## / Descriptions

SOT-89 Voltage Regulator in a SOT-89 Plastic Package.

## / Features

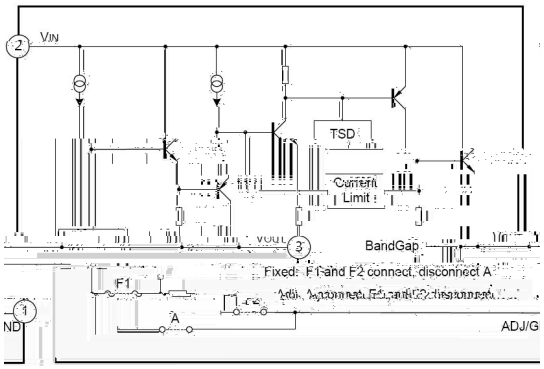
, 800mA, AEC-Q100

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.

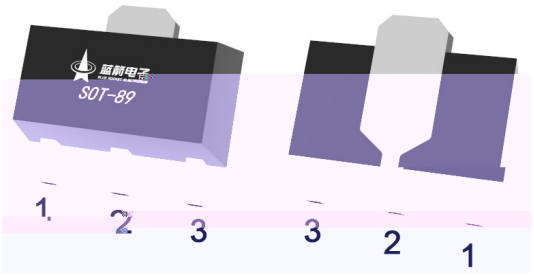
## / Applications

Voltage Regulator, Meet the stringent requirements of automotive applications.

## / Equivalent Circuit or Application Circuit




## / Pinning




Pin1 GND/ADJ Pin2 VOUT Pin3 VIN

## / Marking

See Marking Instructions.

## / Absolute Maximum Ratings(Ta=25 )

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

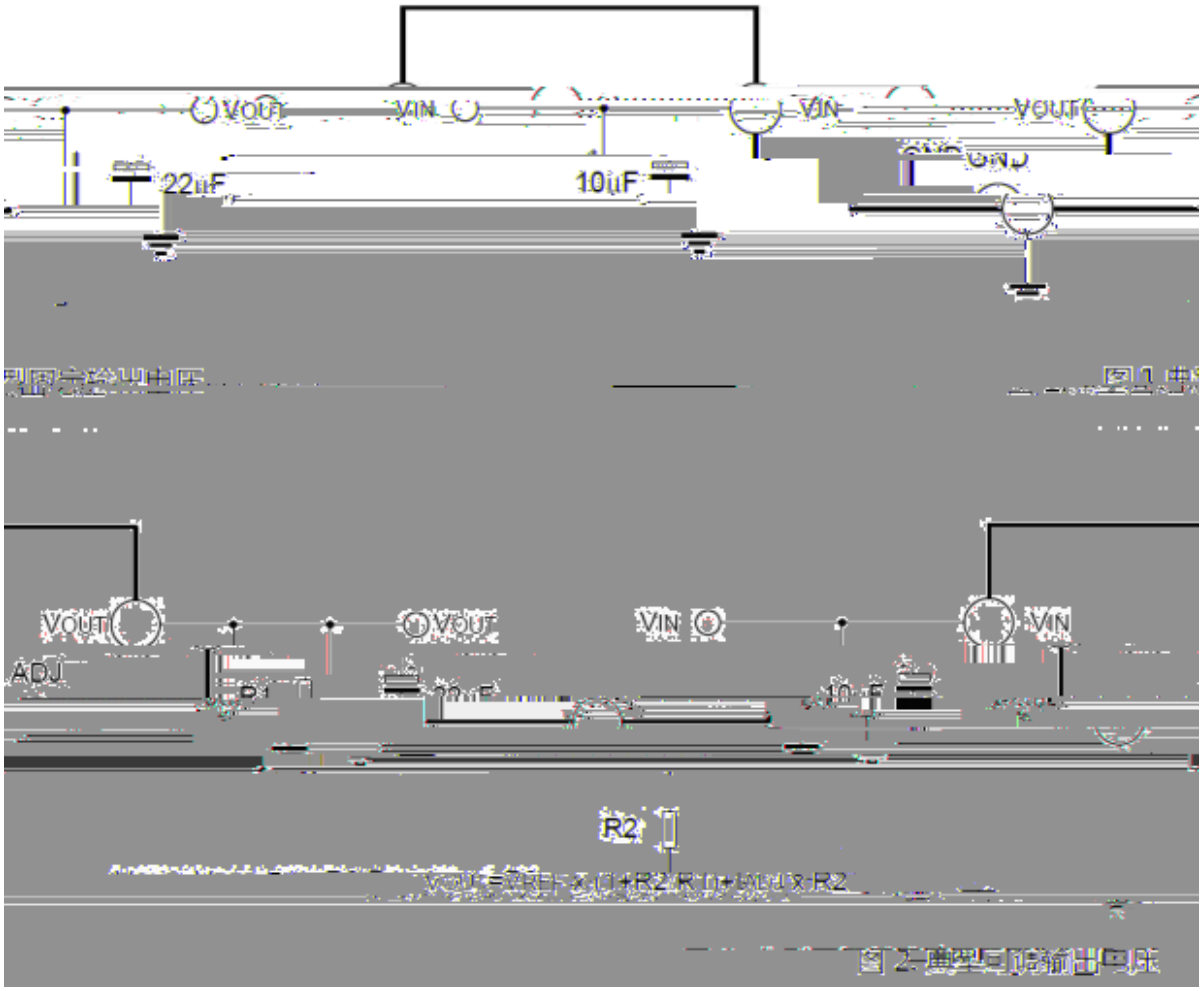
## / Electrical Characteristics(Ta=25 )

