概述

AMS1117 是一款低压差的线性稳压器。

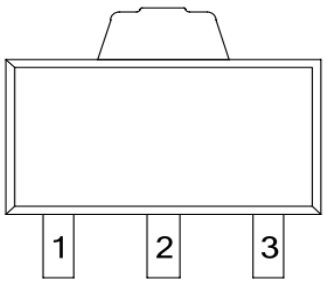
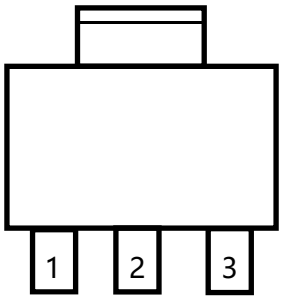
特点

- 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±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： TA的范围是-20℃~85℃

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

SOT89-3引脚排列图	SOT223引脚排列图	管体标记
		AMS1117 XX **** 备注：XX代表固定电压，****代表内部生产订单编号

引脚定义

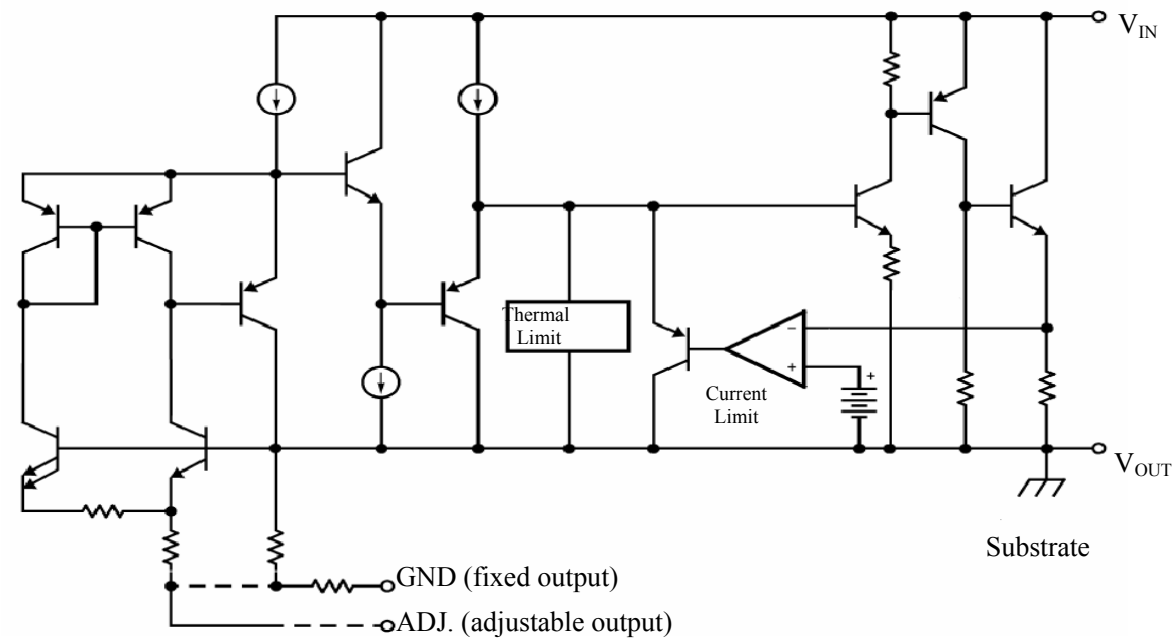
引脚号	符号	定义
1	GND	接地脚
2	Vout	输出端
3	Vin	输入端

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

功能图



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		260°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		85	°C

