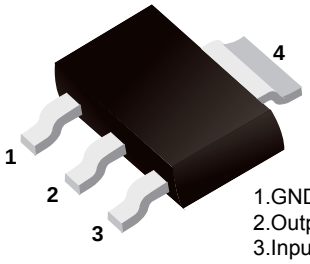
■ Low Dropout Voltage Regulator



1.GND/ADJ
2.Output
3.Input
4.Output

■ **Simplified outline(SOT-223)**

■ Features

- Maximum output current is 800mA
- Output voltage accuracy i s within ±1%
- Range of operation input voltage: 15V(Max)
- Line regulation : 0.2%
- Load regul a t ion: 0.4%
- Environment Temperature:-40℃~125℃
- Three-terminal adjustable or fixed low drop out

  1.2V,1.25V,1.5V,1.8V,2.5V,2.85V, 3.3V, 5.0V, Regulators

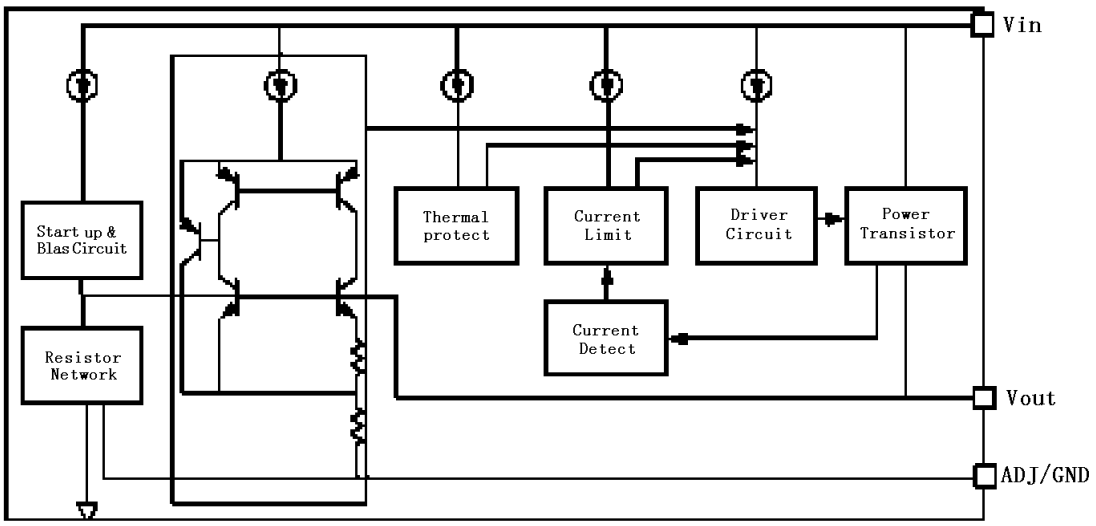
■ Marking

Marking	1117-X.X

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Maximum input voltage	V_{in}	18	V
Input voltage range	V_{in}	15	
Lead temperature and time		300℃,10S	
Adjust Pin Current (Adjustable Version)	I_{ADJ}	120	uA
Adjust Pin Current Change	I_{change}	5	
Temperature Stability		0.5	%
Junction Temperature	T_J	150	℃
Environment temperature		-40 to 125	
Storage Temperature Range	T_{stg}	-65 to150	

