

SOT-89

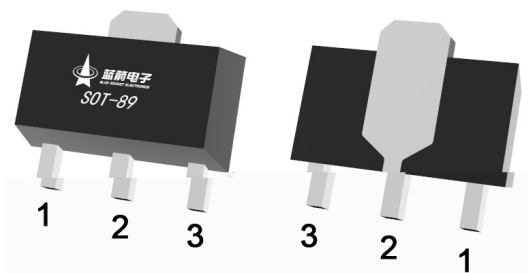
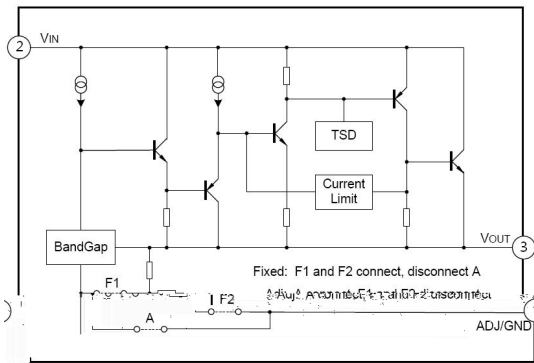
Voltage Regulator in a SOT-89 Plastic Package.

800mA,

AEC-Q100

High efficiency, Low dropout voltage.output current up to 800mA, internal current and thermal limit, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

Voltage Regulator, Meet the stringent requirements of automotive applications.



Pin1 GND/ADJ Pin2 VOUT Pin3 VIN

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Input voltage	V_I	15	V
Storage temperature range	T_{stg}	-40 150	

Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Reference Voltage	V_{ref}	BRLD1117TQ- Adj	$V_{in}-V_o=2V$ $T_j=25$ $I_o=10mA$	1.225	1.25	1.275	V
			10mA I_o 800mA 1.4V ($V_{in}-V_o$) 10V	1.225	1.25	1.275	
Output Voltage	V_o	BRLD1117TQ-1.2	$V_{in}=3.2V$ $T_j=25$ $I_o=10mA$	1.176	1.2	1.224	V
			10mA I_o 800mA, 3V V_{in} 8V	1.176	1.2	1.224	
		BRLD1117TQ-1.8	$V_{in}=3.8V$ $T_j=25$ $I_o=10mA$	1.764	1.8	1.836	V
			0 I_o 800mA, 3.3V V_{in} 8V	1.764	1.8	1.836	
		BRLD1117TQ-2.5	$V_{in}=4.5V$ $T_j=25$ $I_o=10mA$	2.45	2.5	2.55	V
			0 I_o 800mA, 3.9V V_{in} 10V	2.45	2.5	2.55	
		BRLD1117TQ-3.3	$V_{in}=5.3V$ $T_j=25$ $I_o=10mA$	3.234	3.3	3.366	V
			0 I_o 800mA, 4.75V V_{in} 10V	3.234	3.3	3.366	
		BRLD1117TQ-5.0	$V_{in}=7V$ $T_j=25$ $I_o=10mA$	4.9	5	5.1	V
			0 I_o 800mA, 6.5V V_{in} 15V	4.9	5	5.1	
Load Regulation	V_o	BRLD1117TQ-Adj	$V_{in}-V_o=3V$ 10mA I_o 800mA			30	mV
		BRLD1117TQ-1.2	$V_{in}=3V$ 10mA I_o 800mA			30	mV
		BRLD1117TQ-1.8	$V_{in}=3.3V$ 0mA I_o 800mA			30	mV
		BRLD1117TQ-2.5	$V_{in}=3.9V$ 0mA I_o 800mA			30	mV
		BRLD1117TQ-3.3	$V_{in}=4.75V$ 0mA I_o 800mA			30	mV
		BRLD1117TQ-5.0	$V_{in}=6.5V$ 0mA I_o 800mA			30	mV

Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Line Regulation	Vo	BRLD1117TQ-Adj	Io=10mA 1.5V (Vin-Vo) 13.75V			23	mV
		BRLD1117TQ-1.2	3V Vin 8.0V Io=0mA			18	mV
		BRLD1117TQ-1.8	3.3V Vin 8.0V Io=0mA			31	mV
		BRLD1117TQ-2.5	3.9V Vin 10V Io=0mA			40	mV
		BRLD1117TQ-3.3	4.75V Vin 15V Io=0mA			48	mV
		BRLD1117TQ-5.0	6.5V Vin 15V Io=0mA			55	mV
Operating Input Voltage	Vin	BRLD1117TQ-Adj				15	V
		BRLD1117TQ-1.2				10	
		BRLD1117TQ-1.8				10	
		BRLD1117TQ-2.5	Io=100mA			15	