主要参数和工作特性

Tj=25℃

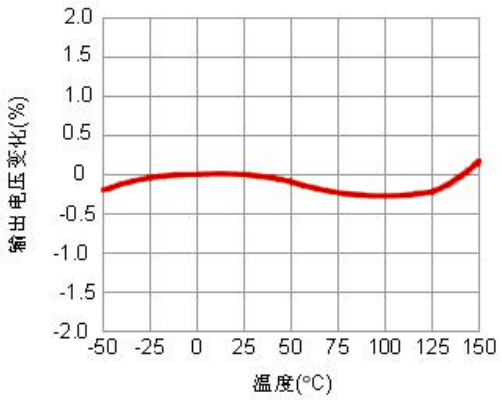
参数	参数说明	条件	最小值	典型值	最大值	单位
Vref	参考电压	Iout=10mA, Vin-Vout=2V 10mA≤Iout≤1A ,1.5V≤Vin-Vout≤10V	1.225	1.25	1.275	V
Vout	输出电压	AMS1117-1.50V 10mA≤Iout≤1A ,3.0V≤Vin≤10V	1.470	1.5	1.530	V
		AMS1117-1.80V 10mA≤Iout≤1A ,3.25V≤Vin≤10V	1.764	1.80	1.836	V
		AMS1117-2.50V 10mA≤Iout≤1A ,3.9 V≤Vin≤10V	2.45	2.50	2.55	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
ΔVout	电压线性度	AMS1117-ADJ Iout=10mA, V≤Vin-Vout≤10V		5	18	mV
		AMS1117-1.5V Iout=10mA, 2.75V≤Vin≤10V		5	18	mV
		AMS1117-1.8V Iout=10mA, 3.25V≤Vin≤10V		5	18	mV
		AMS1117-2.50V Iout=10mA, 3.9V≤Vin≤10V		5	18	mV
		AMS1117-3.3V Iout=10mA, 5.3 V≤Vin≤12V		9	18	mV
		AMS1117-5V Iout=10mA,6.5V≤Vin≤12V		9	18	mV
ΔVout	负载线性度	AMS1117-ADJ Vin=3.25V, 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

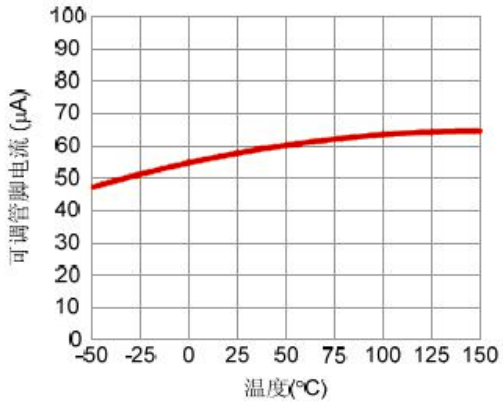
		AMS1117-1.8V Vin＝3.25V, 10mA≤Iout≤1A		10	18	mV
		AMS1117-2.5V Vin＝4.5 V, 10mA≤Iout≤1A		10	18	mV
		AMS1117-3.3V Vin=5.3V, 0≤Iout≤1A		12	20	mV
		AMS1117-5V Vin=6.5V, 0≤Iout≤1A		12	20	mV
Vin-Vout	最小输入输出电压差	ΔVout, ΔVref,=1%， Iout=1A			1.4	V
Ilimit	最小负载电流	AMS1117-ADJ			10	mA
Iq	静态电流	AMS1117-ADJ Vin＝4.0V	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

