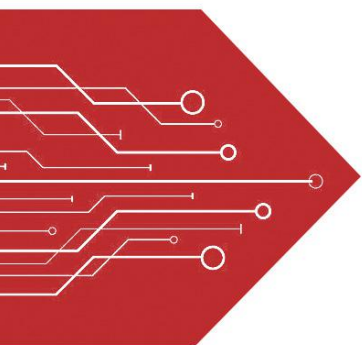


MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

概述:

AMS1117 是一款低压差的线性稳压器。

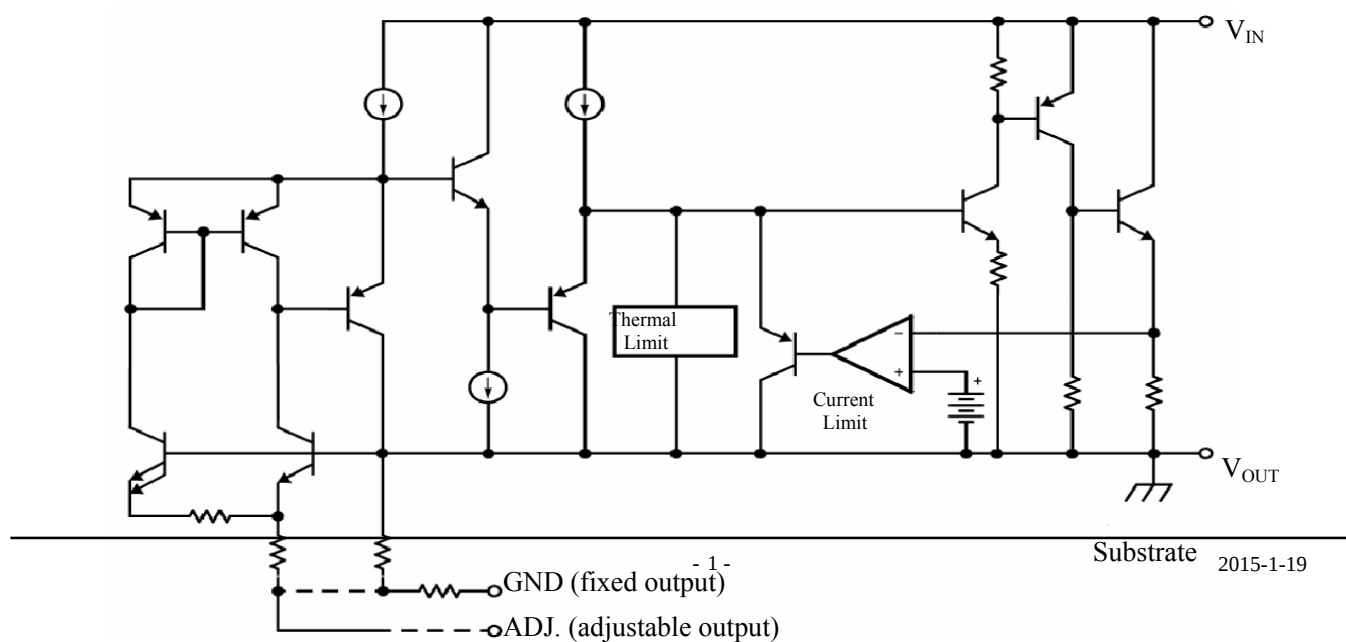
特点:

- 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, 5V 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 $0^\circ\text{C} \sim 125^\circ\text{C}$

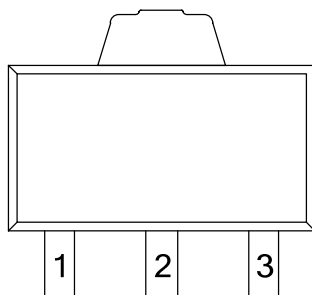
用途:

- 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

功能图:



引脚排列图:



SOT-89

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

极限值:

参 数 名 称	符 号	数 值	单 位
最大输入电压	Vin	18	V
最大节温	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:

