

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

AMS1117-XXX

产品规格手册

概述

AMS1117 是一款低压差的线性稳压器。

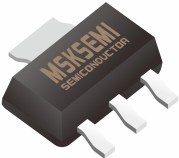
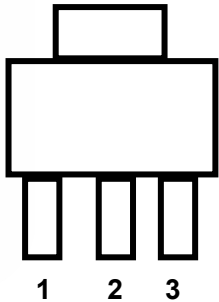
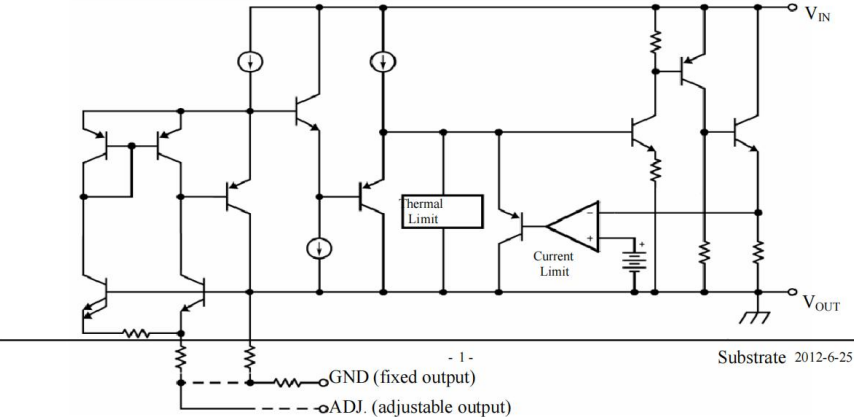
用途:

- 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

主要特点

- 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 $-20^{\circ}\text{C} \sim 125^{\circ}\text{C}$

参考信息

封装图	引脚排列	功能图
 <p>SOT-223</p>	 <p>1 2 3</p>	 <p>- 1 - Substrate 2012-6-25</p>

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:

参数	参数说明	条件	最小值	典型值	最大值	单位
Vref	参考电压	Iout= 10 mA, Vin- Vout=2V 10mA≤Iout≤1A , 1.5V≤Vin- Vout≤10V	1.225	1.25	1.275	V
Vout	输出电压	AMS1117- 1.20V 10mA≤Iout≤1A , 2.7V≤Vin≤10V	1.176	1.2	1.224	V
		AMS1117- 1.50V 10mA≤Iout≤1A , 3.0V≤Vin≤10V	1.47	1.5	1.53	V
		AMS1117- 1.80V 10mA≤Iout≤1A , 3.25 V≤Vin≤10V	1.764	1.80	1.836	V
		AMS1117-2.50V 10mA≤Iout≤1A , 3.9 V≤Vin≤10V	2.45	2.50	2.55	V
		AMS1117-3.3V 10mA≤Iout≤1A , 5.3 V≤Vin≤12V	3.235	3.3	3.365	V
		AMS1117-5V 10mA≤Iout≤1A , 6.5V≤Vin≤12V	4.9	5	5.1	V

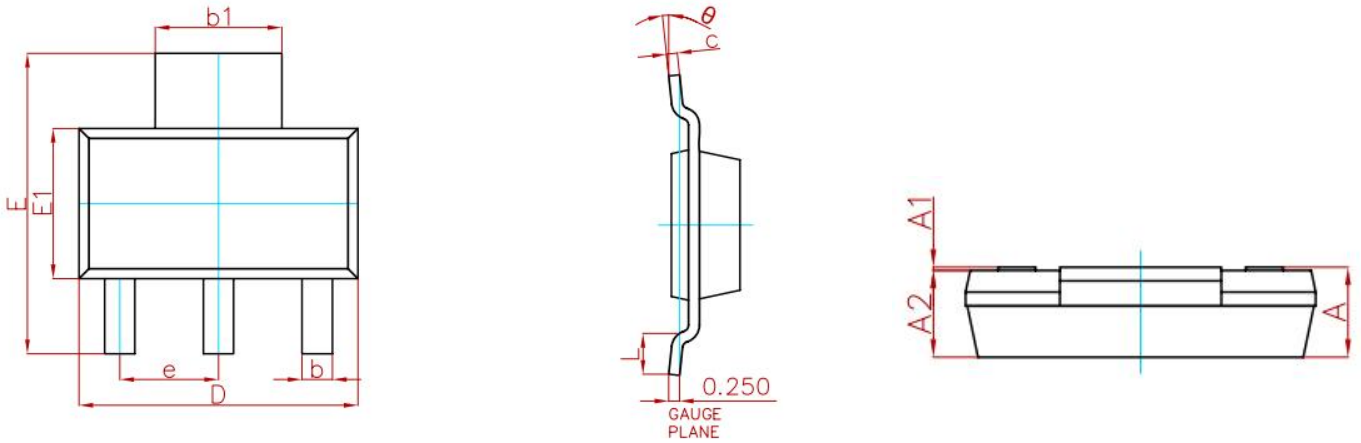
主要参数和工作特性:

Δ Vout	电压线性度	AMS1117-ADJ Iout=10mA, V≤Vin-Vout≤10V		5	18	V
		AMS1117-1.2V Iout=10mA, 2.7V≤Vin≤10V		5	18	V
		AMS1117-1.5V Iout=10mA, 2.75V≤Vin≤10V		5	18	V
		AMS1117-1.8V Iout=10mA, 3.25 V≤Vin≤10V		5	18	V
		AMS1117-2.50V Iout=10mA, 3.9 V≤Vin≤10V		5	18	V
		AMS1117-3.3V Iout=10mA, 5.3 V≤Vin≤12V		9	18	V
		AMS1117-5V Iout=10mA, 6.5V≤Vin≤12V		9	18	V
Δ Vout	负载线性度	AMS1117-ADJ Vin = 3.25V, 10mA≤Iout≤1A		9	18	V
		AMS1117-1.2V Vin = 2.7 V, 10mA≤Iout≤1A		9	18	mV
		AMS1117-1.5V Vin = 3.25V, 10mA≤Iout≤1A		9	18	mV

主要参数和工作特性:

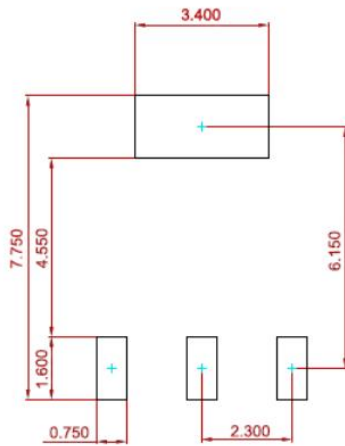
		AMS1117-1.8V Vin = 3.25V, 10mA ≤ Iout ≤ 1A		10	18	mV
		AMS1117-2.5V Vin = 4.5 V, 10mA ≤ Iout ≤ 1A		10	18	mV
		AMS1117-3.3V Vin=5.3V, 0 ≤ Iout ≤ 1A		12	20	mV
		AMS1117-5V Vin=6.5V, 0 ≤ Iout ≤ 1A		12	20	mV
Vin-Vout	最小输入输出电压差	ΔVout, ΔVref,=1%, Iout=1A			1.4	V
Ilimit	最小负载电流	AMS1117-ADJ			10	mA
Iq	静态电流	AMS1117-ADJ Vin = 4.0V			12	mA
		AMS1117-1.2V, Vin = 4.8V			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

包装数据



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°

参考焊盘布局



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.050\text{mm}$.
 3. The pad layout is for reference purposes only.

卷轴规格

P/N	PKG	QTY
AMS1117-XX	SOT-223	2500

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