典型電性特性曲綫

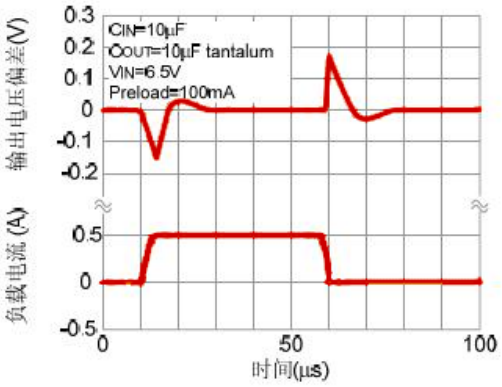
温度稳定性



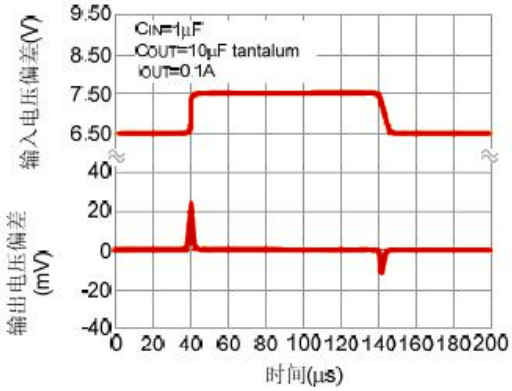
可调管脚电流



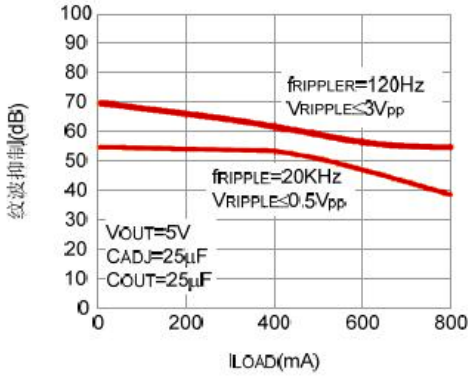
负载瞬态反应（VOUT=5 V）



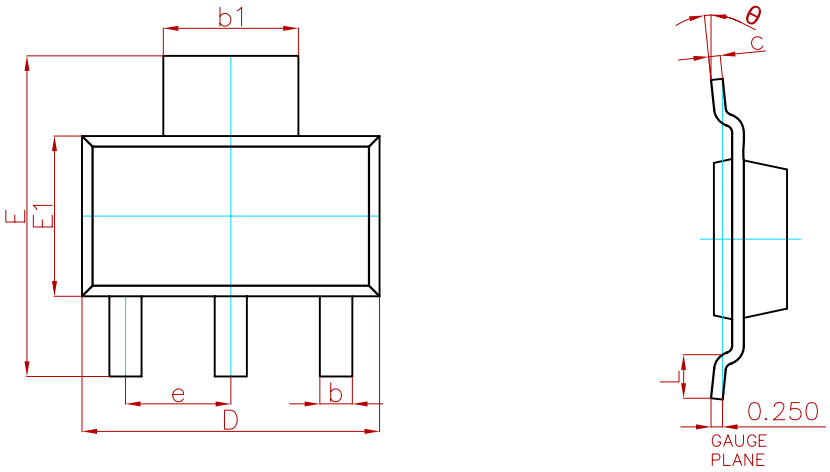
线性瞬态响应（VOUT=5 V）



纹波抑制 VS 电流

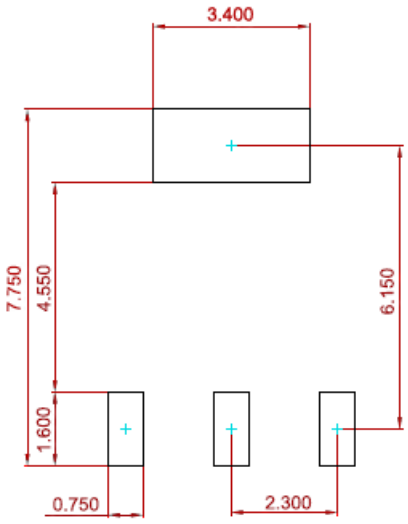


PACKAGE MECHANICAL DATA



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°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

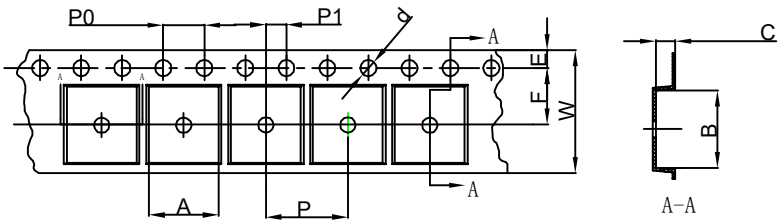
REEL SPECIFICATION

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

注：XX代表输出电压

SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

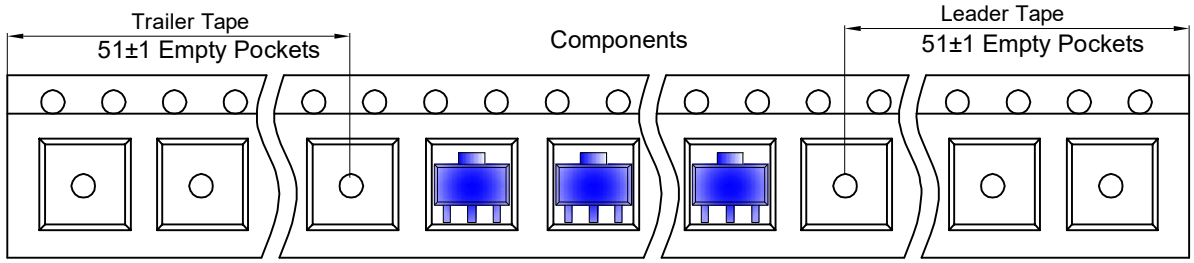


Packaging Description:

