



## ■ 产品简介

LD1117是一款低压差的线性稳压器。

## ■ 产品特点

- 包括三端可调输出和固定电压输出版本（固定电压包括 1.2V, 1.8V, 2.5V, 3.3V, 5.0V等，其他电压规格可根据用户定制）
- 最大输出电流为 1A
- 输出电压精度高达 $\pm 2\%$
- 稳定工作电压范围为高达 12V
- 电压线性度为 0.2%
- 负载线性度为 0.4%
- 环境温度：T<sub>A</sub>的范围是 0℃~125℃

## ■ 产品用途

- 计算机主板、显卡
- LCD 监视器及 LCD TV
- DVD 解码板
- ADSL 等设备
- 开关电源的后级稳压

## ■ 封装形式和管脚定义功能



SOT-223

引脚定义：

| 引脚号 | 符号   | 定义  |
|-----|------|-----|
| 1   | GND  | 接地脚 |
| 2   | Vout | 输出端 |
| 3   | Vin  | 输入端 |

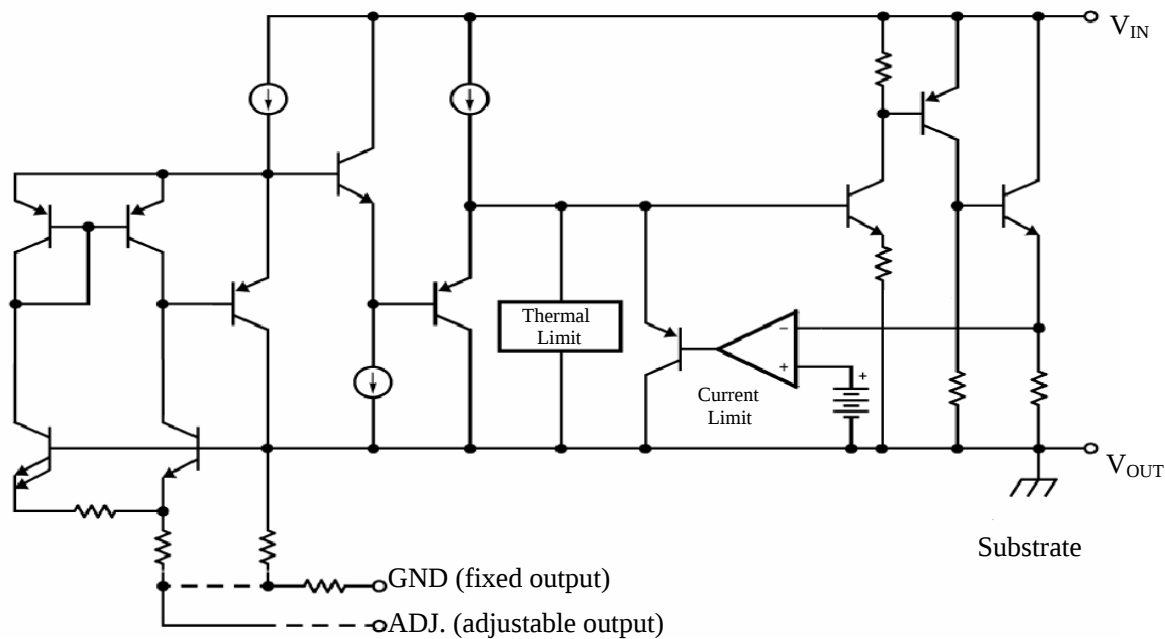
固定电  
压型

| 引脚号 | 符号   | 定义  |
|-----|------|-----|
| 1   | Adj. | 可调端 |
| 2   | Vout | 输出端 |
| 3   | Vin  | 输入端 |

可调电  
压型



功能框图



极限参数

| 参 数 名 称 | 符 号 | 数 值       | 单 位 |
|---------|-----|-----------|-----|
| 最大输入电压  | Vin | 18        | V   |
| 最大结温    | TJ  | 125       | °C  |
| 最大环境温度  | TA  | 125       | °C  |
| 贮存温度    | TS  | -65~ +150 | °C  |
| 焊接温度和时间 |     | 300°C,10S |     |

