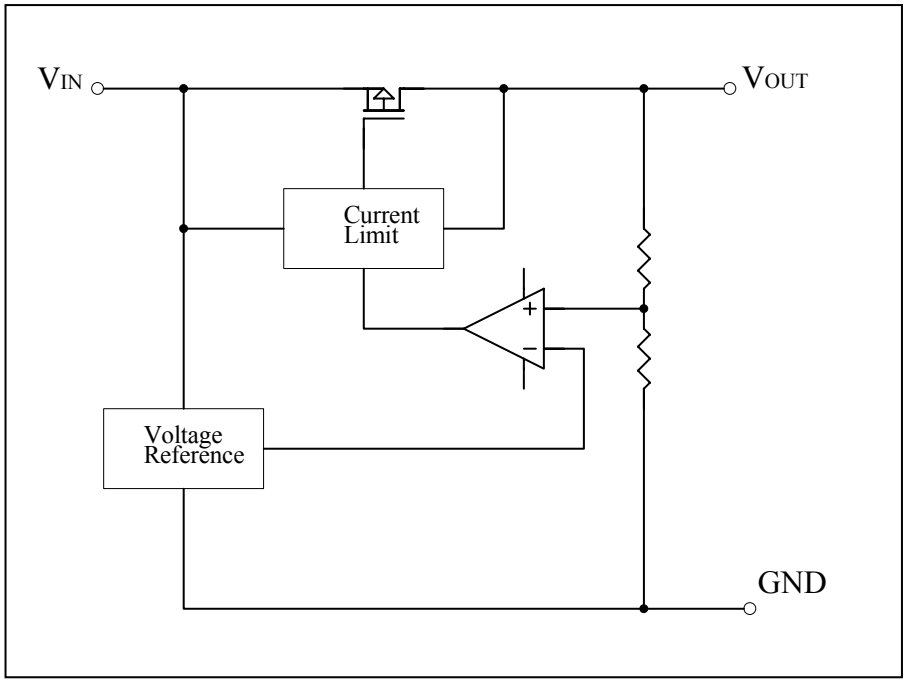
Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Input Voltage	V_{IN}	6.5	V
Output Current	Iout	250	mA
Continuous Total Power Dissipation	P_D	150	mW
Operating Ambient Temperature	T_{OPR}	-40～+85	℃
Storage Temperature	T_{STG}	-50～+125	℃

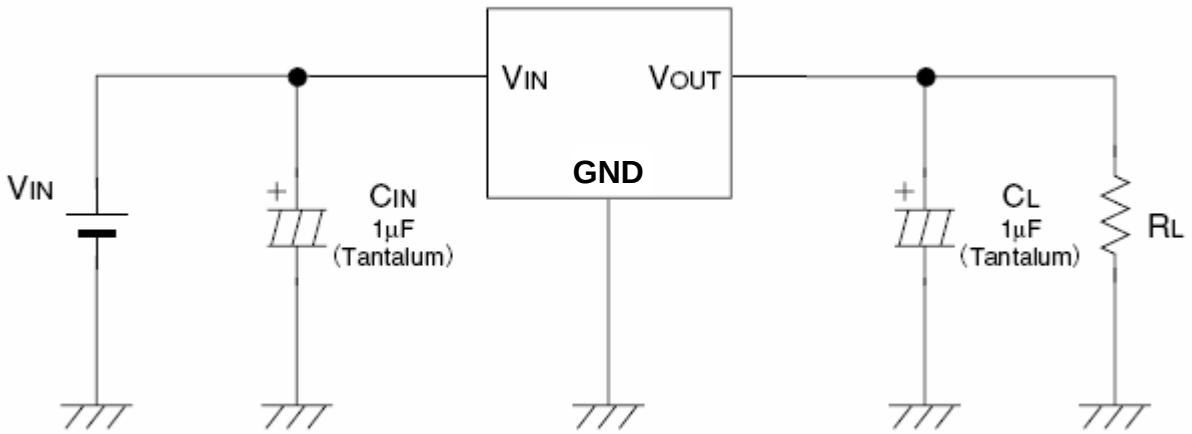
Pin Configuration



Block Diagram



Typical Application Circuit



Ordering Information

Device	Output Voltage	Package	Shipping	Marking
LM6206-1.5 N3	1.5V	SOT-23	Tape & Reel / 3K	65E9
LM6206-1.8 N3	1.8V	SOT-23	Tape & Reel / 3K	65K5
LM6206-3.0 N3	3.3V	SOT-23	Tape & Reel / 3K	65Z5
LM6206-3.3 N3	3.3V	SOT-23	Tape & Reel / 3K	662K

