

/ Descriptions

SOT-89

Low dropout linear regulator in a SOT-89 Plastic Package.

/ Features

30V

2.5 μ A $\pm 2\%$

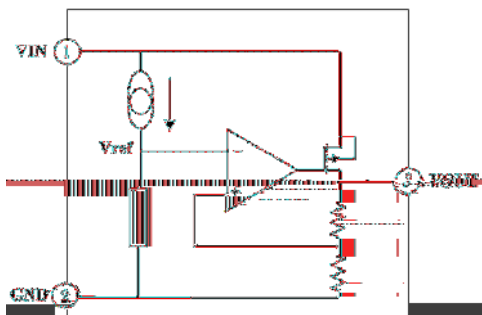
AEC-Q100

Low power consumption, Low voltage drop, Small temperature drift coefficient, High input voltage up to 30V, The static current 2.5 μ A, The output voltage accuracy: $\pm 2\%$, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

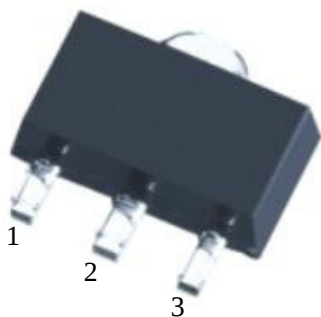
/ Applications

For use in power equipment, Communication equipment, Audio and video equipment, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 VIN PIN 2 GND PIN 3 VOUT

/ Marking

/ See Marking Instructions.

/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Working Voltage	V_{IN}	-0.3~33	V
Thermal Resistance	$R_{\theta JA}$	200	/W
Power Consumption	P_W	500	mW
Storage Temperature	T_{STG}	-50~+125	
Working Temperature	T_A	-40~+85	

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($T_a=25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
The Output Voltage	V_{OUT}	$V_{IN}=7.0V, I_{OUT}=10mA$	4.90	5.00	5.10	V
The Output Current	I_{OUT}	$V_{IN}=7.0V$	200			mA
Load Regulation	ΔV_{OUT}	$V_{IN}=7.0V$ $1mA \leq I_{OUT} \leq 150mA$		25	60	mV
Low Dropout	V_{DIF}	$I_{OUT}=1mA, \Delta V_{OUT}=2\%$		25	55	mV
Static Power	I_{SS}	$V_{IN}=7.0V$		2.5	4.0	μA
Linear Regulation	$\frac{\Delta V_{OUT}}{V_{OUT}} \cdot \frac{V_{IN}}{\Delta V_{IN}}$	$7.0V \leq V_{IN} \leq 30V$ $I_{OUT}=10mA$			0.2	%/V
The Input Voltage	V_{IN}				30	V
Temperature Coefficient	$\frac{\Delta V_{OUT}}{\Delta T_A} \cdot V_{OUT}$	$V_{IN}=7.0V, I_{OUT}=10mA$ $-40^\circ\text{C} \leq T_A \leq 85^\circ\text{C}$		100		ppm/ $^\circ\text{C}$