■ Block Diagrams



■ Electrical Characteristics

Parameter		Symbol	Test Conditions	Min	Typ.	Max	Unit
Reference voltage		V_{ref}	I_{out}=10mA,V_{in}-V_{out}=2V 10mA≤I_{out}≤0.8A ,1.5V≤V_{in}-V_{out}≤12V	1.238 1.225	1.25 1.25	1.262 1.275	V
Output voltage		V_{out}	AMS1117-1.2S Iout=10mA,Vin=3.3V,Tj=25℃ 0≤Iout≤800mA ,2.6V≤Vin≤12V	1.175	1.2	1.225	
			AMS1117-1.25S Iout=10mA,Vin=3.35 V,Tj=25℃ 0≤Iout≤800mA ,2.65V≤Vin≤12V	1.238 1.225	1.25 1.25	1.262 1.275	
			AMS1117-1.5S Iout=10mA,Vin=3.6V,Tj=25℃ 0≤Iout≤800mA ,2.9V≤Vin≤12V	1.47	1.5	1.53	
			AMS1117-1.8S Iout=10mA,Vin=3.8V,Tj=25℃ 0≤Iout≤800mA ,3.2V≤Vin≤12V	2.475 2.45	2.5 2.5	2.525 2.55	
			AMS1117-2.5S Iout=10mA,Vin=4.5V,Tj=25℃ 0≤Iout≤800mA ,3.9V≤Vin≤12V	2.475 2.45	2.5 2.5	2.525 2.55	
			AMS1117-2.85S Iout=10mA,Vin=4.85V,Tj=25℃ 0≤Iout≤800mA ,4.25V≤Vin≤12V	2.822 2.793	2.85 2.85	2.878 2.907	
			AMS1117-3.3S Iout=10mA,Vin=5V,Tj=25℃ 0≤Iout≤800mA ,4.75V≤Vin≤12V	3.267 3.234	3.3 3.3	3.333 3.366	
			AMS1117-5.0S Iout=10mA,Vin=7V,Tj=25℃ 0≤Iout≤800mA ,6.5V≤Vin≤12V	4.95 4.9	5 5	5.05 5.1	
Line regulation	AMS1117-ADJ	△V_{out}	Iout=10mA,1.5V≤Vin-Vout≤12V		0.035	0.2	%
	AMS1117-1.2S		Iout=10mA,2.6V≤Vin≤15V		9	12	mV
	AMS1117-1.25S		Iout=10mA,2.65V≤Vin≤15V				
	AMS1117-1.5S		Iout=10mA,2.9V≤Vin≤15V				
	AMS1117-1.8S		Iout=10mA,3.2V≤Vin≤15V				
	AMS1117-2.5S		Iout=10mA,3.9V≤Vin≤15V				
	AMS1117-2.85S		Iout=10mA,4.25V≤Vin≤15V				
	AMS1117-3.3S		Iout=10mA,4.75V≤Vin≤15V				
	AMS1117-5.0S		Iout=10mA,6.5V≤Vin≤15V				
Line regulation	AMS1117-ADJ	△V_{out}	Vin-Vout=3V, 10mA≤Iout≤800mA		0.2	0.4	%
	AMS1117-1.2S		Vin=2.6V, 0≤Iout≤800mA		3	10	mV
	AMS1117-1.25S		Vin=2.65V, 0≤Iout≤800mA				
	AMS1117-1.5S		Vin=2.9V, 0≤Iout≤800mA				
	AMS1117-1.8S		Vin=3.2V, 0≤Iout≤800mA				
	AMS1117-2.5S		Vin=3.9V, 0≤Iout≤800mA				
	AMS1117-2.85S		Vin=4.25V, 0≤Iout≤800mA				
	AMS1117-3.3S		Vin=4.75V, 0≤Iout≤800mA				
	AMS1117-5.0S		Vin=6.5V, 0≤Iout≤800mA				

■ Electrical Characteristics

Dropout voltage	V_{in}-V_{out}	ΔVout, ΔVref =1%，Iout=100mA		1.11	1.2	V
		ΔVout, ΔVref,=1%，Iout=500mA		1.18	1.25	
		ΔVout, ΔVref,=1%，Iout=800mA		1.26	1.3	
Current limit	Ilimit	Vin-Vout=2V, Tj=25℃	1.25	1.4	1.6	A
Minimum load current		AMS1117-ADJS		5	10	mA
Quiescent current	Iq	AMS1117-1.2S,Vin-Vout=1.25V		4	8	
		AMS1117-1.25S,Vin-Vout=1.25V				
		AMS1117-1.5S,Vin-Vout=1.25V				
		AMS1117-2.5S, Vin-Vout=1.25V				
		AMS1117-2.85S, Vin-Vout=1.25V				
		AMS1117-3.3S, Vin-Vout=1.25V				
		AMS1117-5S, Vin-Vout=1.25V				

■ Typical Application

AMS1117 has an adjustable version and five fixed versions,Chart 1 is its typical application:

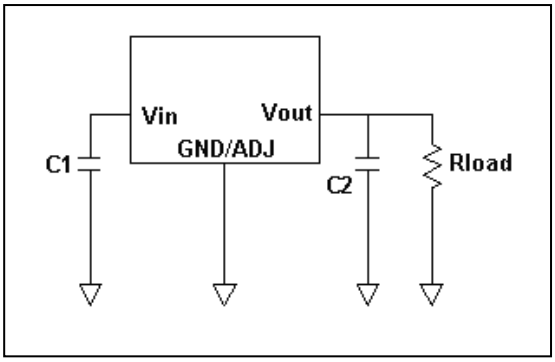


Chart 1: Application circuit of AMS1117 fixed version

The AMS1117 adjustable version provide 1.25V Reference Voltage. Any output voltage between 1.25V~13.8V can be availa ble by choosing two external resistors (connection method is shown in chart 2).In chart 2,R1,R2 is the two external resistors.