Electrical Characteristics @V_{IN}=5V, Ta=25℃, C_{IN}=1μF(tantalum), C_{OUT}=1μF(tantalum), unless otherwise noted

LM6206-1.5

Parameter	Conditions	Min	Typ	Max	Units	Circuit
Output Voltage	Io=10mA,Vin=2.5V	2.450	2.500	2.550	V	1
Line Regulation △Vout/△VinVout	Io=30mA,2.5V<Vin<6V	-	0.05	0.25	%/V	1
Load Regulation	Vin=2.5V,1mA<Io<100mA	-	25	100	mV	1
Current Consumption	Vin=2.5V	-	7	15	μA	2
Dropout Voltage	Io=30mA	-	75	350	mV	1
	Io=100mA	-	250	680	mV	1

LM6206-1.8

Parameter	Conditions	Min	Typ	Max	Units	Circuit
Output Voltage	Io=10mA,Vin=2.8V	1.764	1.800	1.836	V	1
Line Regulation △Vout/△VinVout	Io=30mA,2.8V<Vin<6V	-	0.05	0.25	%/V	1
Load Regulation	Vin=2.8V,1mA<Io<100mA	-	25	100	mV	1
Current Consumption	Vin=2.8V	-	7	15	μA	2
Dropout Voltage	Io=30mA	-	75	350	mV	1
	Io=100mA	-	250	680	mV	1

LM6206-3.0

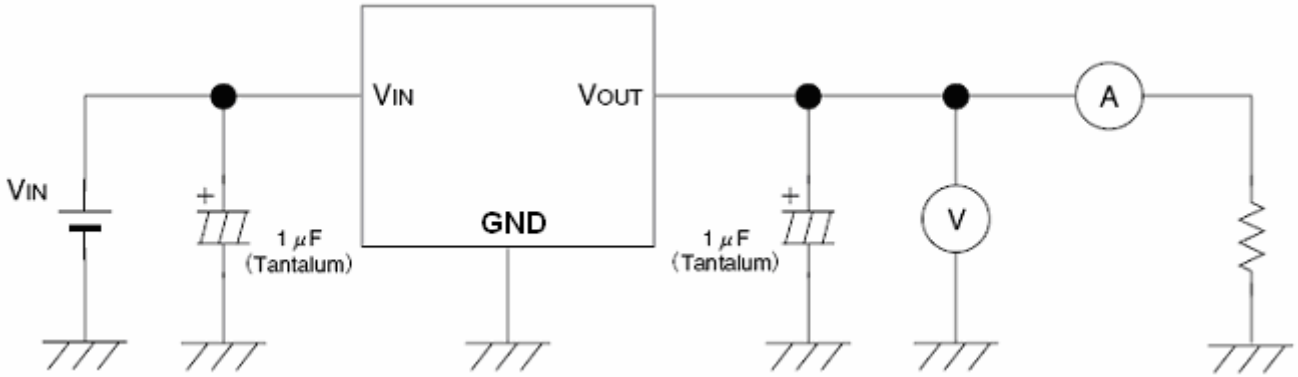
Parameter	Conditions	Min	Typ	Max	Units	Circuit
Output Voltage	Io=10mA,Vin=4.0V	2.940	3.000	3.060	V	1
Line Regulation △Vout/△VinVout	Io=30mA,4.0V<Vin<6V	-	0.05	0.25	%/V	1
Load Regulation	Vin=4.0V,1mA<Io<100mA	-	25	100	mV	1
Current Consumption	Vin=4.0V	-	7	15	μA	2
Dropout Voltage	Io=30mA	-	75	350	mV	1
	Io=100mA	-	250	680	mV	1