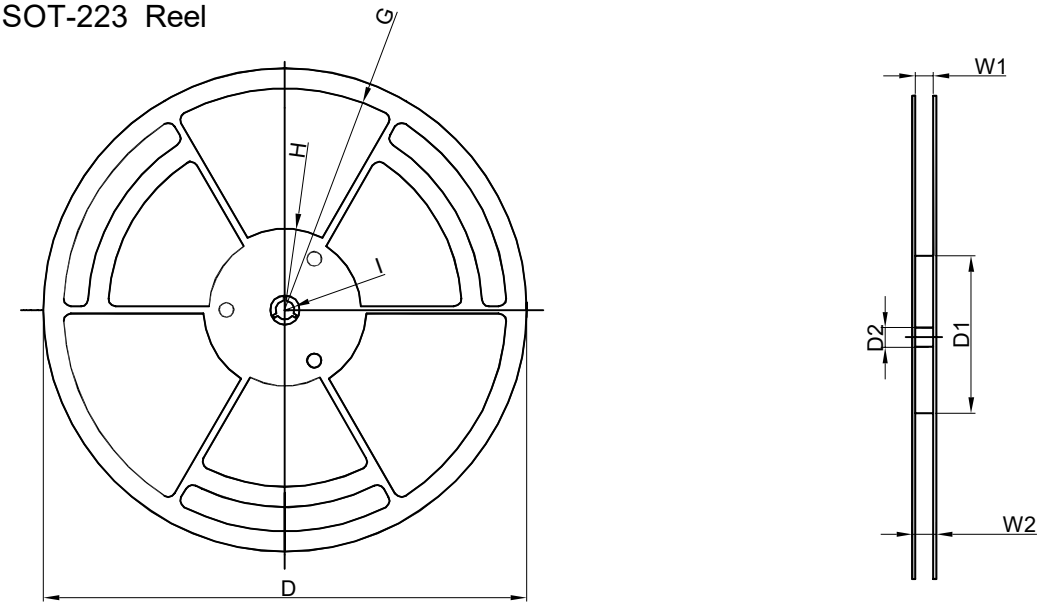
SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2,500 units per 13" or 33.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-223 Tape Leader and Trailer

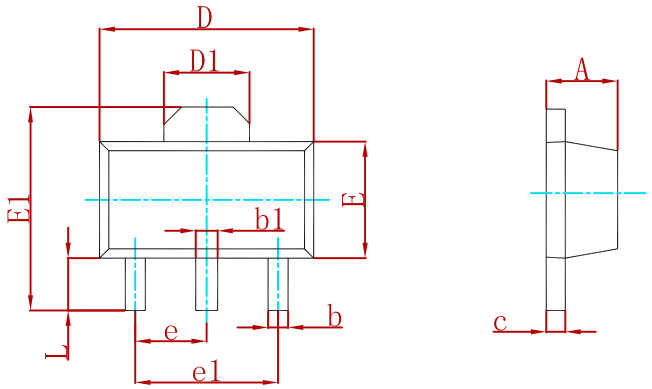


SOT-223 Reel



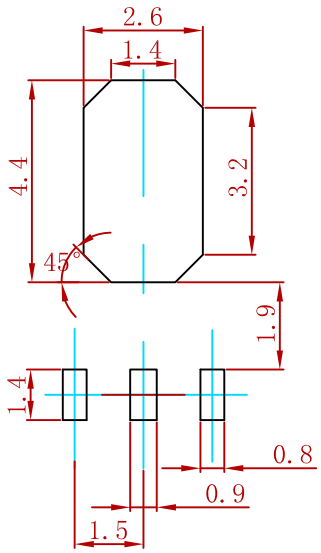
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