 $V_{IN}=7.0V$

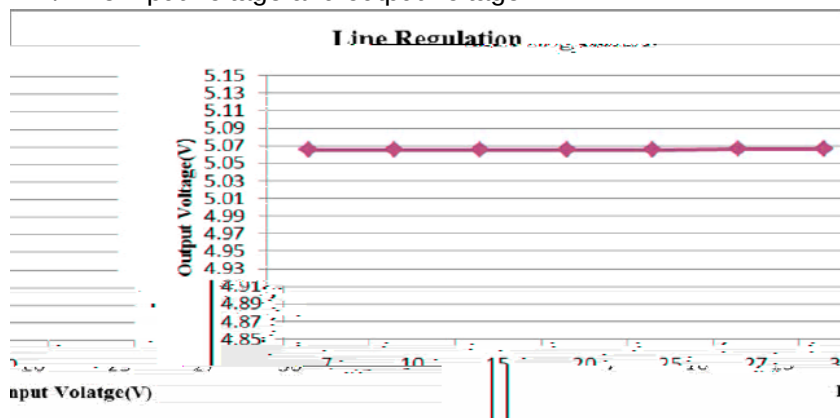
2%

 V_{DIF}

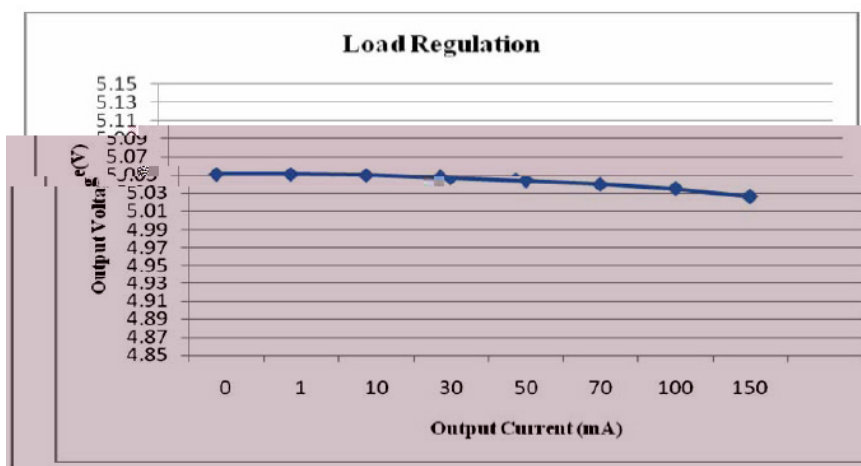
Note: V_{DIF} is defined as the input voltage minus the output voltage that produces a 2% change in the output voltage from the value at $V_{IN}=7.0V$ with a fixed load.