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Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Supply Voltage Rejection	SVR	BRLD1117TQ-Adj	$I_o=40\text{mA}$ $f=120\text{Hz}$, $T_j=25$ $V_{in}-V_o=3\text{V}$, $V_{ripple}=1\text{Vpp}$	60	75		dB
		BRLD1117TQ-1.2					
		BRLD1117TQ-1.8					
		BRLD1117TQ-2.5					
		BRLD1117TQ-3.3					
		BRLD1117TQ-5.0					
Dropout Voltage	Vd	BRLD1117TQ-Adj	$I_o=100\text{mA}$ $I_o=500\text{mA}$ $I_o=800\text{mA}$		1.00 1.05 1.10	1.10 1.15 1.20	V
		BRLD1117TQ-1.2					
		BRLD1117TQ-1.8					
		BRLD1117TQ-2.5					
		BRLD1117TQ-3.3					
		BRLD1117TQ-5.0					
Thermal Regulation		BRLD1117TQ-Adj	$T_a=25$ 30ms Pulse		0.01	0.1	%W
		BRLD1117TQ-1.2					
		BRLD1117TQ-1.8					
		BRLD1117TQ-2.5					
		BRLD1117TQ-3.3					
		BRLD1117TQ-5.0					

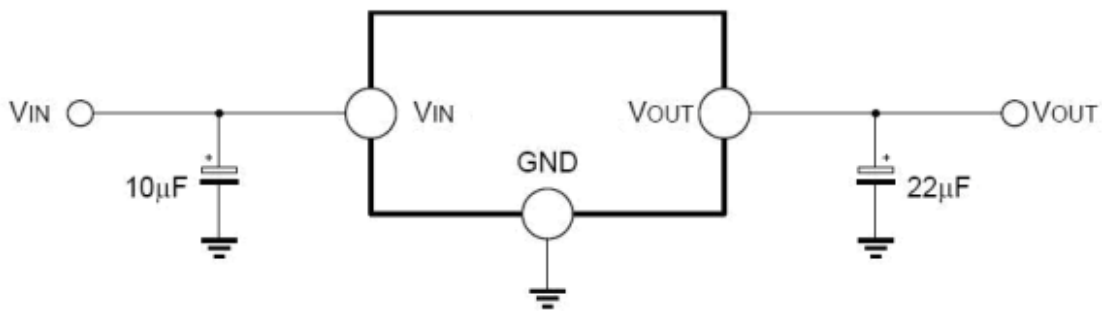


图 1. 典型固定输出电压

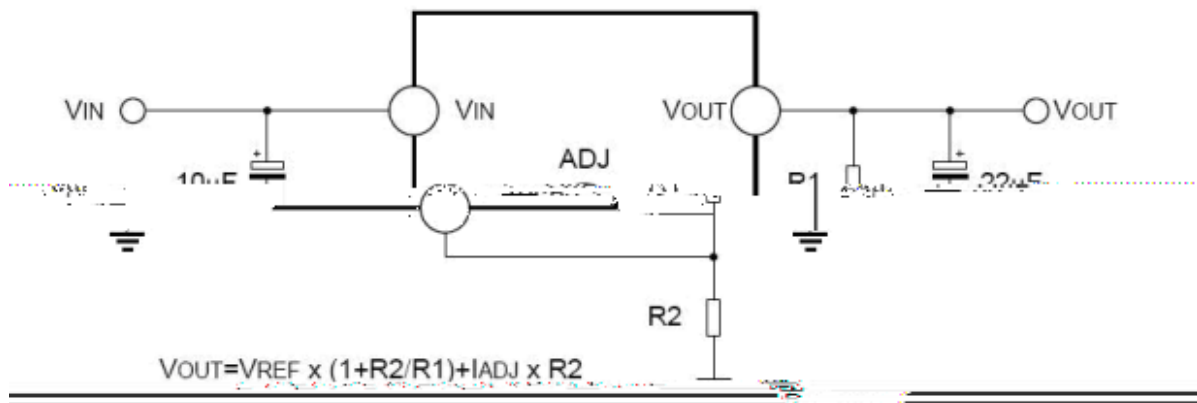
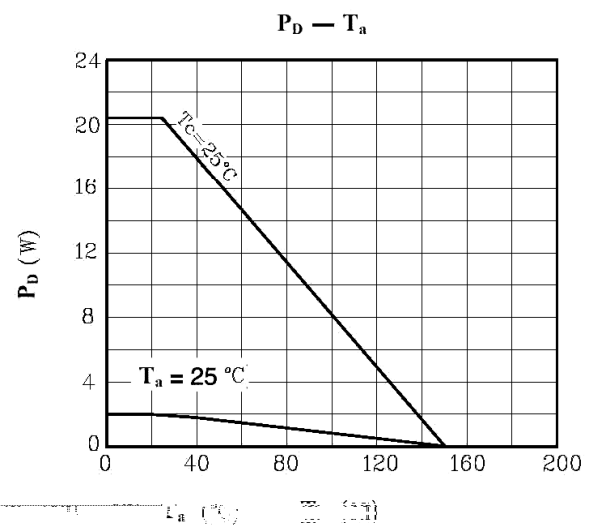
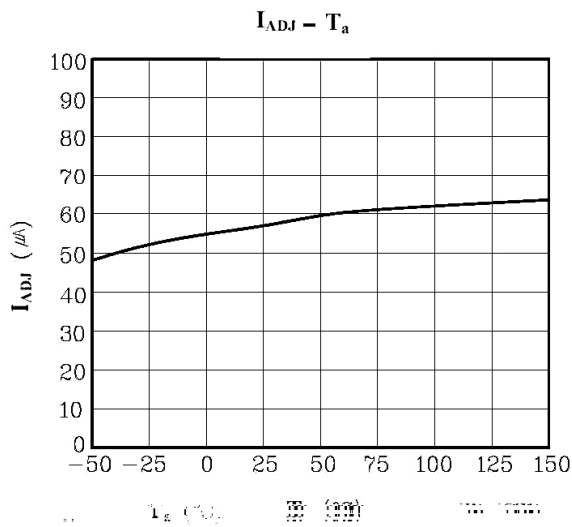
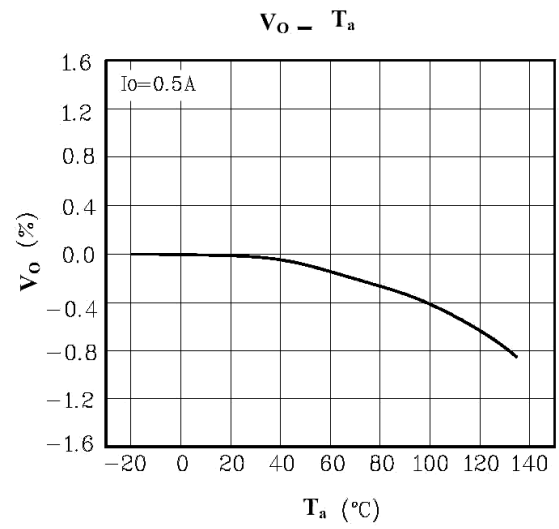
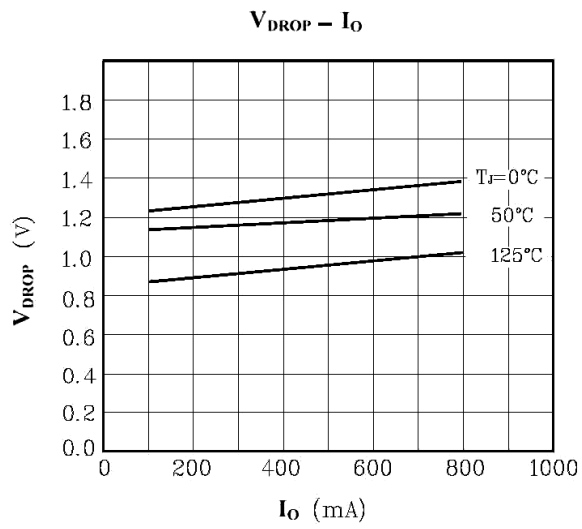
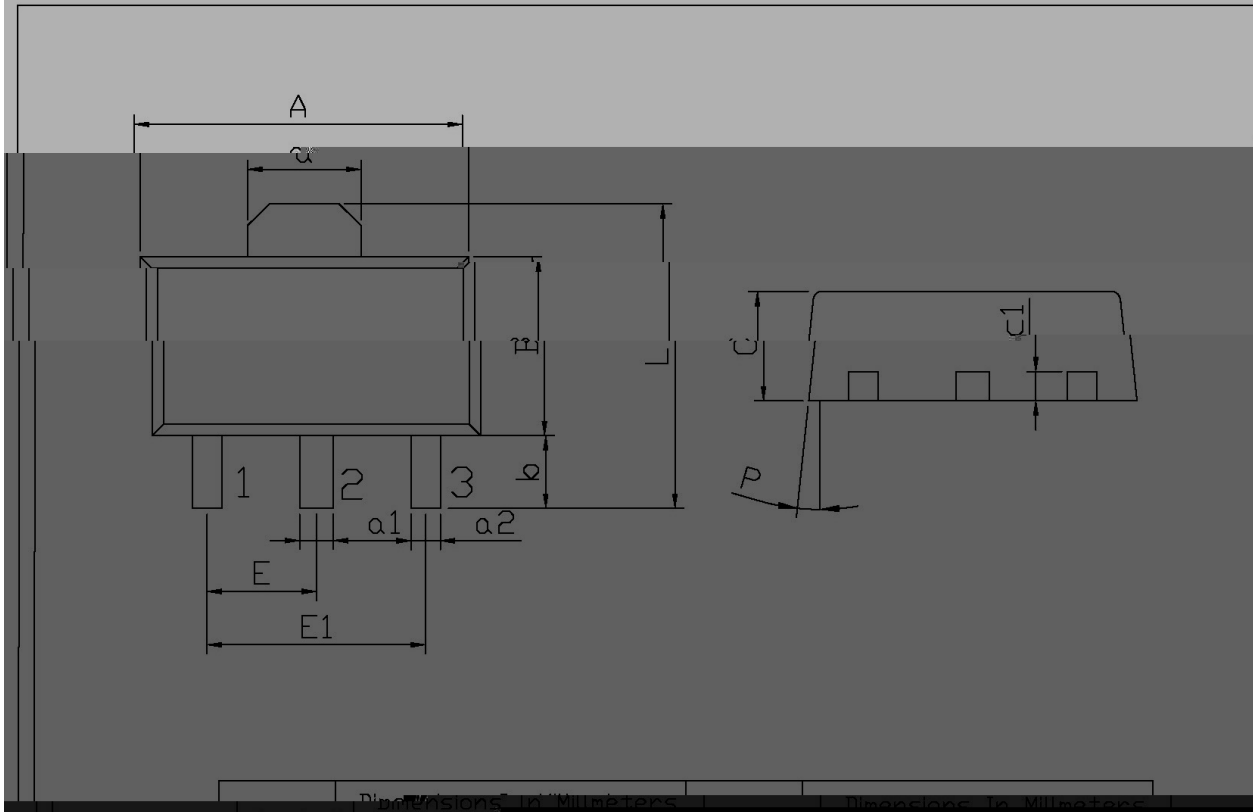


