Features

Low Dropout Voltage.

Load regulation: 0.5% Max.

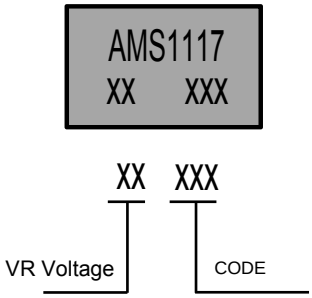
Optimized for Low Voltage

On-chip thermal limiting.

Maximum Input Voltage : 18V

Adjustable Output Voltage or Fixed 1.2V, 1.5V, 1.8V, 2.5V, 3.3V,5V

Standard SOT-223,TO-252 ,SOT89 Packages



Applications

Post Regulator for switching DC/DC Converter

High Efficiency Linear Regulator

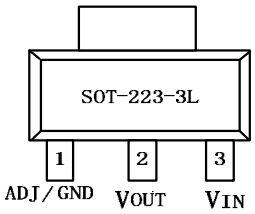
Battery Chargers

PC Add on Card

Motherboard clock supplies

LCD Monitor r

Set-top Box



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings

Symbol	Description	Max	Units
VIN	Input Voltage	18	V
I_{OUT}	DC Output Current	PD/(VIN-VOUT)	mA
TJ	Operating Junction Temperature Range	-40 to 125	℃
θ JA	Thermal Resistance (SOT-223)	150	℃/W
θ JA	Thermal Resistance (TO-252)	125	℃/W
θ JA	Thermal Resistance (SOT89)	225	℃/W
PD	Maximum Power Dissipation (SOT-223)	600	mW
PD	Maximum Power Dissipation (TO-252)	900	mW
PD	Maximum Power Dissipation (SOT89)	400	mW

Electrical Characteristics

(Vin =<7V, Tj= 25℃ unless otherwise Specified. The ~ denotes specifications which apply over the specified operating temperature range .)

Parameter	Conditions	Min.	Typ.	Max.	Units
Reference voltage	VIN=Vout+2V,10mA≤IOUT≤1A AMS1117-ADJ	1.225(-2%)	1.250	1.275(+2%)	V
Output voltage	10mA≤IOUT≤1A, VIN=Vout+2V				V
	AMS1117-1.2	1.176	1.20	1.224	
	AMS1117-1.5	1.470	1.50	1.530	
	AMS1117-1.8	1.764	1.80	1.836	
	AMS1117-2.5	2.450	2.50	2.550	
	AMS1117-3.3	3.234	3.30	3.366	
	AMS1117-5.0	4.90	5.0	5.10	
Line regulation1,2	(VOUT+ 1.5V)≤VIN≤12V, IOUT= 10mA		0.15	0.30	%
Load regulation1,2	(VIN-VOUT) = 2V, 10mA≤ IOUT≤1A		0.20	0.50	%
Dropout voltage	VREF= 1%,IOUT=1A		1.30	1.40	V
Current limit	(VIN-VOUT)=2V	1			A
Adjust pin current	AMS1117-ADJ 1.5V≤ (VIN-VOUT)≤7V, 10mA≤IOUT≤1A		50	120	uA
Minimum load current	1.5V≤(VIN-VOUT)≤12V		3	10	mA
Quiescent current	VIN= VOUT+1.25V		3	10	mA
Ripple rejection	f = 120Hz, Cout= 22uF Tantalum , (VIN-VOUT) = 3V, Iout=1A	60	70		dB
Thermal regulation	TA= 25℃, 30ms pulse		0.008	0.04	%/W
Temperature stability			0.5		%
Long-term stability	TA= 125℃, 1000hrs.		0.3	1.0	%
RMS output noise (%of VOUT)	TA= 25℃, 10Hz≤ f ≤10kHz		0.003		%
Thermal resistance, junction to case	SOT-223		15		℃ /W
	TO-252		10		℃ /W
	SOT89		20		℃ /W
Thermal shutdown	Junction temperature		150		℃
Thermal shutdown hysteresis			10		℃

1、See thermal regulation specifications for changes in output voltage due to heating effects. Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.

