

BRC07550STAQ

Rev.A Jul.-2022

/ Descriptions

SOT-89

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

/ Features

30V

2.5 μ A

$\pm 2\%$

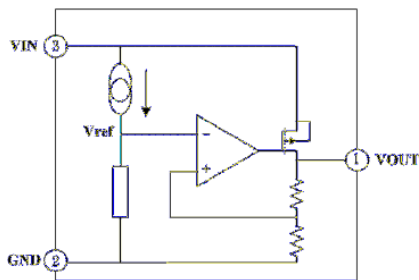
AEC-Q100

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.

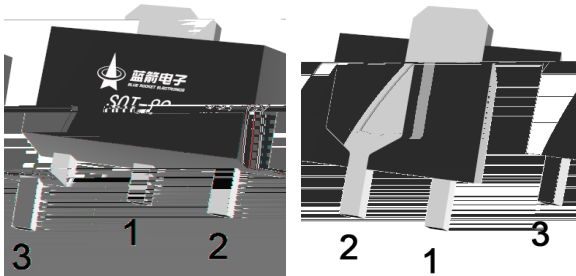
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 VOUT

PIN 2 GND

PIN 3 VIN

/ Marking

/ See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Working Voltage	V _{IN}	-0.3~33	V
Thermal Resistance	R _{θJA}	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(Ta=25)

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	V _{OUT}	V _{IN} =7.0V 1mA I _{OUT} 150mA		25	60	mV
Low Dropout	V _{DIF}	I _{OUT} =1mA, V _{OUT} =2%		25	55	mV
Static Power	I _{SS}	V _{IN} =7.0V		2.5	4.0	μA
Linear Regulation	$\frac{V_{OUT}}{V_{IN}} \cdot \frac{V_{OUT}^*}{V_{OUT}}$	7.0V V _{IN} 30V I _{OUT} =10mA			0.2	%/V
The Input Voltage	V _{IN}				30	V
Temperature Coefficient	$\frac{V_{OUT}}{T_A} \cdot V_{OUT}$	V _{IN} =7.0V, I _{OUT} =10mA -40 T _A 85		100		ppm/

V_{IN}=7.0V

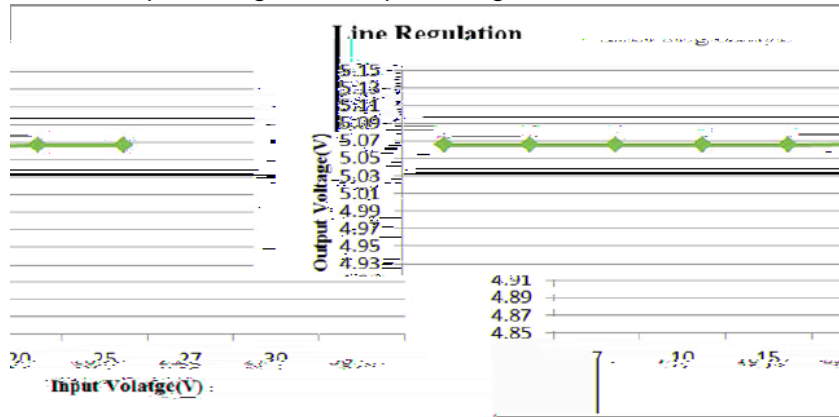
2%

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.