/ Electrical Characteristic Curve

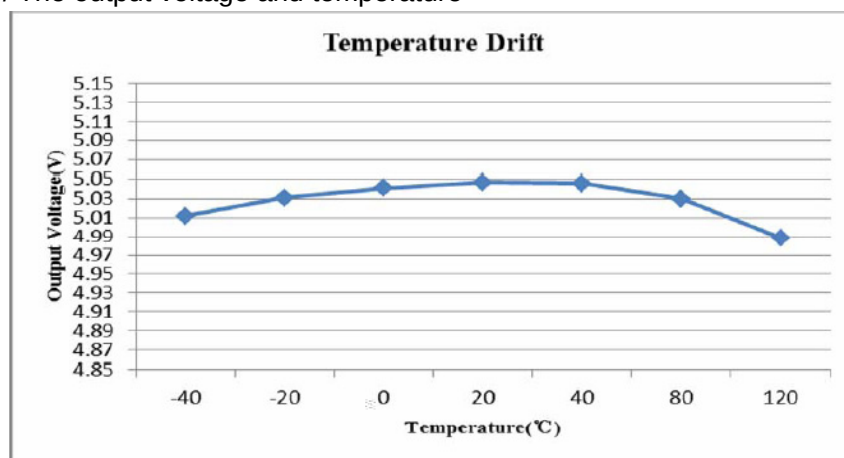
/ The input voltage and output voltage

 $I_{OUT}=10mA$

/ The output voltage and load current

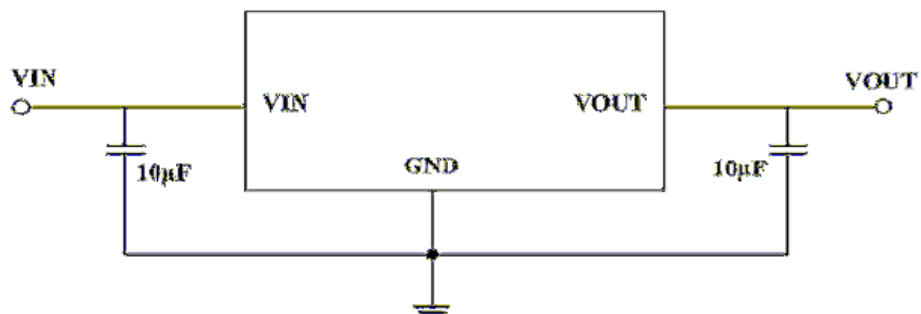
 $V_{IN}=7.0V$

/ The output voltage and temperature

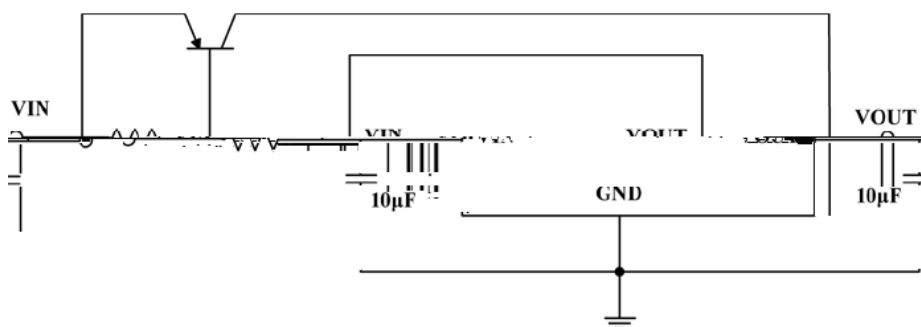
 $V_{IN}=7.0V$ $I_{OUT}=10mA$

/ Typical Application Circuit

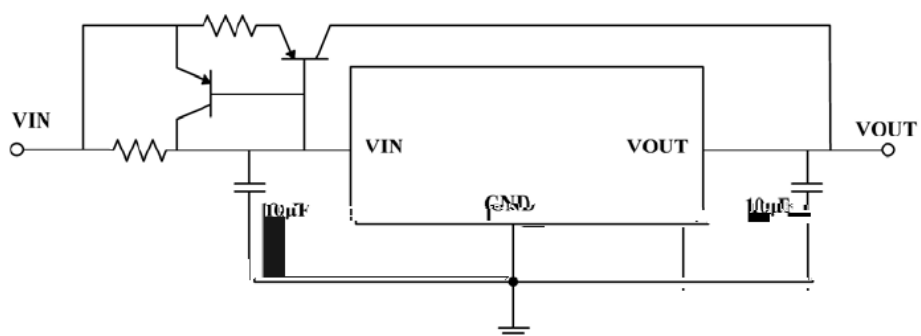
/ Basic Application



/ High Output Current Voltage Regulator

