

## Descriptions

This is Low dropout linear regulator in a SOT-89 Plastic Package

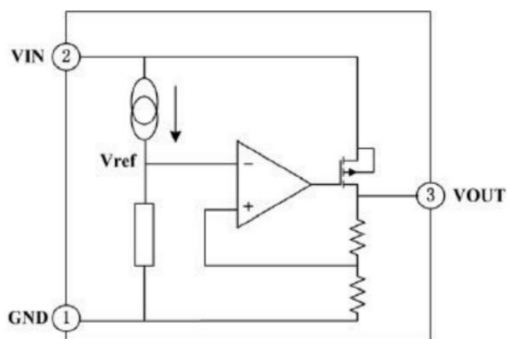
## Features

- Low power consumption
- Low voltage drop
- Small temperature drift coefficient
- High input voltage up to 30V
- The static current  $2.5 \mu A$
- The output voltage accuracy:  $\pm 3\%$

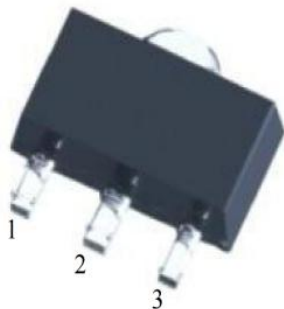
## Applications

- For use in power equipment
- Communication equipment
- Audio and video equipment

## Equivalent Circuit



## Pinning



PIN 1 : GND

PIN 2 : VIN

PIN 3 : VOUT

## Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Working Voltage	V <sub>IN</sub>	-0.3~33	V
Thermal Resistance	R <sub>θJA</sub>	200	°C/W
Power Consumption	P <sub>W</sub>	500	mW
Storage Temperature	T <sub>STG</sub>	-50~+125	°C
Working Temperature	T <sub>A</sub>	-40~+85	°C

Notes: If the device operating conditions over the maximum rating of the above-mentioned conditions, may cause permanent damage to the device. The above parameters is only part of the operating conditions the maximum, we do not recommend the device running outside the scope of this specification. If the device to work long hours under the condition of absolute maximum limit, its stability may be affected.

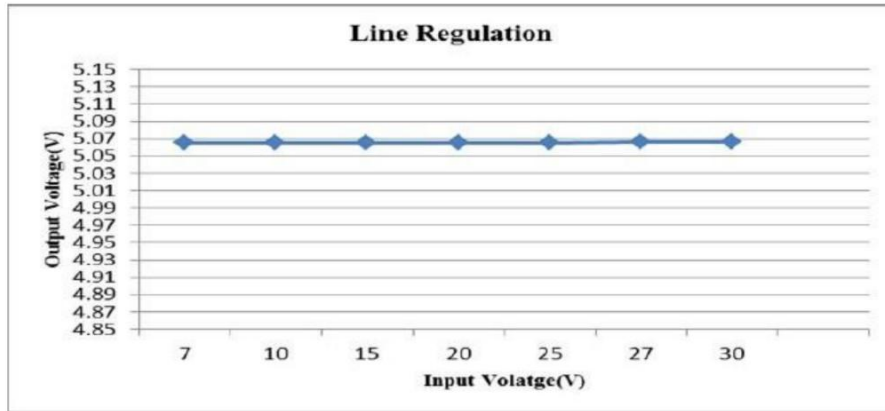
## Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
The Output Voltage	V <sub>OUT</sub>	V <sub>IN</sub> =7.0V, I <sub>OUT</sub> =10mA	4.85	5.00	5.15	V
The Output Current	I <sub>OUT</sub>	V <sub>IN</sub> =7.0V	100	150		mA
Load Regulation	ΔV <sub>OUT</sub>	V <sub>IN</sub> =7.0V 1mA ≤ I <sub>OUT</sub> ≤ 150mA		25	60	mV
Low Dropout	V <sub>DIF</sub>	I <sub>OUT</sub> =1mA, ΔV <sub>OUT</sub> =2%		25	55	mV
Static Power	I <sub>SS</sub>	V <sub>IN</sub> =7.0V		2.5	4.0	μA
Linear Regulation	$\frac{\Delta V_{OUT}}{V_{OUT}} / \Delta V_{IN}$ *	7.0V ≤ V <sub>IN</sub> ≤ 30V I <sub>OUT</sub> =10mA			0.2	%/V
The Input Voltage	V <sub>IN</sub>				30	V
Temperature Coefficient	$\frac{\Delta V_{OUT}}{\Delta T_A} * V_{OUT}$	V <sub>IN</sub> =7.0V, I <sub>OUT</sub> =10mA -40°C ≤ T <sub>A</sub> ≤ 85°C		100		ppm/°C

Note: VDIF is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at V<sub>IN</sub>=7.0V with a fixed load.

