



■ 产品简介

AMS1117 是一款低压差的线性稳压器。

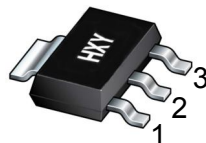
■ 产品特点

- 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_A 的范围是 $0^{\circ}\text{C} \sim 125^{\circ}\text{C}$

■ 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 |

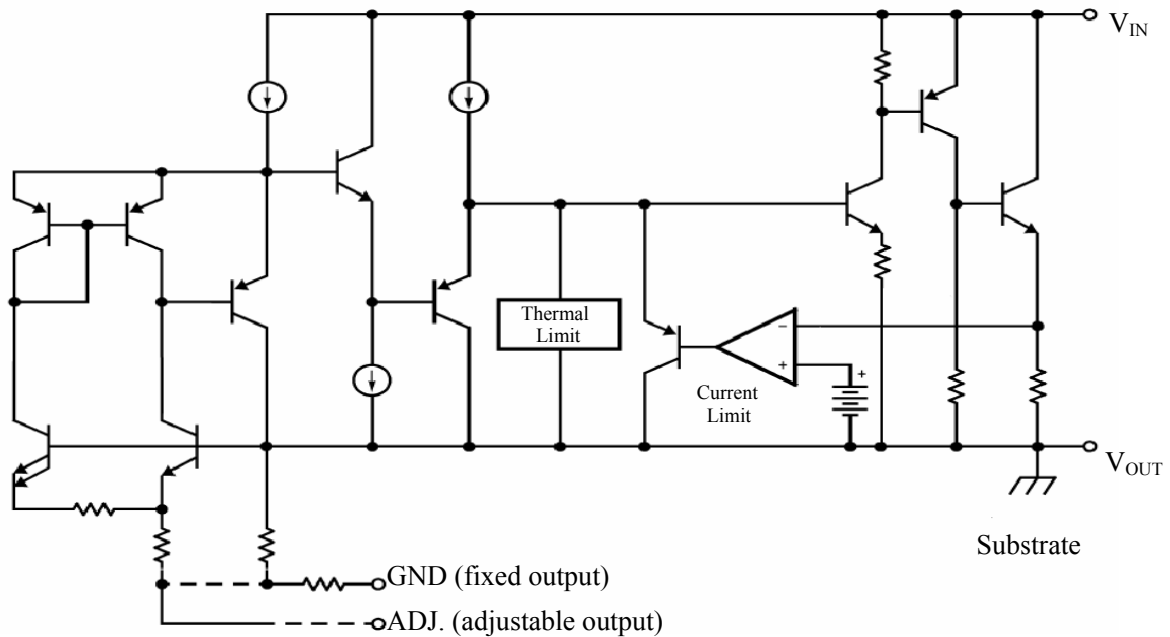
固定电
压型

| 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 | V_{in} | 18 | V |
| 最大结温 | T_J | 125 | $^{\circ}C$ |
| 最大环境温度 | T_A | 125 | $^{\circ}C$ |
| 贮存温度 | T_s | -65~+150 | $^{\circ}C$ |
| 焊接温度和时间 | | 300 $^{\circ}C$,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 | $^{\circ}C$ |



■ 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 | $I_{out}=10mA, V_{in}-V_{out}=2V$ $10mA \leq I_{out} \leq 1A, 1.5V \leq V_{in}-V_{out} \leq 10V$ | 1.225 | 1.25 | 1.275 | V |
| Vout | 输出电压 | AMS1117-1.5 $10mA \leq I_{out} \leq 1A, 3.0V \leq V_{in} \leq 10V$ | 1.470 | 1.5 | 1.530 | V |
| | | AMS1117-1.8 $10mA \leq I_{out} \leq 1A, 3.25V \leq V_{in} \leq 10V$ | 1.764 | 1.80 | 1.836 | V |
| | | AMS1117-2.5 $10mA \leq I_{out} \leq 1A, 3.9V \leq V_{in} \leq 10V$ | 2.45 | 2.50 | 2.55 | V |
| | | AMS1117-3.3 $10mA \leq I_{out} \leq 1A, 5.3V \leq V_{in} \leq 12V$ | 3.235 | 3.3 | 3.365 | V |
| | | AMS1117-5.0 $10mA \leq I_{out} \leq 1A, 6.5V \leq V_{in} \leq 12V$ | 4.9 | 5 | 5.1 | V |
| ΔV_{out} | 电压线性度 | AMS1117-ADJ $I_{out}=10mA, V \leq V_{in}-V_{out} \leq 10V$ | | 5 | 18 | mV |
| | | AMS1117-1.5 $I_{out}=10mA, 2.75V \leq V_{in} \leq 10V$ | | 5 | 18 | mV |
| | | AMS1117-1.8 $I_{out}=10mA, 3.25V \leq V_{in} \leq 10V$ | | 5 | 18 | mV |
| | | AMS1117-2.5 $I_{out}=10mA, 3.9V \leq V_{in} \leq 10V$ | | 5 | 18 | mV |
| | | AMS1117-3.3 $I_{out}=10mA, 5.3V \leq V_{in} \leq 12V$ | | 9 | 18 | mV |
| | | AMS1117-5.0 $I_{out}=10mA, 6.5V \leq V_{in} \leq 12V$ | | 9 | 18 | mV |
| ΔV_{out} | 负载线性度 | AMS1117-ADJ $V_{in} = 3.25V, 10mA \leq I_{out} \leq 1A$ | | 9 | 18 | mV |
| | | AMS1117-1.5 $V_{in} = 3.25V, 10mA \leq I_{out} \leq 1A$ | | 9 | 18 | mV |