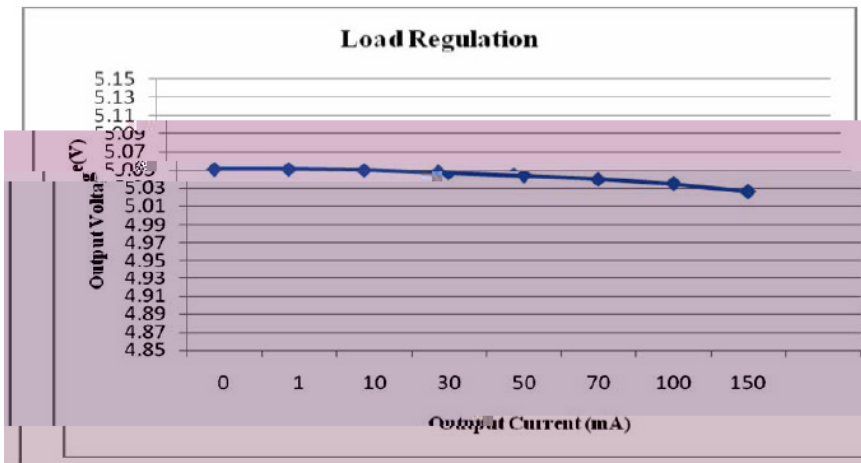
/ Electrical Characteristic Curve

/ The input voltage and output voltage



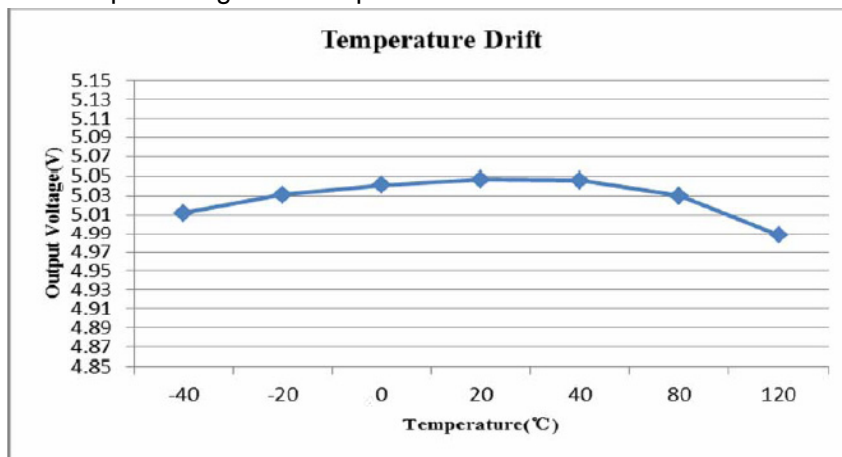
$I_{OUT}=10mA$

/ The output voltage and load current



$V_{IN}=7.0V$

/ The output voltage and temperature