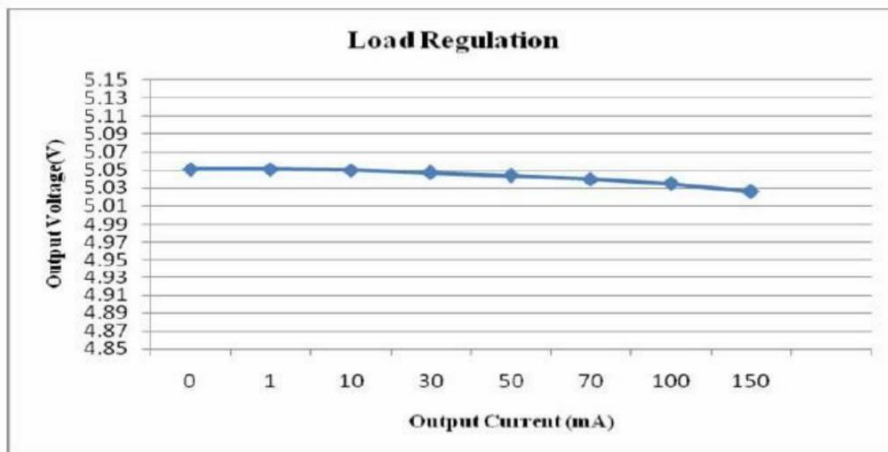
Electrical Characteristic Curve

The input voltage and output voltage



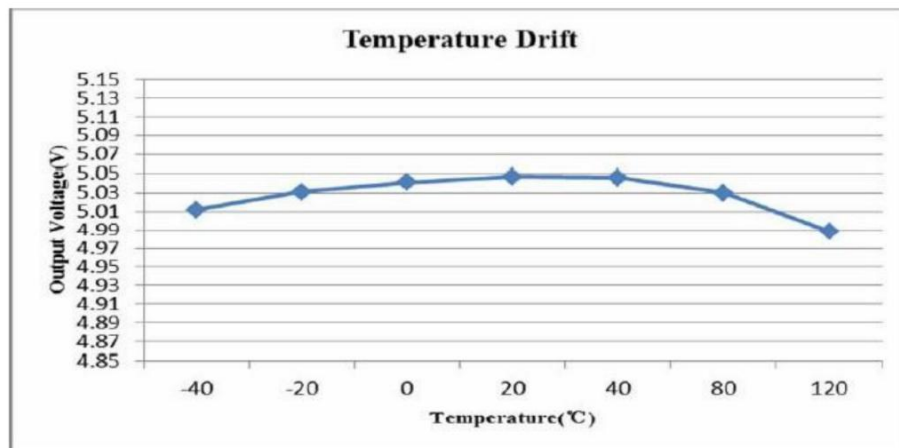
$I_{OUT}=10mA$ .

The output voltage and load current



$V_{IN}=7.0V$ .

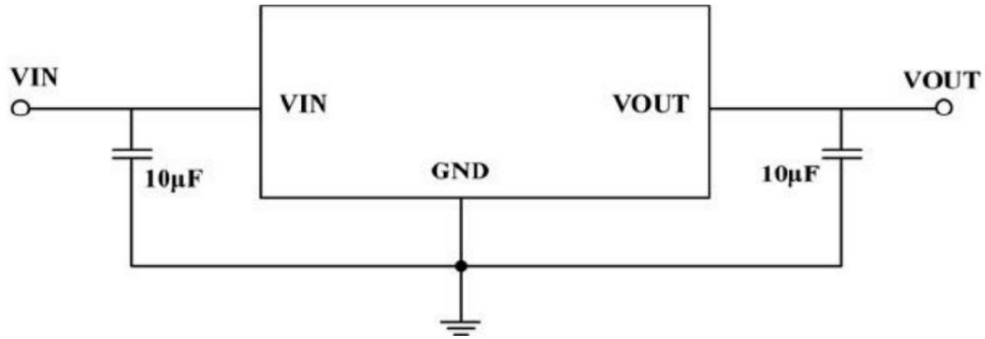
The output voltage and temperature



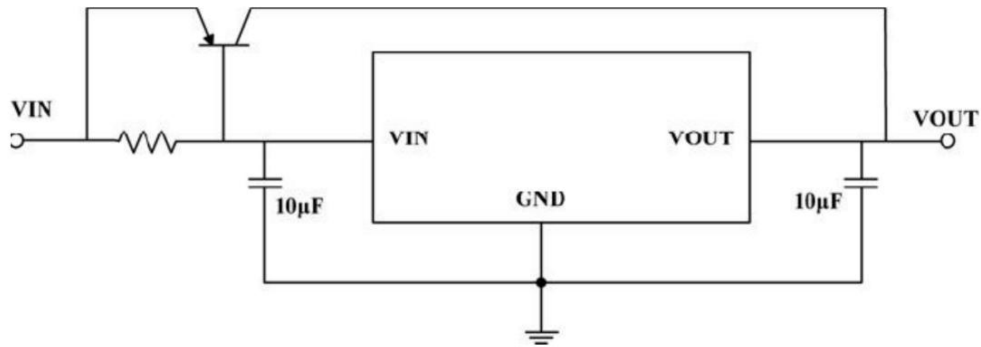
$V_{IN}=7.0V$ ,  $I_{OUT}=10mA$ .