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

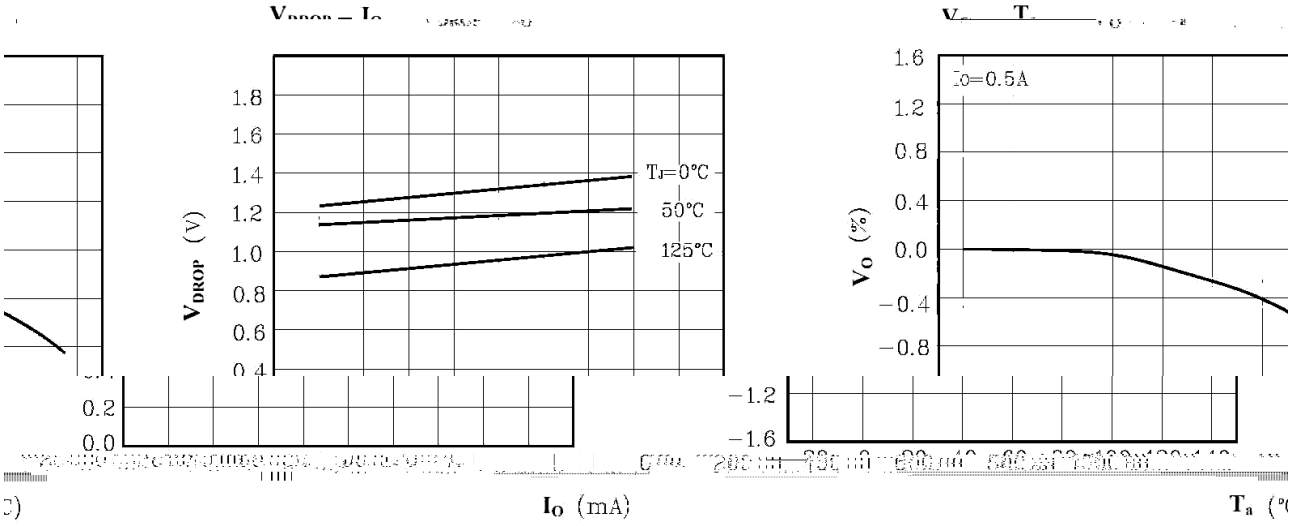
| Parameter | Symbol | Type | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|
| | | BRLD1117TQ-Adj | Io=10mA<br>1.5V (Vin-Vo) 13.75V | | | 23 | mV |