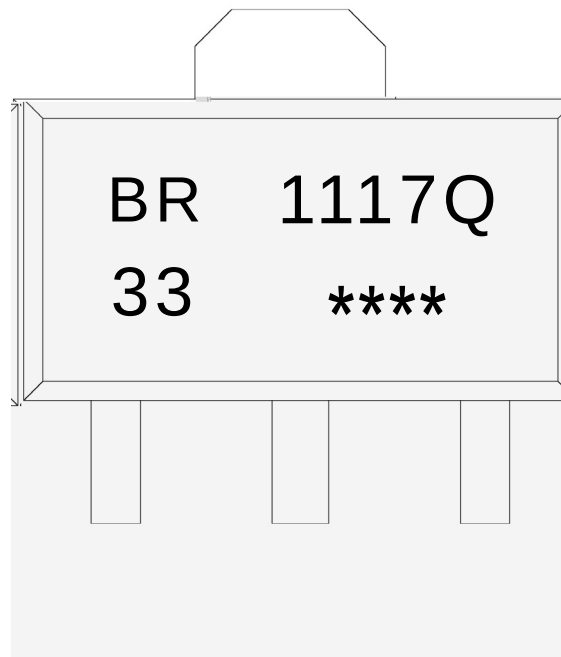
图 2. 典型可调输出电压



SUT-89

单位: mm





Q

Note:

BR: Company Code

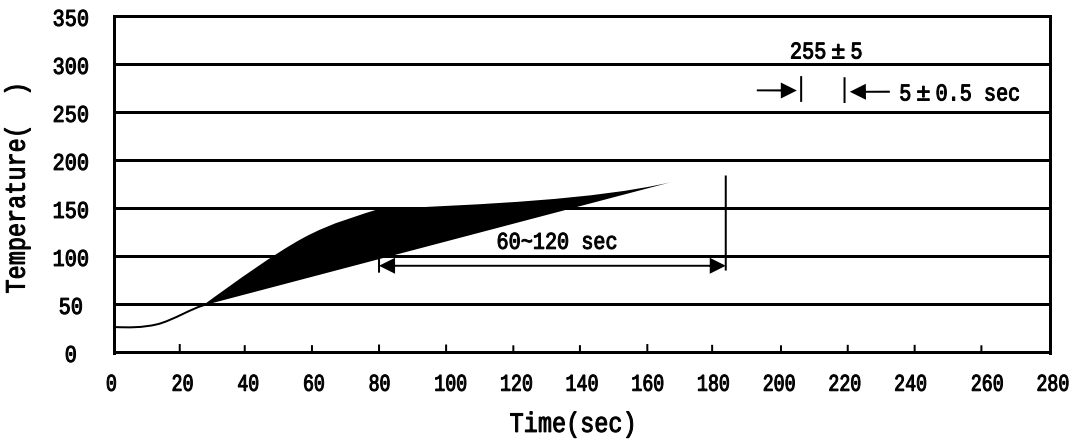
1117: Product Type Code

Q: Automobile halogen-free product Code

33: On Behalf 3.3V

****: 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. |

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ 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