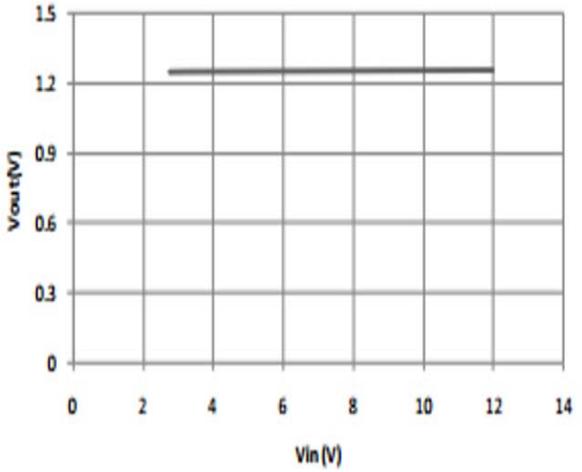
2、Line and load regulation are guaranteed up to the maximum power dissipation (1.2W). Power dissipation is determined by input/output differential and the output current. Guaranteed maximum output power will not be available over the full input/ output voltage range.

3、Output current must be limited to meet the absolute maximum ratings of the part.

RATING AND CHARACTERISTIC CURVES

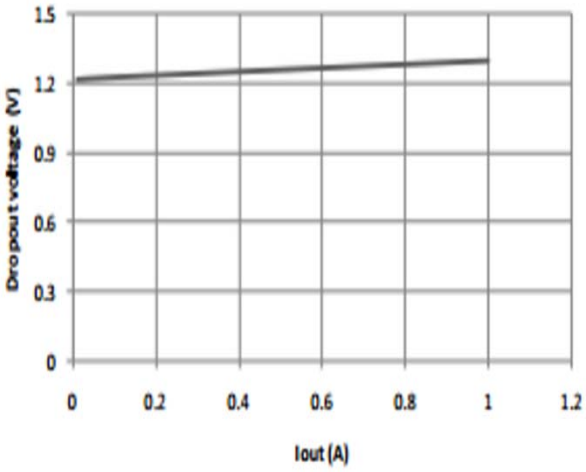
Line regulation

AMS1117-ADJ Vout Vs. Vin



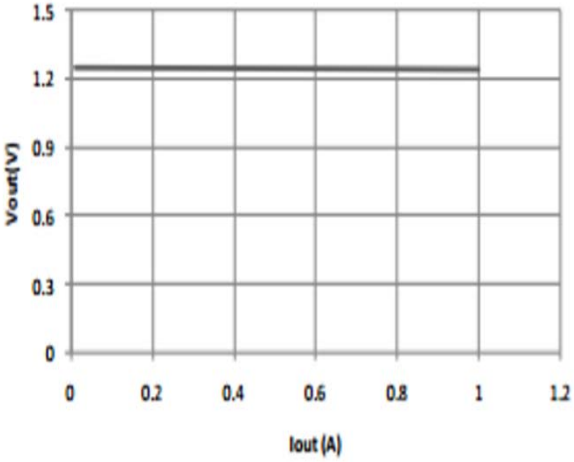
Dropout Voltage

AMS1117 Dropout Voltage



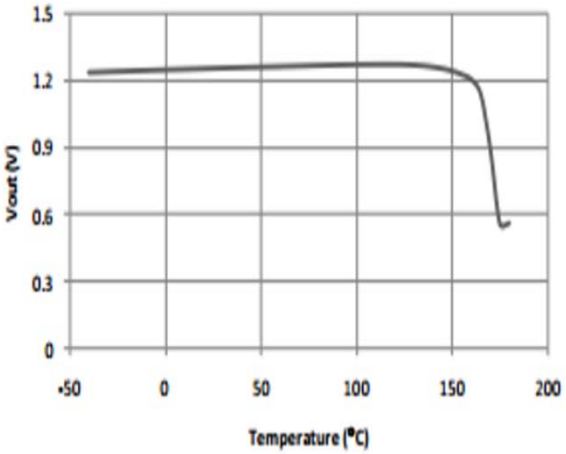
Load regulation

AMS1117-ADJ Vout Vs. Iout



Thermal performance with OTP

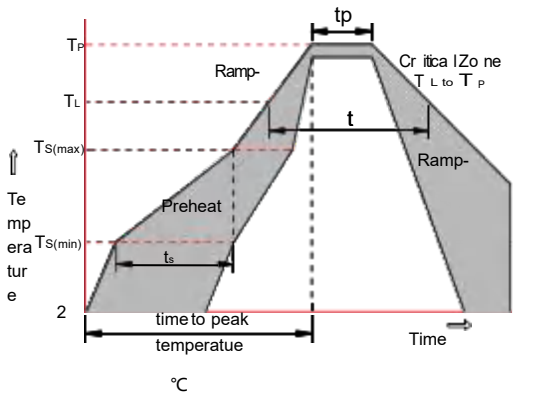
AMS1117 Thermal performance with OTP



Soldering parameters

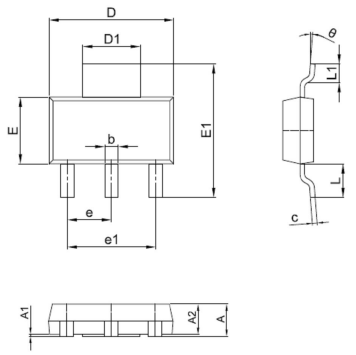
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG5: Reflow condition

