

Rev.A Dec.-2023

SOT23-3

Low dropout linear regulator in a SOT23-3 Plastic Package.

24V

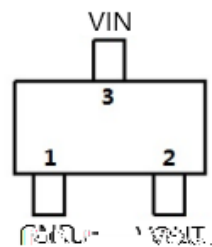
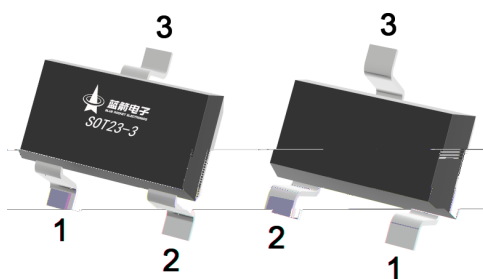
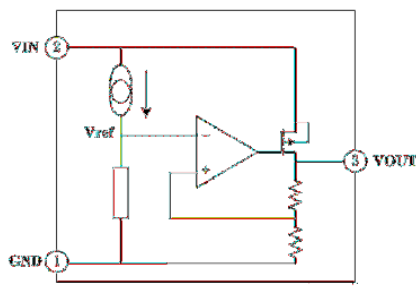
1.5 μ A

$\pm 2\%$

AEC-Q100

Low power consumption, Low voltage drop, Small temperature drift coefficient, High input voltage up to 24V, The static current 1.5 μ A, The output voltage accuracy: $\pm 2\%$, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

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



1	GND		3	VIN	
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Parameter	Symbol	Rating	Unit
Working Voltage	V_{IN}	-0.3~+24	V
Thermal Resistance	$R_{\theta JA}$	500	$^{\circ}C/W$
Power Consumption	P_D	200	mW
Storage Temperature	T_{STG}	-50~+125	$^{\circ}C$
Working Temperature	T_A	-40~+85	$^{\circ}C$

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.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
The Output Voltage	V_{OUT}	$V_{IN}=7.0V, I_{OUT}=10mA$	4.9	5.0	5.1	V
The Output Current	I_{OUT}	$V_{IN}=7.0V$	100	150		mA
Load Regulation	ΔV_{OUT}	$V_{IN}=7.0V$ $1mA \leq I_{OUT} \leq 70mA$		25	60	mV
Low Dropout	V_{DIF}	$I_{OUT}=1mA, \Delta V_{OUT}=2\%$		25	55	mV
Static Power	I_{SS}	$V_{IN}=7.0V$		1.5	3.0	μA
Linear Regulation	$\frac{\Delta V_{OUT}}{V_{OUT}} \cdot \frac{\Delta V_{IN}}{\Delta V_{IN}}$	$6.0 \leq V_{IN} \leq 24V$ $I_{OUT}=1mA$			0.2	%/V
The Input Voltage	V_{IN}				24	V
Temperature Coefficient	$\frac{\Delta V_{OUT}}{\Delta T_A} \cdot V_{OUT}$	$V_{IN}=7.0V, I_{OUT}=10mA$ $-40^{\circ}C \leq T_A \leq 85^{\circ}C$		100		ppm/ $^{\circ}C$

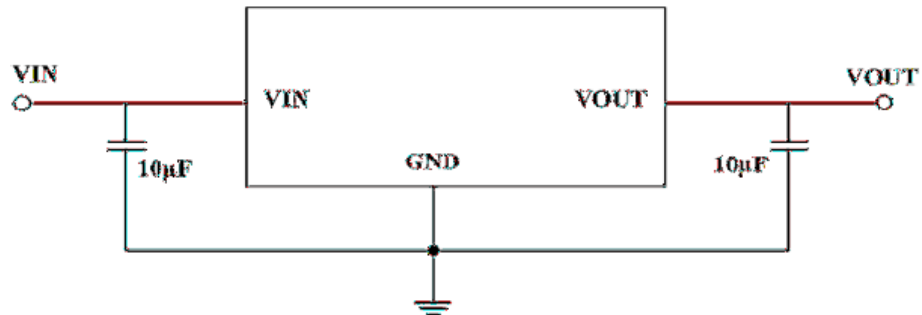
 $V_{IN}=7.0V$

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.