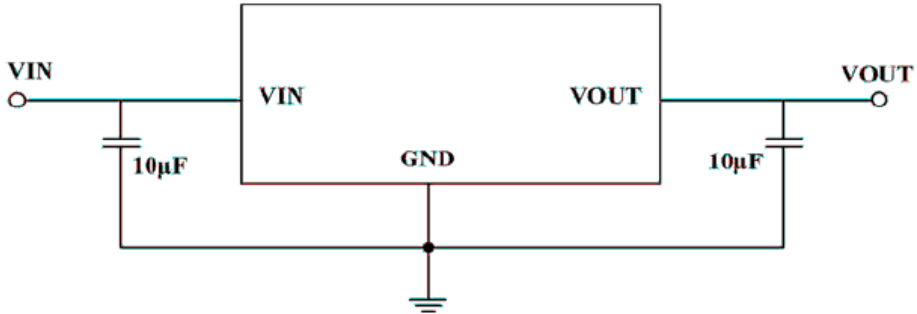


$V_{IN}=7.0V$

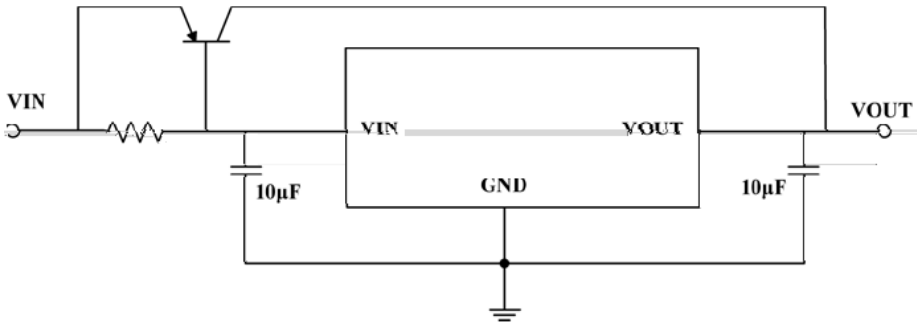
$I_{OUT}=10mA$

/ Typical Application Circuit

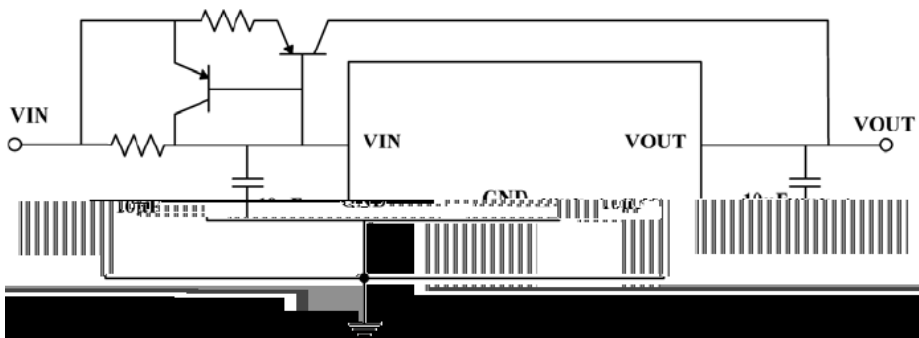
/ Basic Application



/ High Output Current Voltage Regulator

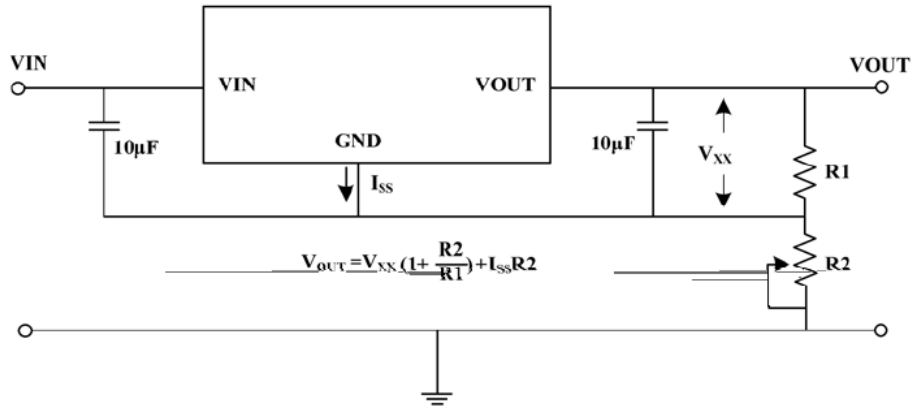


/ Short-Circuit Protection