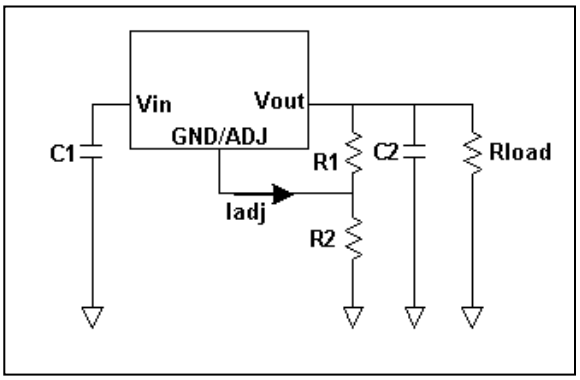
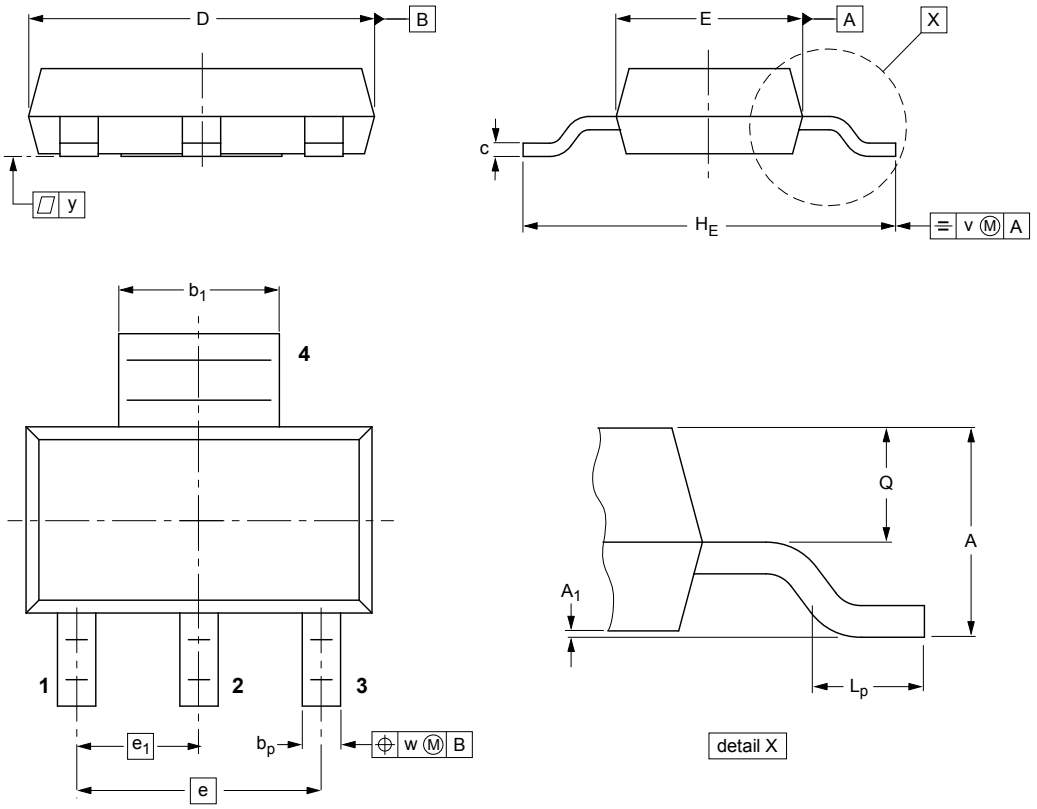


Chart 2. Application Circuit of AMS1117 adjustable version

Package Outline SOT-223



1.GND/ADJ
2.Output
3.Input
4.Output

DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1	b_p	b_1	c	D	E	e	e_1	H_E	L_p	Q	v	w	y
mm	1.8 1.5	0.10 0.01	0.80 0.60	3.1 2.9	0.32 0.22	6.7 6.3	3.7 3.3	4.6	2.3	7.3 6.7	1.1 0.7	0.95 0.85	0.2	0.1	0.1