Typical Application Circuit

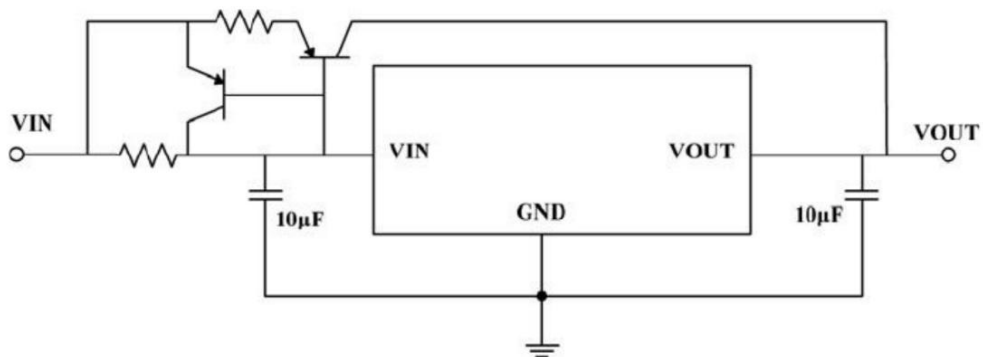
Basic Application



High Output Current Voltage Regulator

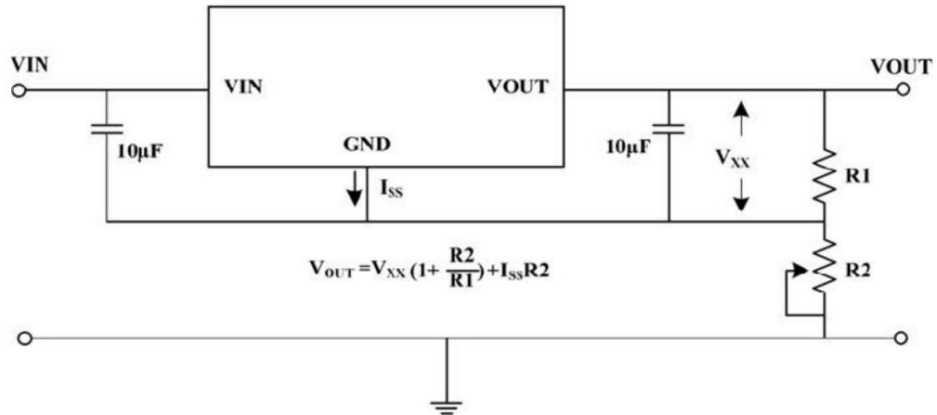


Short-Circuit Protection

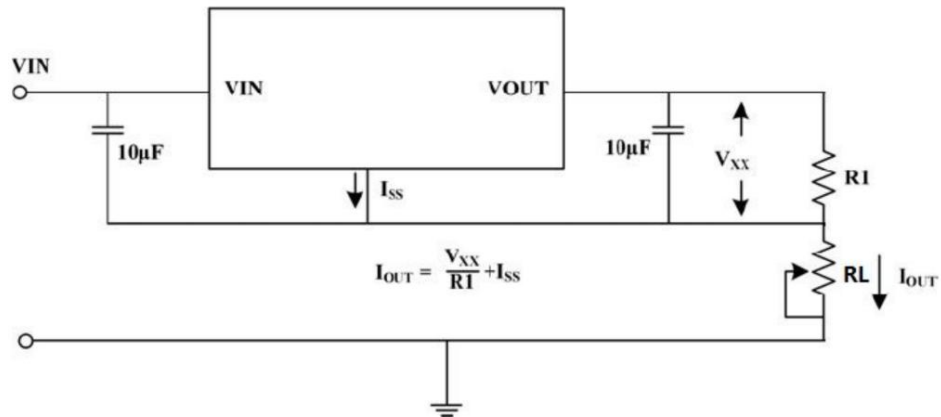


Typical Application Circuit

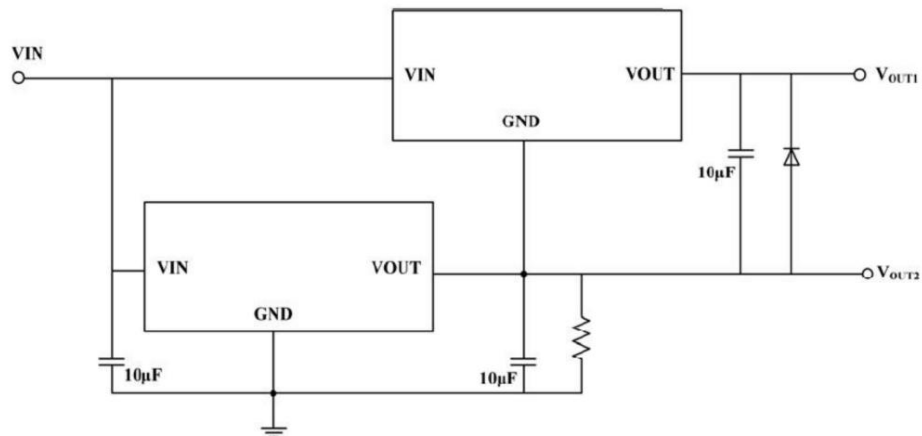
Circuit for Increasing Output Voltage



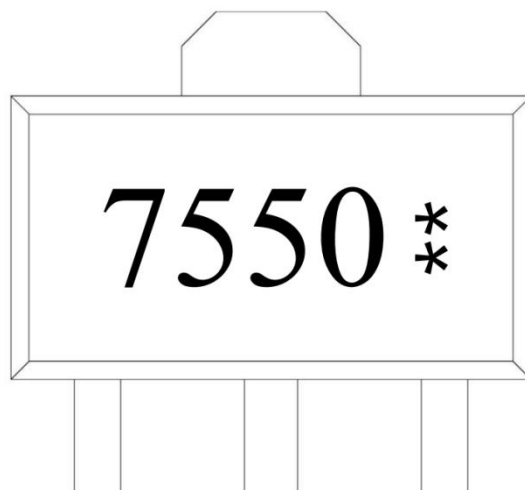
Constant Current Regulator



Double Output Circuit



