



■ 产品简介

AMS1117 是一款低压差的线性稳压器。

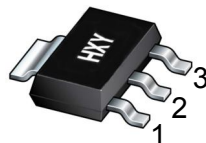
■ 产品特点

- 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

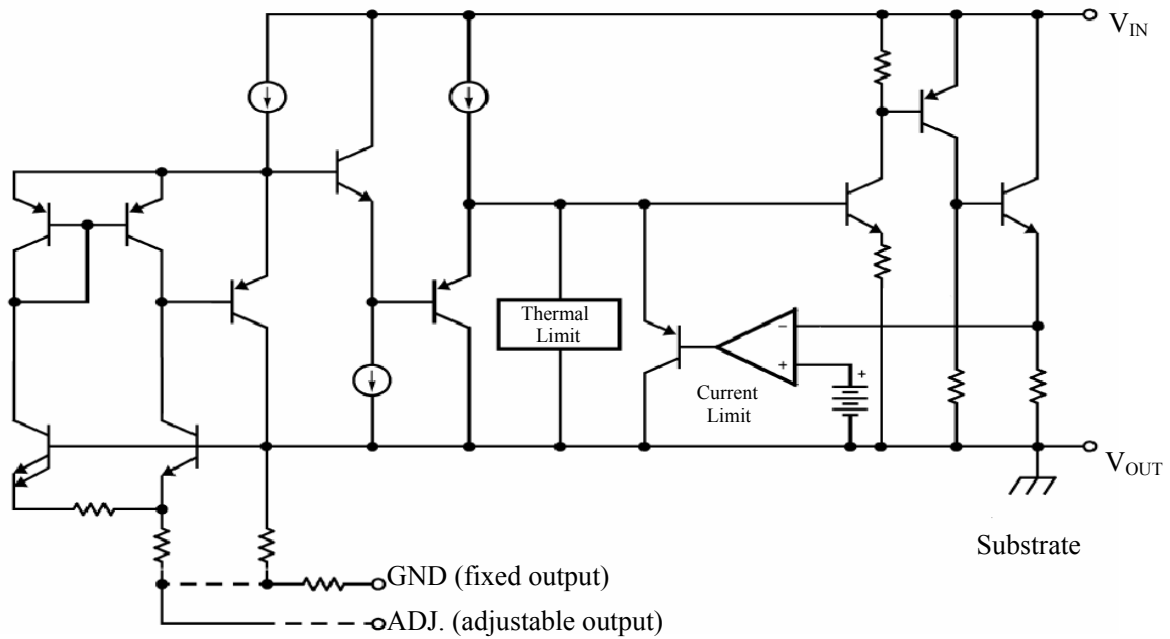
固定电
压型

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

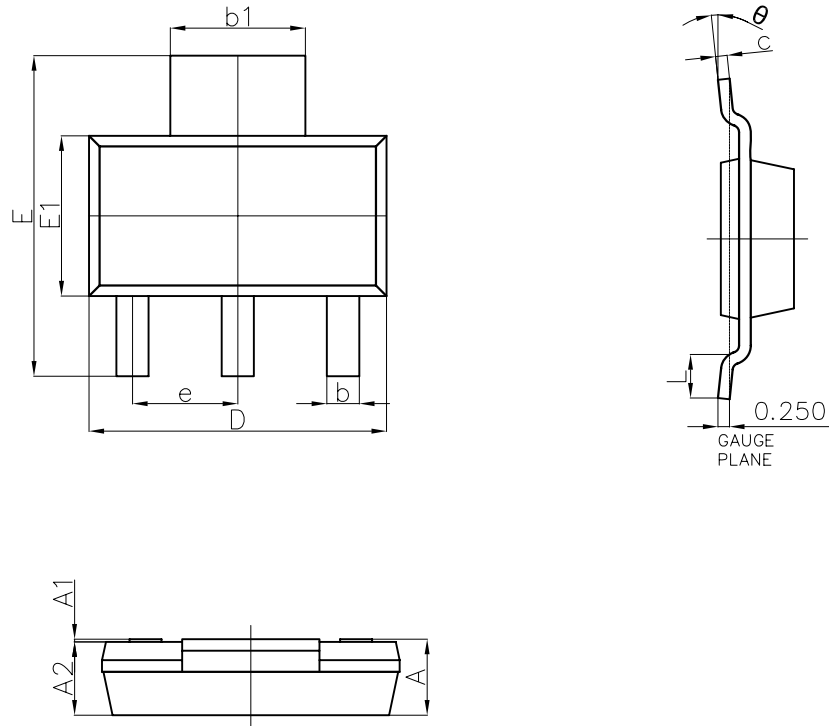


■ 主要参数和工作特性:

		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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