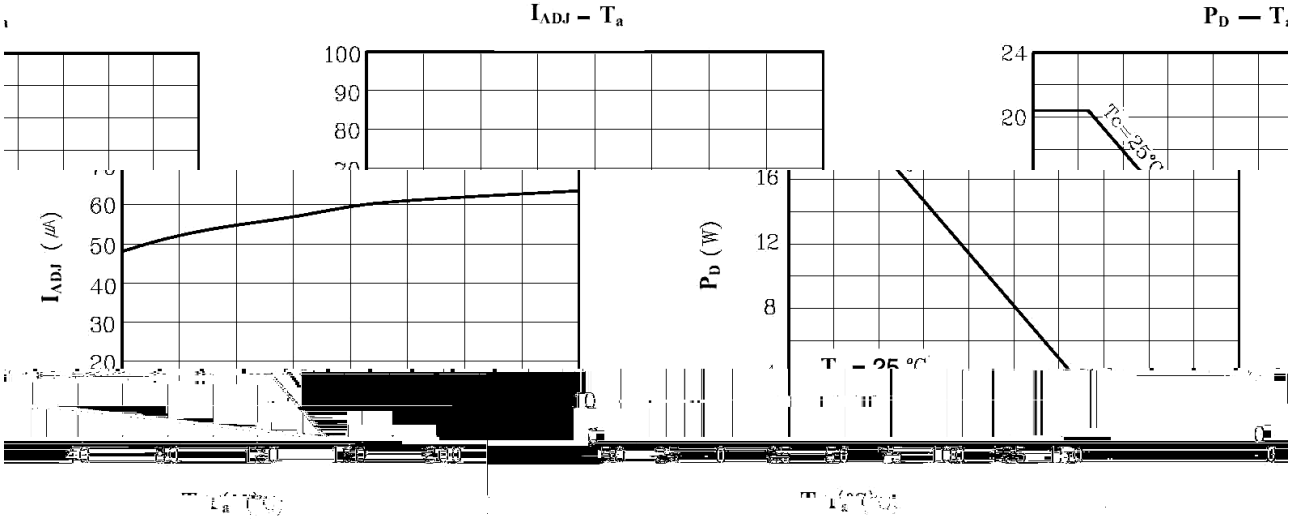
Line Regulation Vo

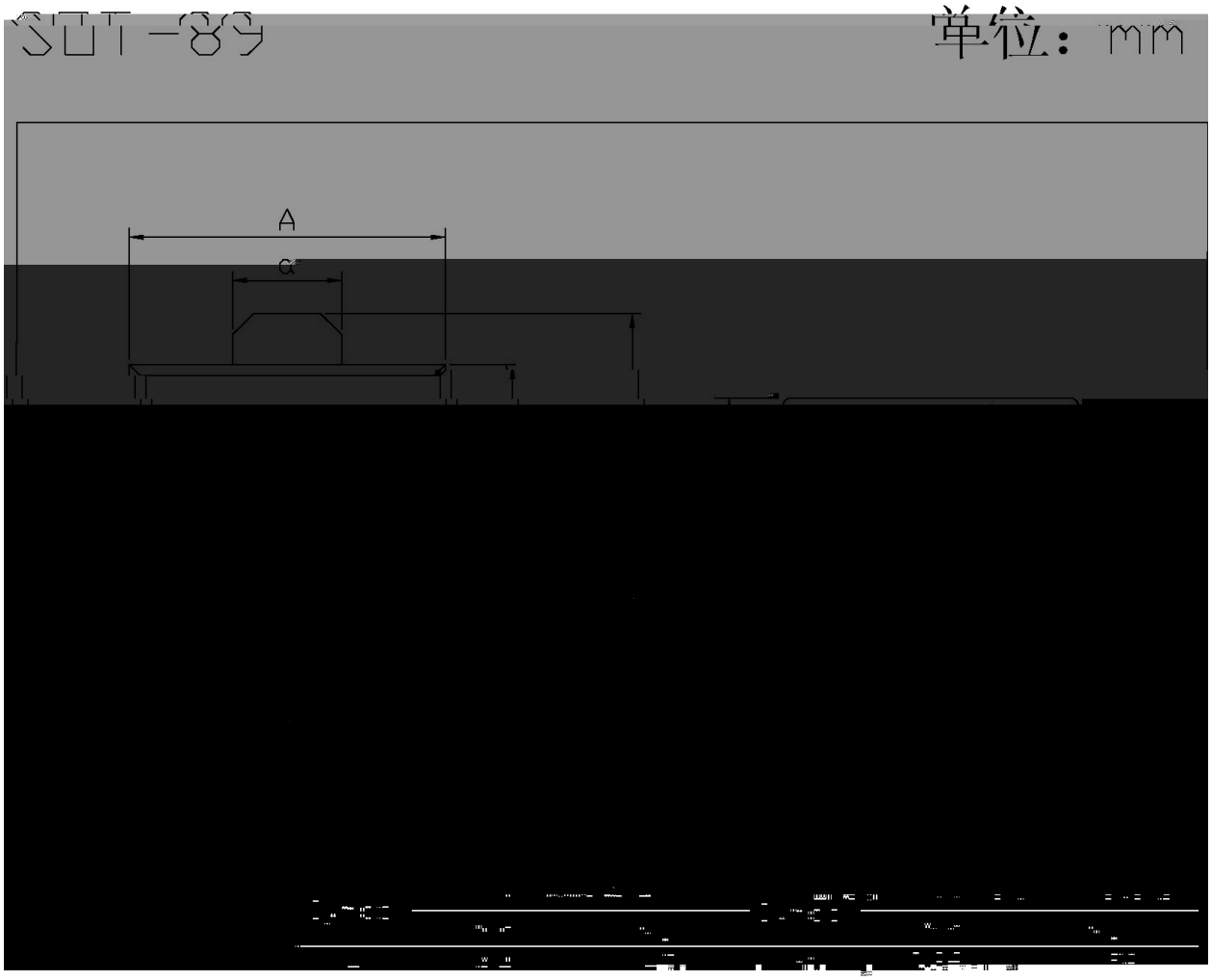
## / Typical Application Circuit



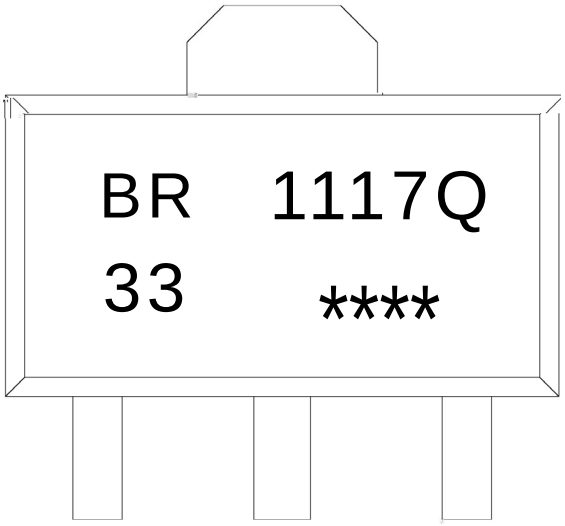
## / Electrical Characteristic Curve




SOT-89
单位：mm
A
C

## / Marking Instructions




BR

1117

Q

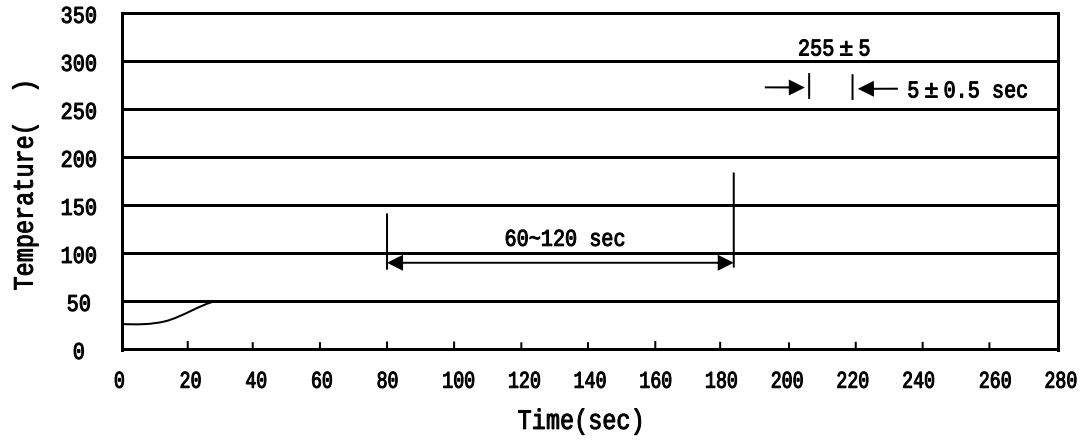
33: 3.3V

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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. |

## / 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 mm3) |
|---|---|---|---|---|---|---|---|---|
| | 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