## Marking Instructions



Note:

7550: Product Type.

\*\* : Lot No. Code, code change with Lot No.

## Packaging SPEC.

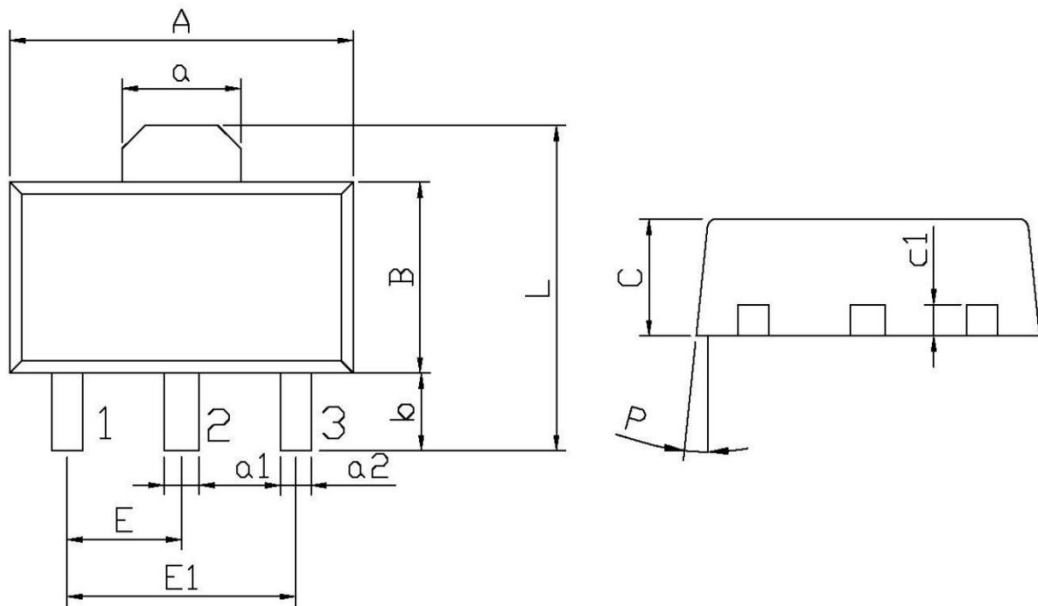
## REEL

Package Type	Units					Dimension (unit:mm3)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box (unit: mm3)	Outer Box (unit: mm3)
SOT-89	1,000	7	7,000	8	56,000	7" ×12	180×120×180	385×257×392

**Package Outline Dimensions**

SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			