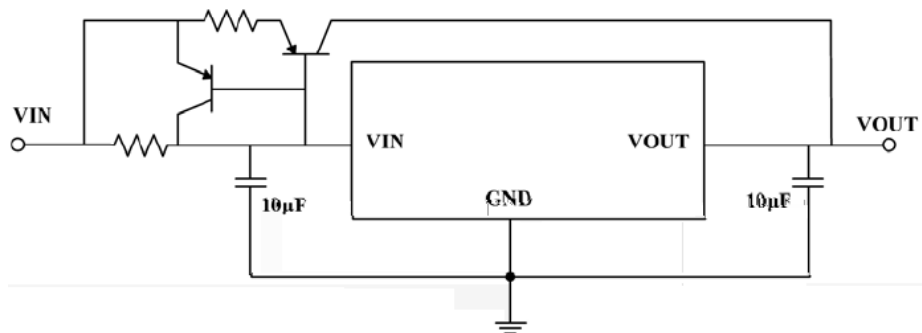
/ Basic Application



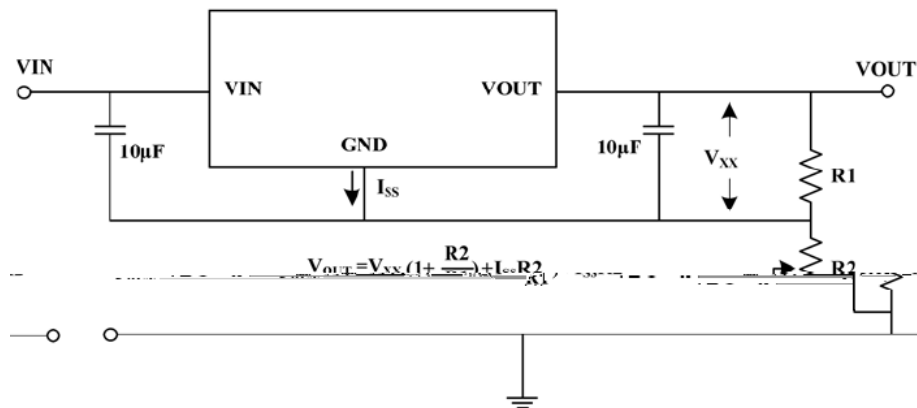
/ High Output Current Voltage Regulator



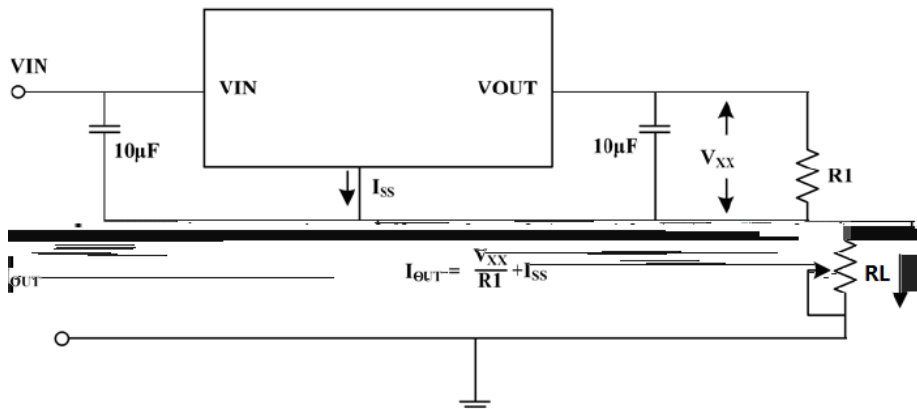
/ Short-Circuit Protection



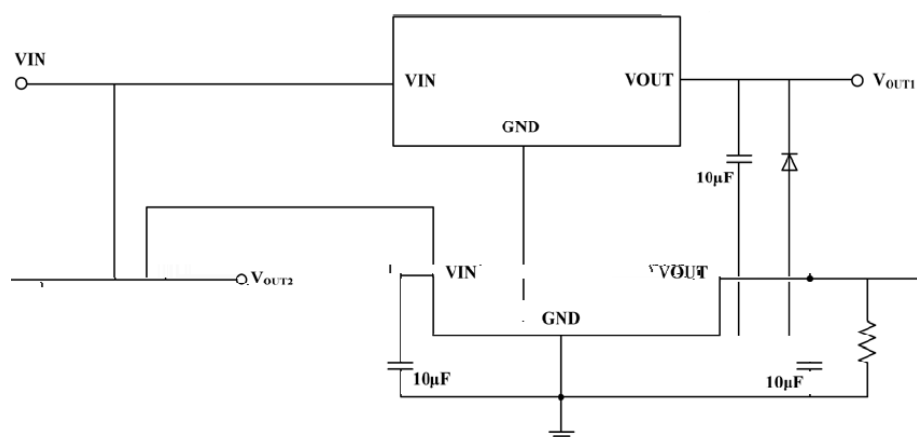
/ Circuit for Increasing Output Voltage