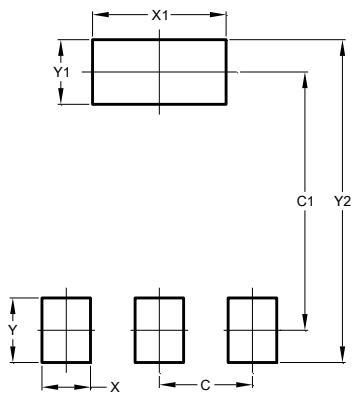


Package Dimensions & Suggested Pad Layout

SOT-223



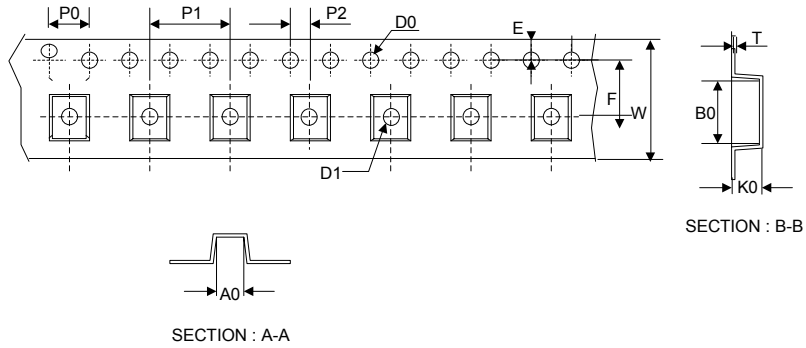
Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.50	1.80	0.059	0.071
A1	0.00	0.10	0.000	0.004
A2	1.50	1.70	0.059	0.067
b	0.65	0.75	0.026	0.030
c	0.20	0.30	0.008	0.012
D	6.40	6.60	0.252	0.260
D1	2.90	3.10	0.114	0.122
E	3.30	3.70	0.130	0.146
E1	6.85	7.15	0.270	0.281
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	1.65	1.85	0.065	0.073
L1	0.90	1.15	0.035	0.045



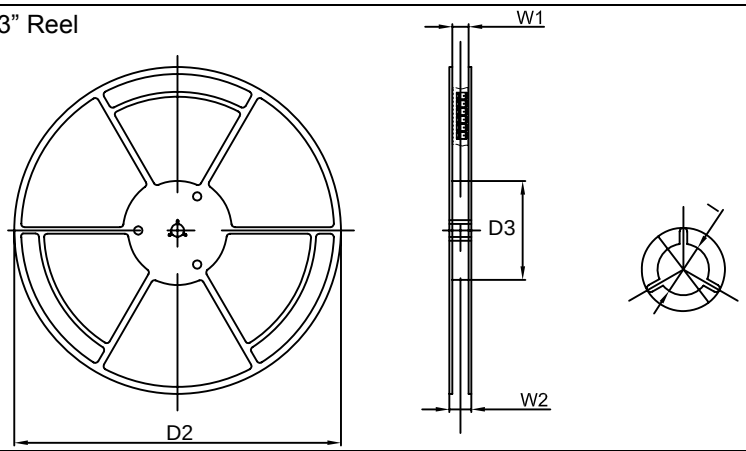
Dimensions	Value (in mm)
C	2.30
C1	6.00
X	1.20
X1	3.60
Y	1.70
Y1	1.70
Y2	7.70

Tape & rell specification

Tape



13” Reel



Symbol	Dimension (mm)
P0	4.00±0.20
P1	8.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.55±0.20
E	1.75±0.20
F	5.50±0.20
W	12.00±0.20
A0	7.40±0.20
B0	7.50±0.20
K0	2.10±0.20
T	0.20±0.20
D2	330.0±5.0
D3	100.0±4.0
W1	18.0±5.0
W2	22.0±5.0
I	13.0±2.0

Quantity: 2500PCS

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.