推荐工作条件:

| 名称     | 最小 | 推荐 | 最大  | 单位 |
|--------|----|----|-----|----|
| 输入电压范围 |    |    | 15  | V  |
| 工作环境温度 | 0  |    | 125 | °C |



■ 主要参数和工作特性:

| 参数    | 参数说明  | 条件                                                                                                                                      | 最小值   | 典型值  | 最大值   | 单位 |
|-------|-------|-----------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------|----|
| Vref  | 参考电压  | I <sub>out</sub> =10mA, V <sub>in</sub> -V <sub>out</sub> =2V<br>10mA≤I <sub>out</sub> ≤1A, 1.5V≤V <sub>in</sub> -V <sub>out</sub> ≤10V | 1.225 | 1.25 | 1.275 | V  |
| Vout  | 输出电压  | LD1117-1.5<br>10mA≤I <sub>out</sub> ≤1A, 3.0V≤V <sub>in</sub> ≤10V                                                                      | 1.470 | 1.5  | 1.530 | V  |
|       |       | LD1117-1.8<br>10mA≤I <sub>out</sub> ≤1A, 3.25V≤V <sub>in</sub> ≤10V                                                                     | 1.764 | 1.80 | 1.836 | V  |
|       |       | LD1117-2.5<br>10mA≤I <sub>out</sub> ≤1A, 3.9V≤V <sub>in</sub> ≤10V                                                                      | 2.45  | 2.50 | 2.55  | V  |
|       |       | LD1117-3.3<br>10mA≤I <sub>out</sub> ≤1A, 5.3V≤V <sub>in</sub> ≤12V                                                                      | 3.235 | 3.3  | 3.365 | V  |
|       |       | LD1117-5.0<br>10mA≤I <sub>out</sub> ≤1A, 6.5V≤V <sub>in</sub> ≤12V                                                                      | 4.9   | 5    | 5.1   | V  |
| ΔVout | 电压线性度 | LD1117-ADJ<br>I <sub>out</sub> =10mA, V≤V <sub>in</sub> -V <sub>out</sub> ≤10V                                                          |       | 5    | 18    | mV |
|       |       | LD1117-1.5<br>I <sub>out</sub> =10mA, 2.75V≤V <sub>in</sub> ≤10V                                                                        |       | 5    | 18    | mV |
|       |       | LD1117-1.8<br>I <sub>out</sub> =10mA, 3.25V≤V <sub>in</sub> ≤10V                                                                        |       | 5    | 18    | mV |
|       |       | LD1117-2.5<br>I <sub>out</sub> =10mA, 3.9V≤V <sub>in</sub> ≤10V                                                                         |       | 5    | 18    | mV |
|       |       | LD1117-3.3<br>I <sub>out</sub> =10mA, 5.3V≤V <sub>in</sub> ≤12V                                                                         |       | 9    | 18    | mV |
|       |       | LD1117-5.0<br>I <sub>out</sub> =10mA, 6.5V≤V <sub>in</sub> ≤12V                                                                         |       | 9    | 18    | mV |
| ΔVout | 负载线性度 | LD1117-ADJ<br>V <sub>in</sub> =3.25V, 10mA≤I <sub>out</sub> ≤1A                                                                         |       | 9    | 18    | mV |
|       |       | LD1117-1.5<br>V <sub>in</sub> =3.25V, 10mA≤I <sub>out</sub> ≤1A                                                                         |       | 9    | 18    | mV |