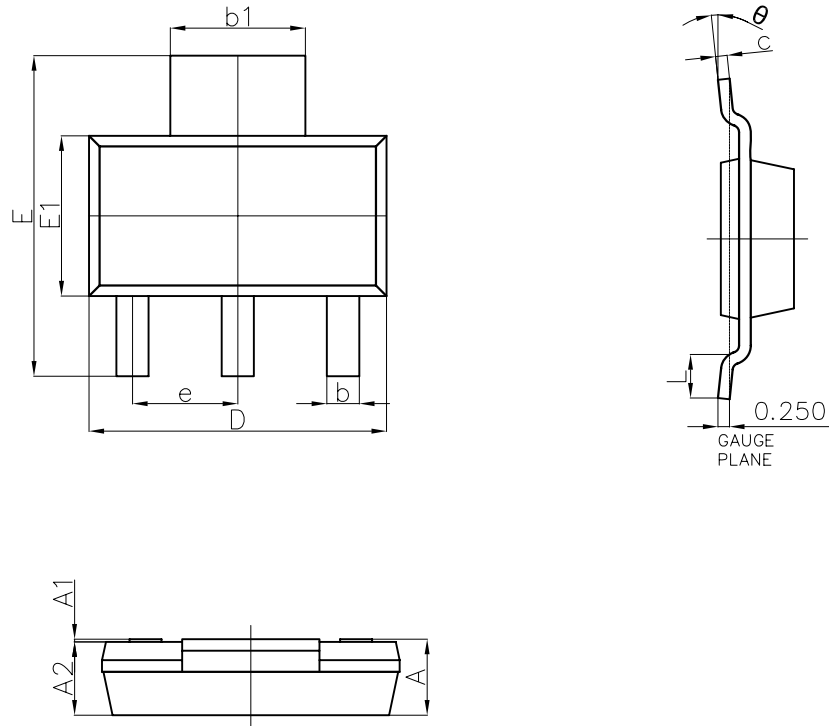


■ 主要参数和工作特性:

| | | | | | | |
|----------|-----------|--|--|----|-----|----|
| | | AMS1117-1.8 $V_{in} = 3.25V, 10mA \leq I_{out} \leq 1A$ | | 10 | 18 | mV |
| | | AMS1117-2.5 $V_{in} = 4.5 V, 10mA \leq I_{out} \leq 1A$ | | 10 | 18 | mV |
| | | AMS1117-3.3 $V_{in} = 5.3V, 0 \leq I_{out} \leq 1A$ | | 12 | 20 | mV |
| | | AMS1117-5.0 $V_{in} = 6.5V, 0 \leq I_{out} \leq 1A$ | | 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 | AMS1117-ADJ | | | 10 | mA |
| Iq | 静态电流 | AMS1117-ADJ $V_{in} = 4.0V$ | | | 12 | mA |
| | | AMS1117-1.5, $V_{in} = 4.8V$ | | | 12 | mA |
| | | AMS1117-1.8, $V_{in} = 4.8V$ | | | 12 | mA |
| | | AMS1117-2.5, $V_{in} = 4.8V$ | | | 12 | mA |
| | | AMS1117-3.3, $V_{in} = 4.8V$ | | | 12 | mA |
| | | AMS1117-5.0, $V_{in} = 4.8V$ | | | 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 | — |
| theta | 0° | 10° | 0° | 10° |



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