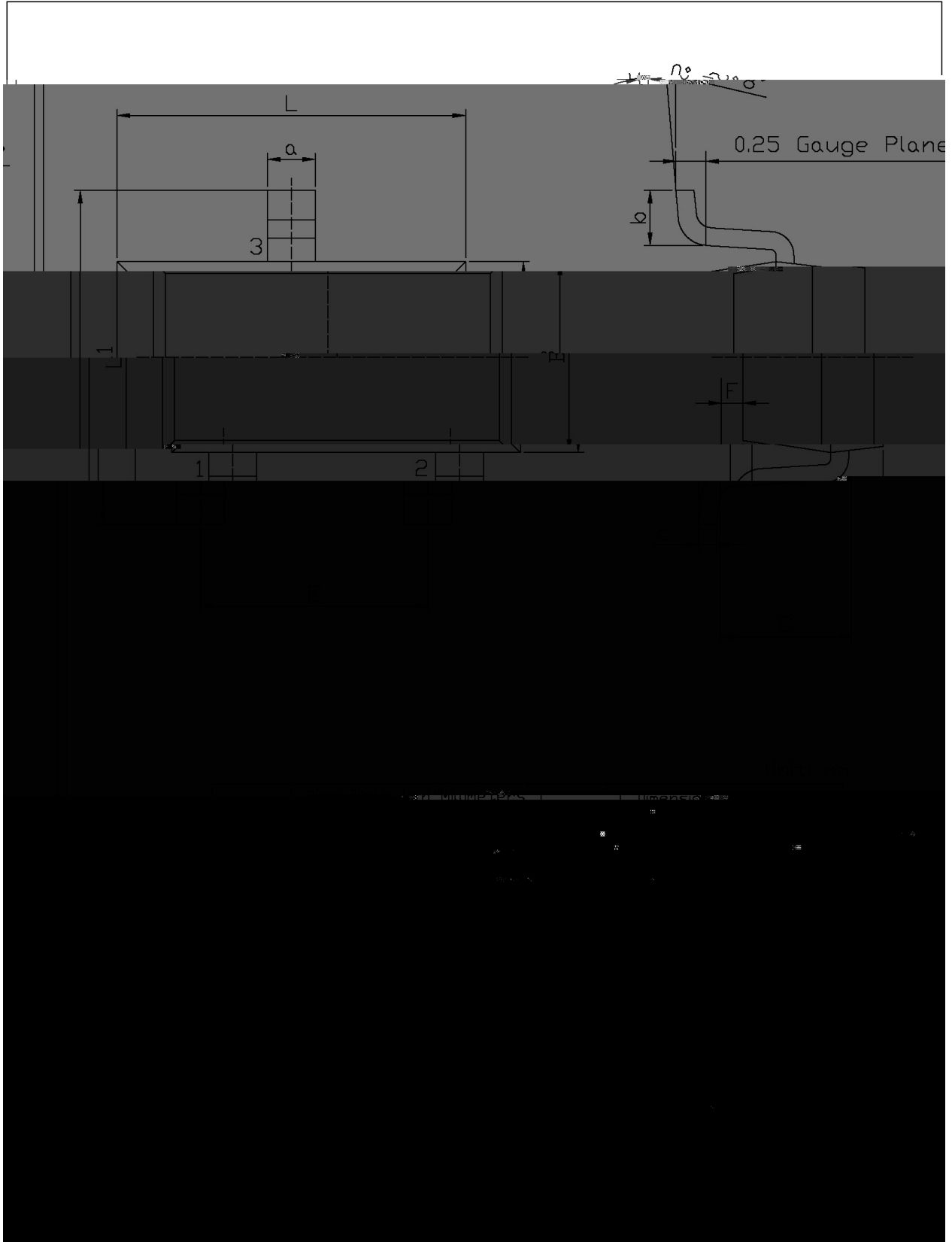


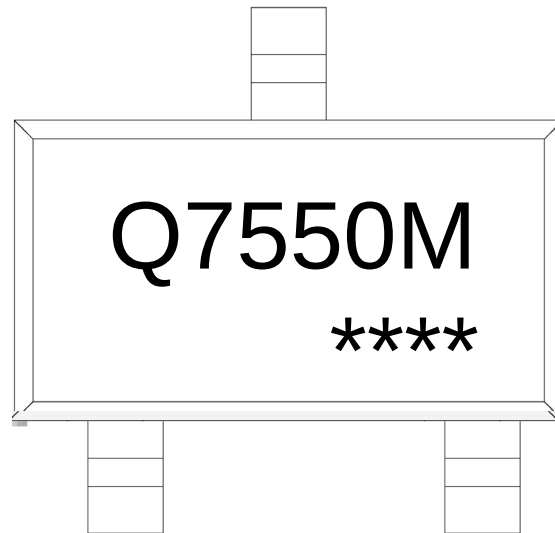
/ Constant Current Regulator



/ Double Output Circuit







Q

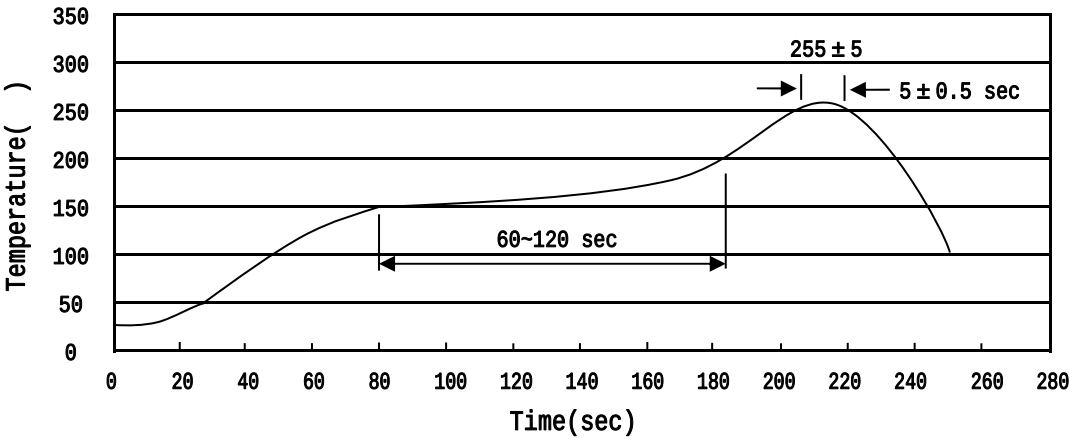
7550M

Note:

Q: Automobile halogen-free product Code

7550M: Product Type Code

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



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.

260±5

10±1 sec.

Temp.:260±5℃

Time:10±1 sec

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SOT23-3	3,000	10	30,000	4	120,000	7" ×8	210×205×205	445×435×230