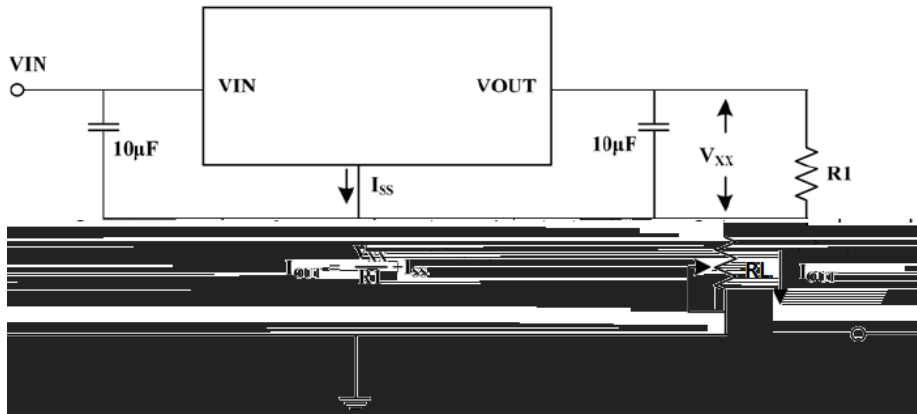


/ Typical Application Circuit

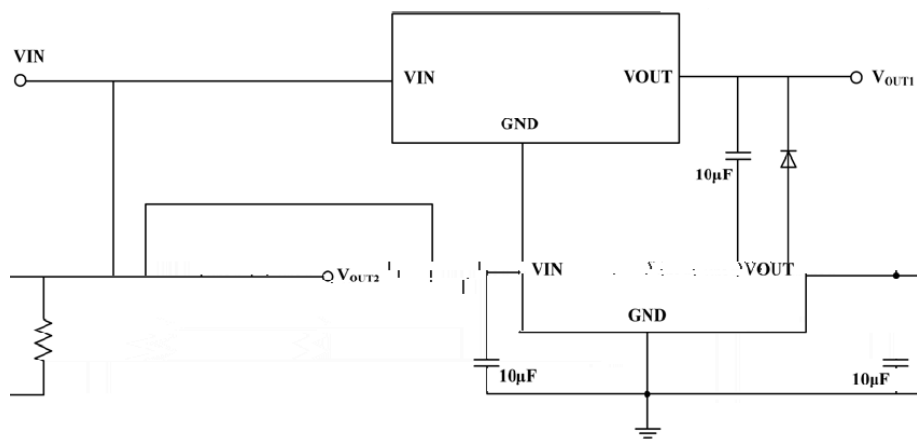
/ Circuit for Increasing Output Voltage



/ Constant Current Regulator

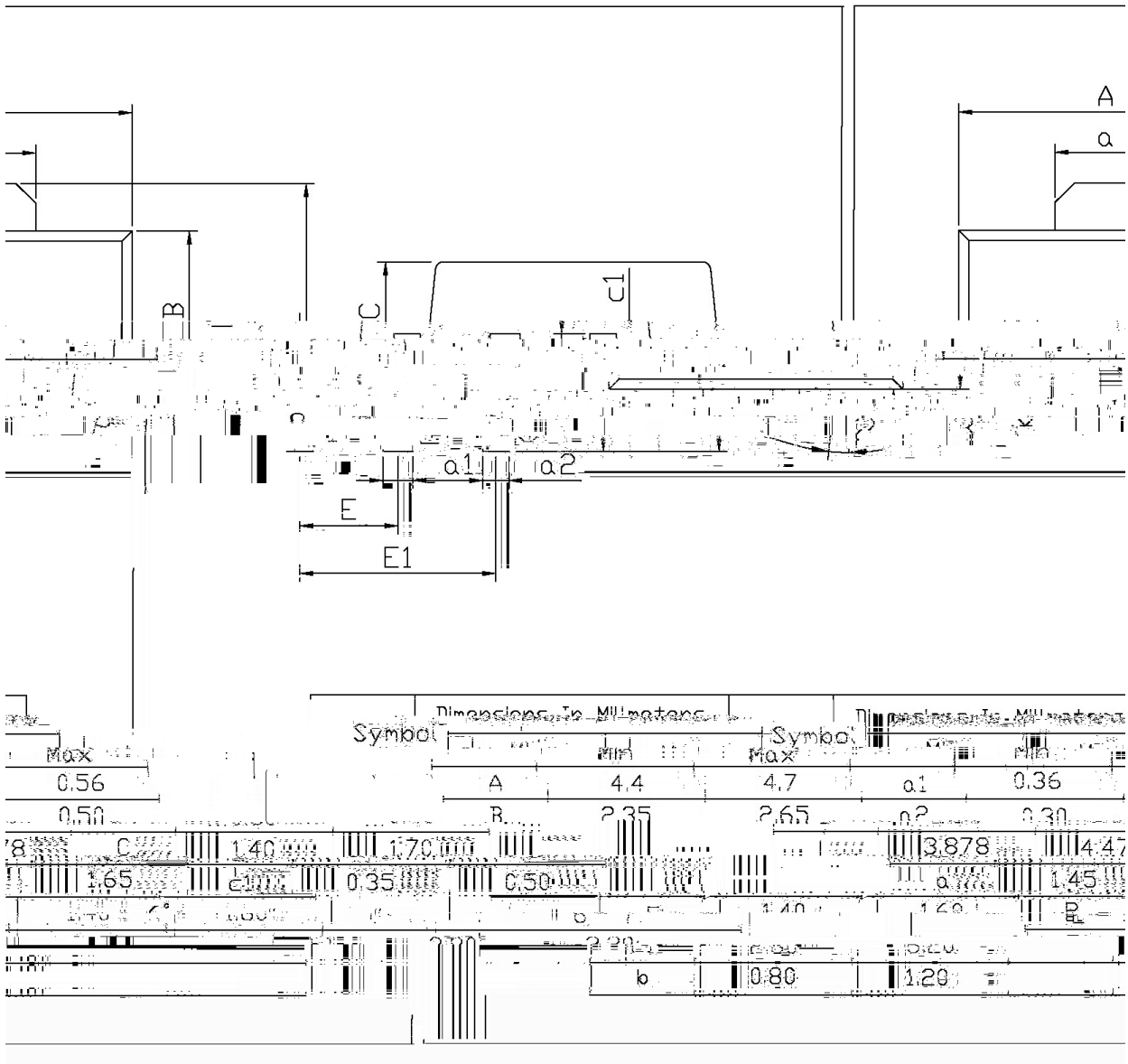


/ Double Output Circuit

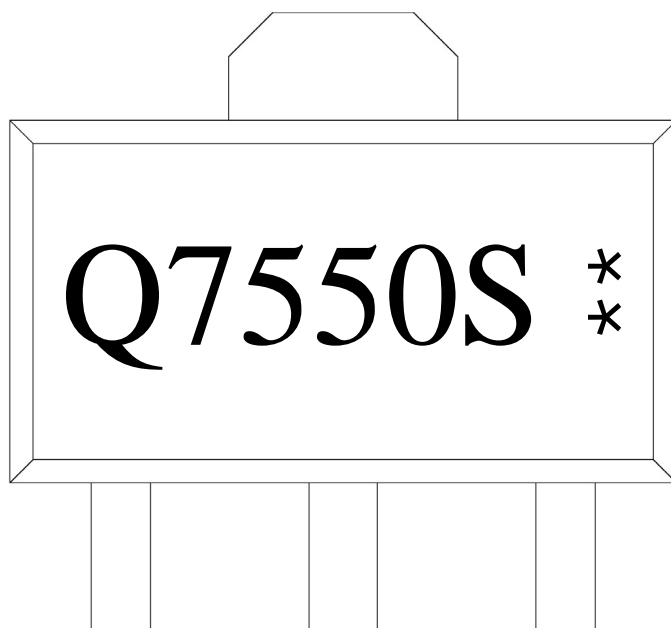