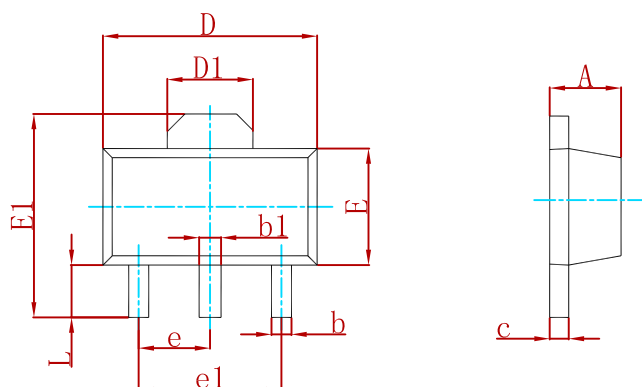
 $T_j = 25^{\circ}\text{C}$

参数	参数说明	条件	最小值	典型值	最大值	单位
Vref	参考电压	$I_{out}=10\text{mA}$, $V_{in}-V_{out}=2\text{V}$ $10\text{mA} \leq I_{out} \leq 1\text{A}$, $1.5\text{V} \leq V_{in}-V_{out} \leq 10\text{V}$	1.225	1.25	1.275	V
Vout	输出电压	AMS1117-1.5V $10\text{mA} \leq I_{out} \leq 1\text{A}$, $3.0\text{V} \leq V_{in} \leq 10\text{V}$	1.470	1.5	1.530	V
		AMS1117-1.8V $10\text{mA} \leq I_{out} \leq 1\text{A}$, $3.25\text{V} \leq V_{in} \leq 10\text{V}$	1.764	1.80	1.836	V
		AMS1117-2.5V $10\text{mA} \leq I_{out} \leq 1\text{A}$, $3.9\text{V} \leq V_{in} \leq 10\text{V}$	2.45	2.50	2.55	V
		AMS1117-3.3V $10\text{mA} \leq I_{out} \leq 1\text{A}$, $5.3\text{V} \leq V_{in} \leq 12\text{V}$	3.235	3.3	3.365	V
		AMS1117-5V $10\text{mA} \leq I_{out} \leq 1\text{A}$, $6.5\text{V} \leq V_{in} \leq 12\text{V}$	4.9	5	5.1	V
ΔV_{out}	电压线性度	AMS1117-ADJ $I_{out}=10\text{mA}$, $V \leq V_{in}-V_{out} \leq 10\text{V}$		5	18	mV
		AMS1117-1.5V $I_{out}=10\text{mA}$, $2.75\text{V} \leq V_{in} \leq 10\text{V}$		5	18	mV
		AMS1117-1.8V $I_{out}=10\text{mA}$, $3.25\text{V} \leq V_{in} \leq 10\text{V}$		5	18	mV
		AMS1117-2.5V $I_{out}=10\text{mA}$, $3.9\text{V} \leq V_{in} \leq 10\text{V}$		5	18	mV
		AMS1117-3.3V $I_{out}=10\text{mA}$, $5.3\text{V} \leq V_{in} \leq 12\text{V}$		9	18	mV
		AMS1117-5V $I_{out}=10\text{mA}$, $6.5\text{V} \leq V_{in} \leq 12\text{V}$		9	18	mV
ΔV_{out}	负载线性度	AMS1117-ADJ $V_{in} = 3.25\text{V}$, $10\text{mA} \leq I_{out} \leq 1\text{A}$		9	18	mV
		AMS1117-1.5V $V_{in} = 3.25\text{V}$, $10\text{mA} \leq I_{out} \leq 1\text{A}$		9	18	mV

主要参数和工作特性:

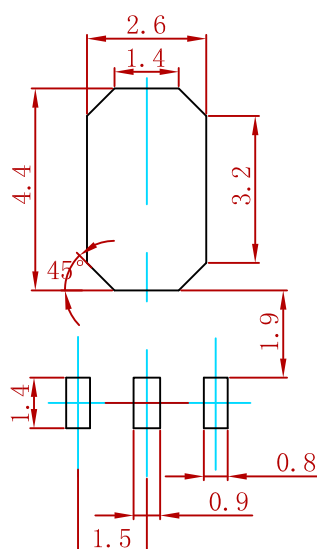
		AMS1117-1.8V Vin = 3.25V, 10mA≤Iout≤1A		10	18	mV
		AMS1117-2.5V Vin = 4.5 V, 10mA≤Iout≤1A		10	18	mV
		AMS1117-3.3V Vin=5.3V, 0≤Iout≤1A		12	20	mV
		AMS1117-5V Vin=6.5V, 0≤Iout≤1A		12	20	mV
Vin-Vout	最小输入输出电压差	ΔVout, ΔVref,=1%, Iout=1A			1.4	V
Ilimit	最小负载电流	AMS1117-ADJ			10	mA
Iq	静态电流	AMS1117-ADJ Vin = 4.0V			12	mA
		AMS1117-1.5V,Vin = 4.8V			12	mA
		AMS1117-1.8V,Vin = 4.8V			12	mA
		AMS1117-2.5V,Vin = 4.8V			12	mA
		AMS1117-3.3V,Vin = 4.8V			12	mA
		AMS1117-5.0V,Vin = 4.8V			12	mA

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
AMS1117-XXX	SOT-89	1000

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