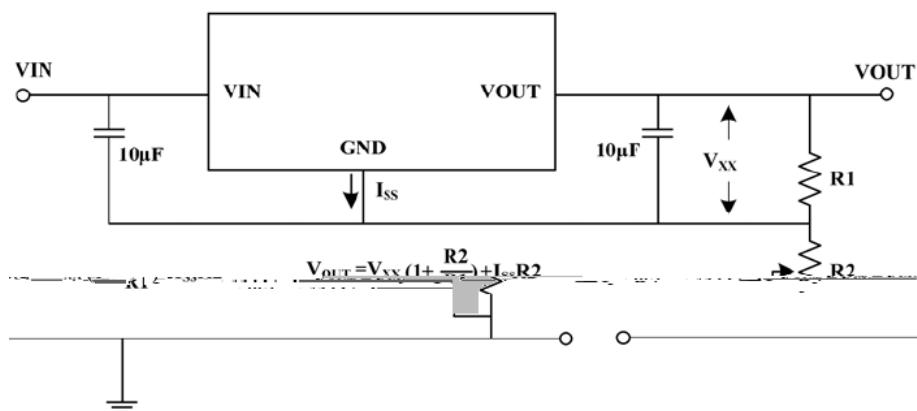


/ Short-Circuit Protection

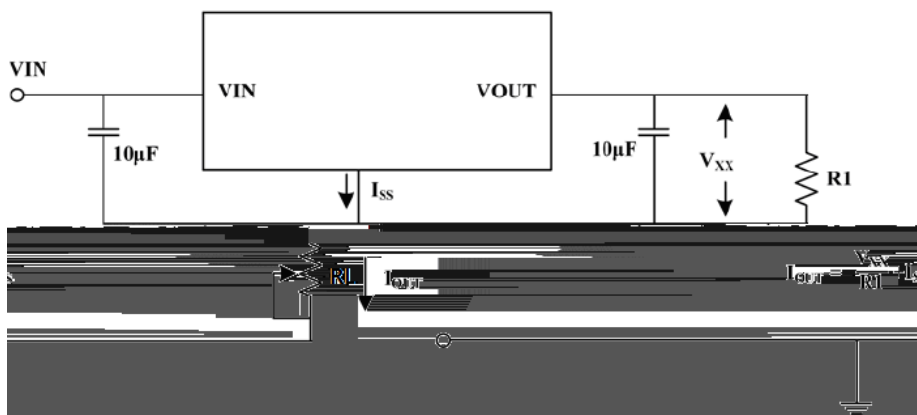


/ Typical Application Circuit

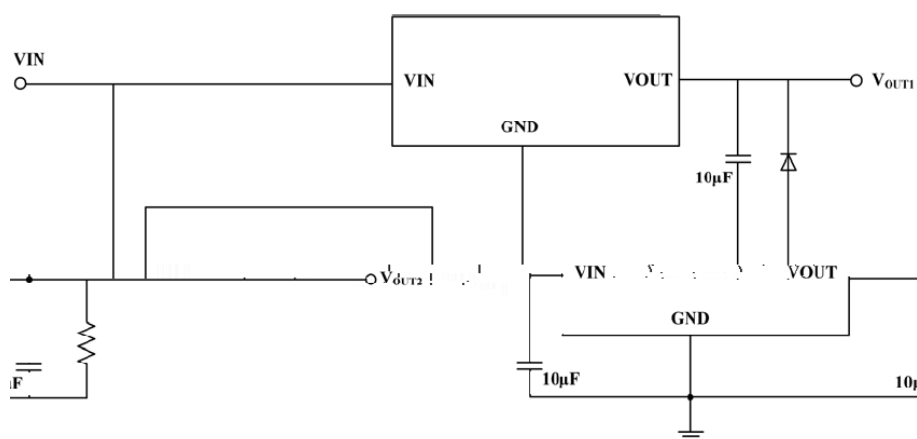
/ Circuit for Increasing Output Voltage



/ Constant Current Regulator



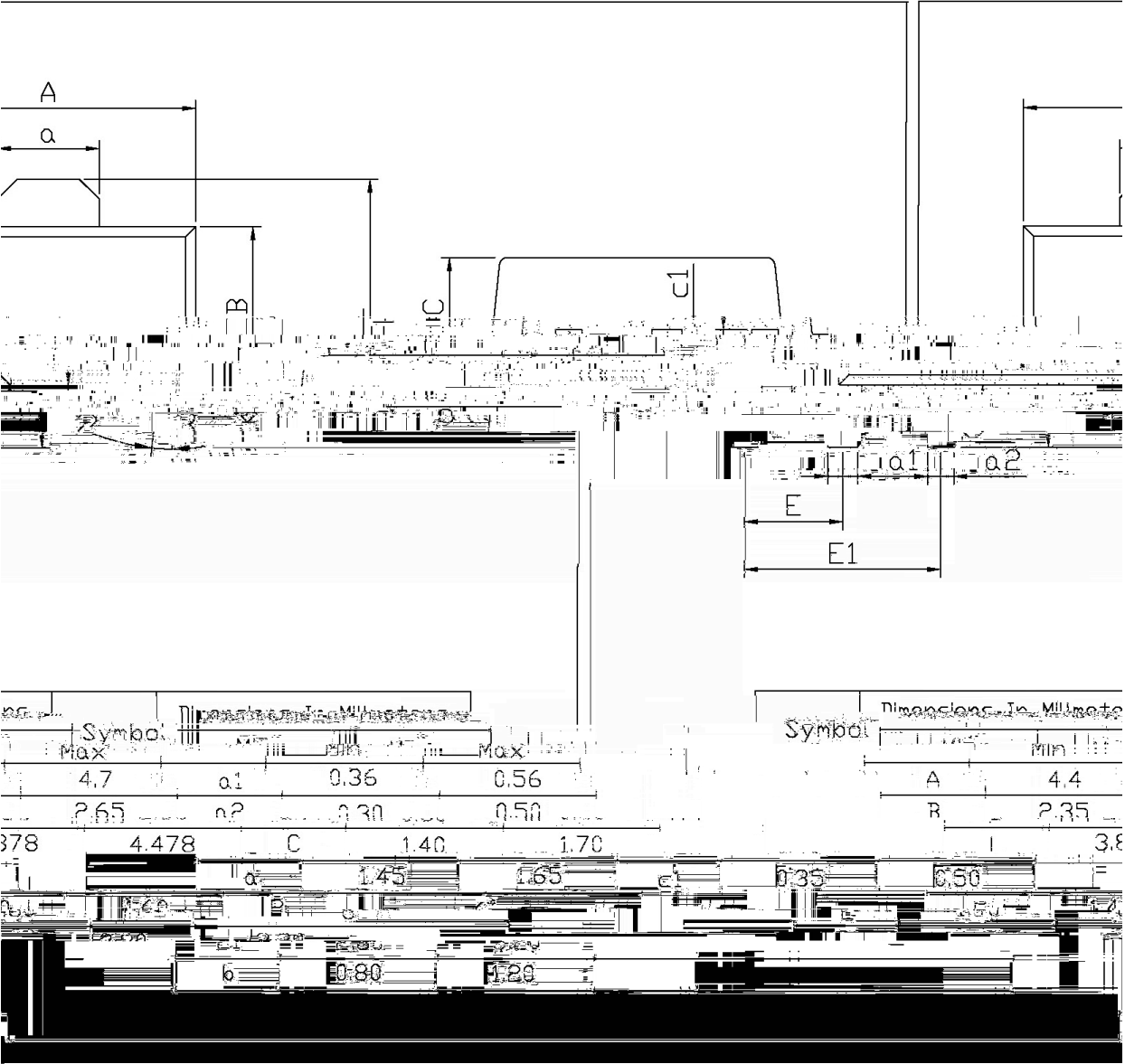
/ Double Output Circuit



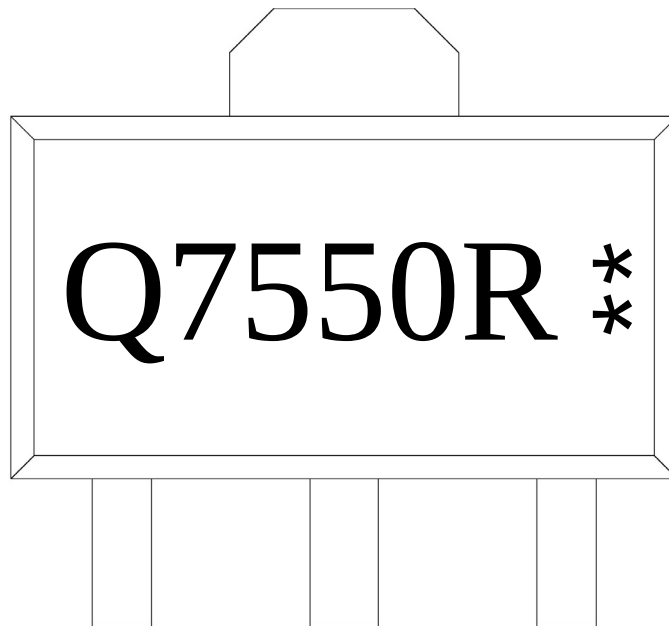
/ Package Dimensions

SOT-89

单位: mm



/ **Marking Instructions**



Q