包装信息



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

建议焊盘



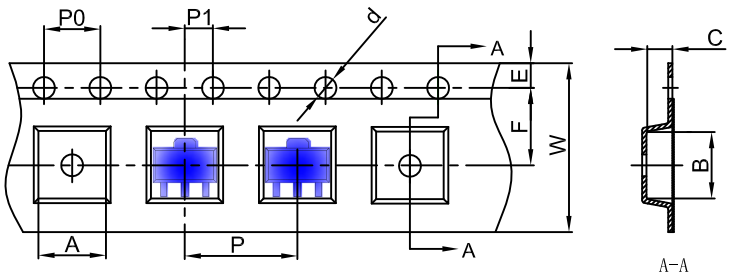
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
AMS1117-XX	SOT89-3	1000

注：XX代表输出电压

SOT-89 Embossed Carrier Tape

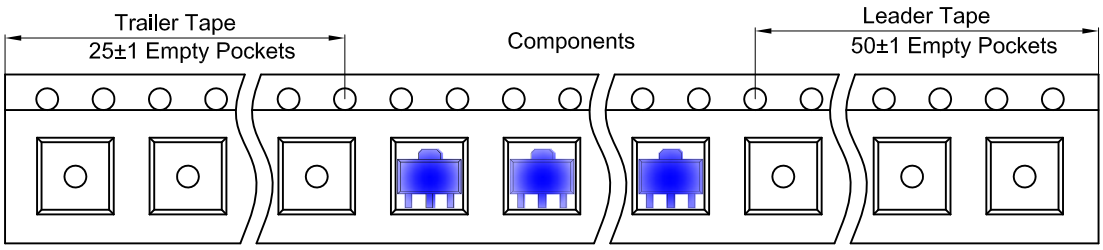


Packaging Description:

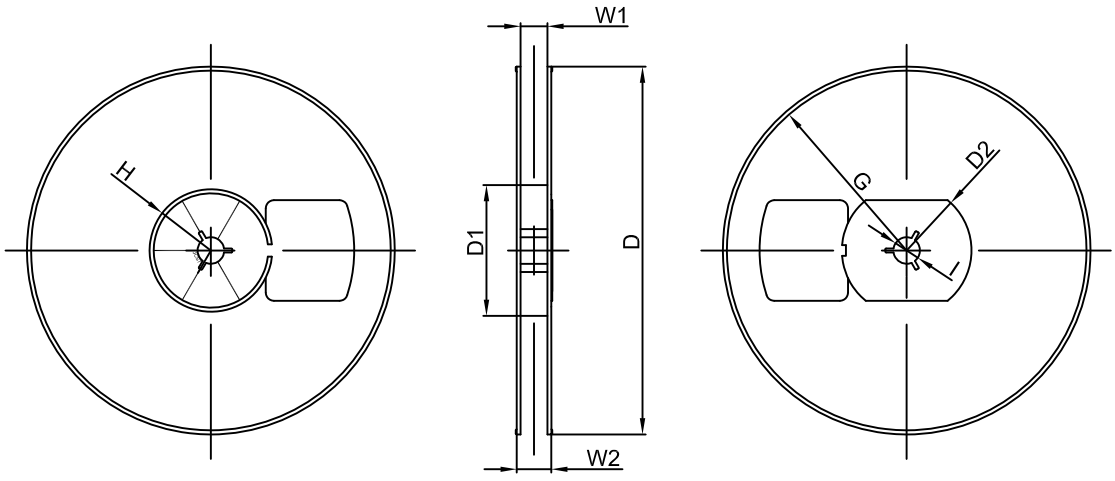
SOT-89 parts are shipped in tape. The carrier tape is made from a dissipative (carbon polycarbonate resin. The cover tape is a multil film (Heat Activated Adhesive in nature) prima composed of polyester film, adhesive layer, se and anti-static sprayed agent. These reeled pa standard option are shipped with 1,000 units p or 18.0 cm diameter reel. The reels are clear i and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89 Tape Leader and Trailer



SOT-89 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50