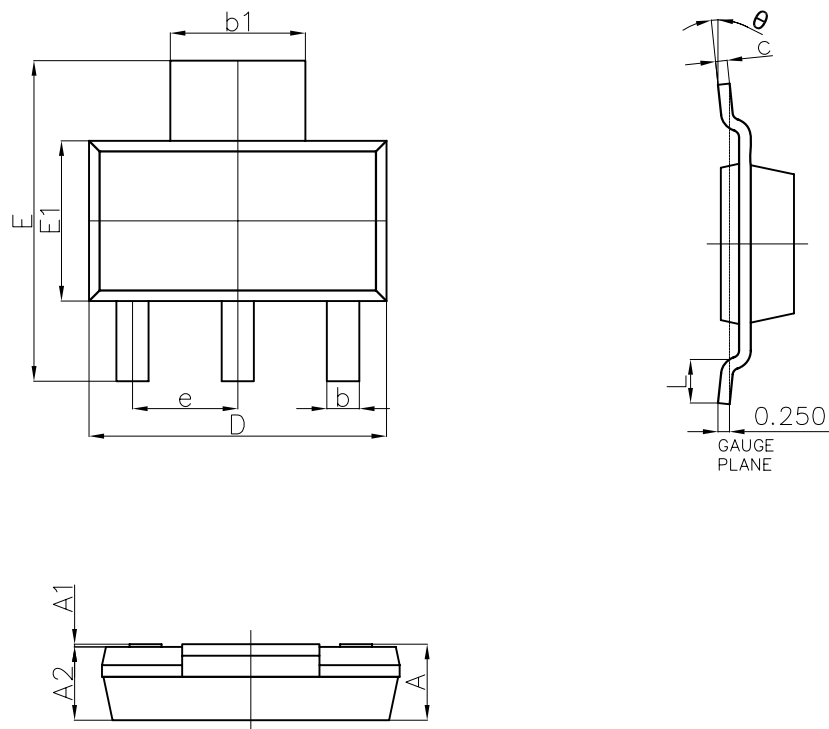


■ 主要参数和工作特性:

|          |           |                                                           |  |    |     |    |
|----------|-----------|-----------------------------------------------------------|--|----|-----|----|
|          |           | LD1117-1.8<br>$V_{in} = 3.25V, 10mA \leq I_{out} \leq 1A$ |  | 10 | 18  | mV |
|          |           | LD1117-2.5<br>$V_{in} = 4.5V, 10mA \leq I_{out} \leq 1A$  |  | 10 | 18  | mV |
|          |           | LD1117-3.3<br>$V_{in} = 5.3V, 0 \leq I_{out} \leq 1A$     |  | 12 | 20  | mV |
|          |           | LD1117-5.0<br>$V_{in} = 6.5V, 0 \leq I_{out} \leq 1A$     |  | 12 | 20  | mV |
| Vin-Vout | 最小输入输出电压差 | $\Delta V_{out}, \Delta V_{ref} = 1\%, I_{out} = 1A$      |  |    | 1.4 | V  |
| Ilimit   | 最小负载电流    | LD1117-ADJ                                                |  |    | 10  | mA |
| Iq       | 静态电流      | LD1117-ADJ, $V_{in} = 4.0V$                               |  |    | 12  | mA |
|          |           | LD1117-1.5, $V_{in} = 4.8V$                               |  |    | 12  | mA |
|          |           | LD1117-1.8, $V_{in} = 4.8V$                               |  |    | 12  | mA |
|          |           | LD1117-2.5, $V_{in} = 4.8V$                               |  |    | 12  | mA |
|          |           | LD1117-3.3, $V_{in} = 4.8V$                               |  |    | 12  | mA |
|          |           | LD1117-5.0, $V_{in} = 4.8V$                               |  |    | 12  | mA |



## SOT-223 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | —                         | 1.800 | —                    | 0.071 |
| A1     | 0.020                     | 0.100 | 0.001                | 0.004 |
| A2     | 1.500                     | 1.700 | 0.059                | 0.067 |
| b      | 0.660                     | 0.840 | 0.026                | 0.033 |
| b1     | 2.900                     | 3.100 | 0.114                | 0.122 |
| c      | 0.230                     | 0.350 | 0.009                | 0.014 |
| D      | 6.300                     | 6.700 | 0.248                | 0.264 |
| E      | 6.700                     | 7.300 | 0.264                | 0.287 |
| E1     | 3.300                     | 3.700 | 0.130                | 0.146 |
| e      | 2.300(BSC)                |       | 0.091(BSC)           |       |
| L      | 0.750                     | —     | 0.030                | —     |
| θ      | 0°                        | 10°   | 0°                   | 10°   |



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