/ Package Dimensions

单位: mm



/ Marking Instructions



Q

7550S

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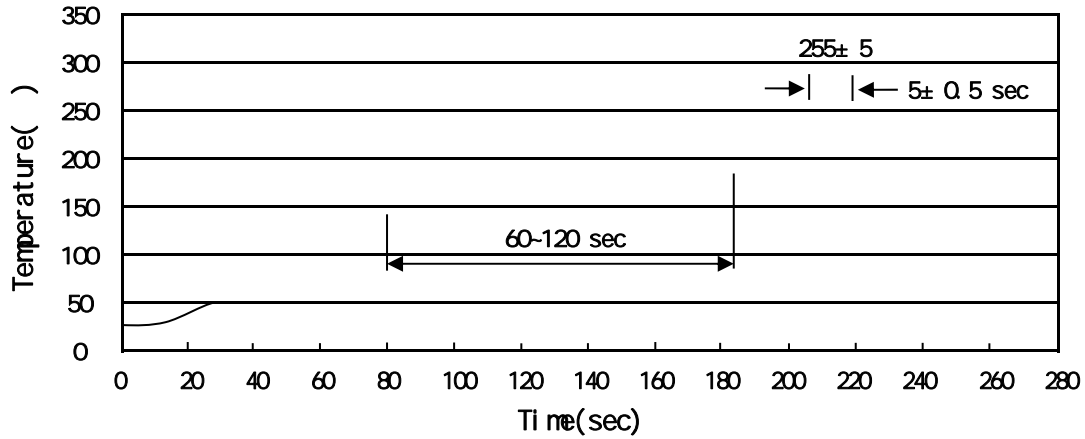
Note:

Q: Automobile halogen-free product Code

7550S: 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