7550R

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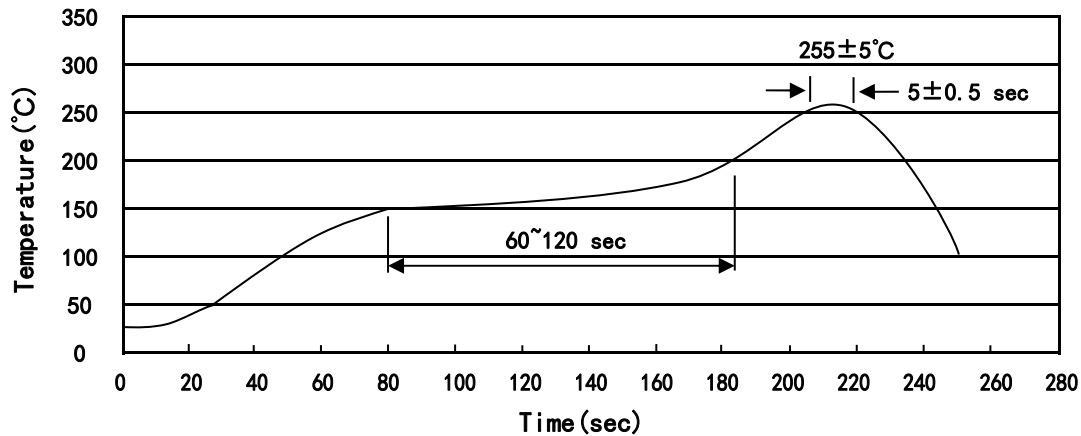
Note:

Q: Automobile halogen-free product Code

7550R: Product Type

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|----|-----------|---|
| 1 | 150 | 200 | 60 | 120sec; | 1.Preheating:150~200 , Time:60~120sec. |
| 2 | 255±5 | | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOT-89	1,000	7	7,000	6	42,000	7" ×12	180×120×180	390×385×205

/ Notices