LM6206-3.3

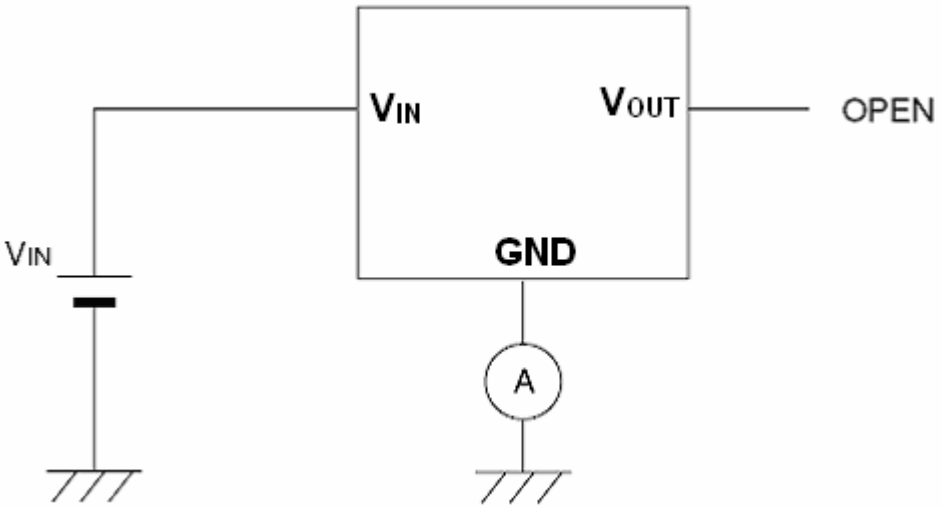
Parameter	Conditions	Min	Typ	Max	Units	Circuit
Output Voltage	Io=10mA,Vin=4.3V	3.234	3.300	3.366	V	1
Line Regulation △Vout/△VinVout	Io=30mA,4.3V<Vin<6V	-	0.05	0.25	%/V	1
Load Regulation	Vin=4.3V,1mA<Io<100mA	-	25	100	mV	1
Current Consumption	Vin=4.3V	-	7	15	μA	2
Dropout Voltage	Io=30mA	-	75	350	mV	1
	Io=100mA	-	250	680	mV	1

Test Circuits

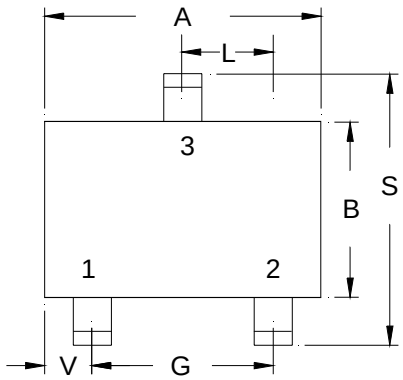
Circuit 1

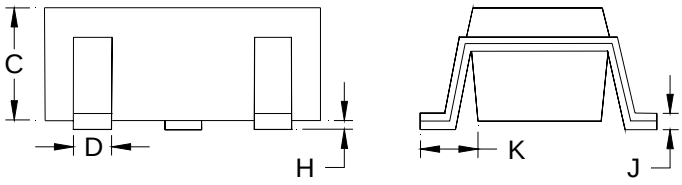


Circuit 2

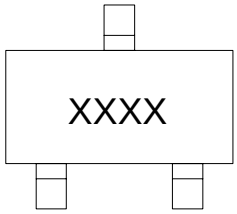


SOT-23 Dimension





Marking:



3-Lead SOT-23 Plastic
Surface Mounted Package
CYStek Package Code: N3

Style: Pin 1. Gnd 2.Vout 3.Vin

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

Notes: 1. Controlling dimension: millimeters.
2. Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3. If there is any question with packing specification or packing method, please contact your local CYCtek sales office.

Material:

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0