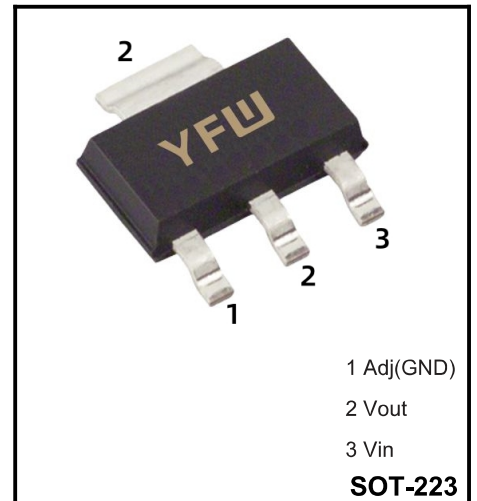


Low Dropout Voltage Regulator

Features

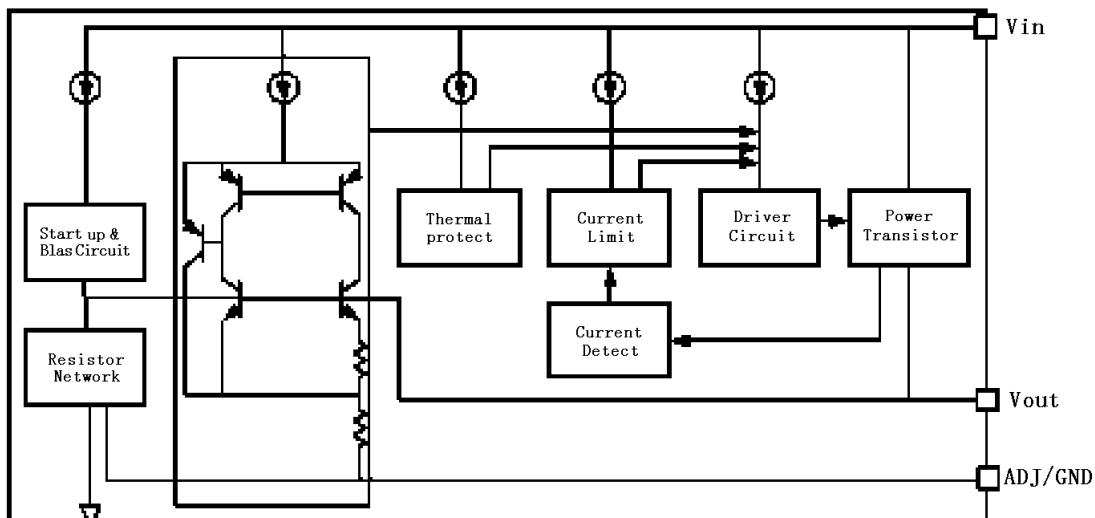
- Maximum output current is 800mA
- Output voltage accuracy is within $\pm 1\%$
- Range of operation input voltage: 15V(Max)
- Line regulation : 0.2%
- Load regulation : 0.4%
- Environment Temperature:-40°C~125°C
- Three-terminal adjustable or fixed low drop out
1.2V, 1.25V, 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, 5.0V, Regulators



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Maximum input voltage	V _{in}	18	V
Input voltage range	V _{in}	15	
Lead temperature and time		300°C, 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	°C
Environment temperature		-40 to 125	
Storage Temperature Range	T _{stg}	-65 to 150	

Block Diagrams



Electrical Characteristics(TA = 25 °C unless otherwise specified)

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	
Output voltage	V _{out}	AMS1117-1.2S I _{out} =10mA, V _{in} =3.3V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 2.6V ≤ V _{in} ≤ 12V	1.175	1.2	1.225	V
		AMS1117-1.25S I _{out} =10mA, V _{in} =3.35V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 2.65V ≤ V _{in} ≤ 12V	1.238 1.225	1.25 1.25	1.262 1.275	
		AMS1117-1.5S I _{out} =10mA, V _{in} =3.6V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 2.9V ≤ V _{in} ≤ 12V	1.47	1.5	1.53	
		AMS1117-1.8S I _{out} =10mA, V _{in} =3.8V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 3.2V ≤ V _{in} ≤ 12V	2.475 2.45	2.5 2.5	2.525 2.55	
		AMS1117-2.5S I _{out} =10mA, V _{in} =4.5V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 3.9V ≤ V _{in} ≤ 12V	2.475 2.45	2.5 2.5	2.525 2.55	
		AMS1117-2.85S I _{out} =10mA, V _{in} =4.85V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 4.25V ≤ V _{in} ≤ 12V	2.822 2.793	2.85 2.85	2.878 2.907	
		AMS1117-3.3S I _{out} =10mA, V _{in} =5V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 4.75V ≤ V _{in} ≤ 12V	3.267 3.234	3.3 3.3	3.333 3.366	
		AMS1117-5.0S I _{out} =10mA, V _{in} =7V, T _j =25°C 0 ≤ I _{out} ≤ 800mA, 6.5V ≤ V _{in} ≤ 12V	4.95 4.9	5 5	5.05 5.1	
		Line regulation	AMS1117-ADJ AMS1117-1.2S AMS1117-1.25S AMS1117-1.5S AMS1117-1.8S AMS1117-2.5S AMS1117-2.85S AMS1117-3.3S AMS1117-5.0S	ΔV _{out} I _{out} =10mA, 1.5V ≤ V _{in} -V _{out} ≤ 12V I _{out} =10mA, 2.6V ≤ V _{in} ≤ 15V I _{out} =10mA, 2.65V ≤ V _{in} ≤ 15V I _{out} =10mA, 2.9V ≤ V _{in} ≤ 15V I _{out} =10mA, 3.2V ≤ V _{in} ≤ 15V I _{out} =10mA, 3.9V ≤ V _{in} ≤ 15V I _{out} =10mA, 4.25V ≤ V _{in} ≤ 15V I _{out} =10mA, 4.75V ≤ V _{in} ≤ 15V I _{out} =10mA, 6.5V ≤ V _{in} ≤ 15V		
Line regulation	AMS1117-ADJ AMS1117-1.2S AMS1117-1.25S AMS1117-1.5S AMS1117-1.8S AMS1117-2.5S AMS1117-2.85S AMS1117-3.3S AMS1117-5.0S	ΔV _{out} V _{in} -V _{out} =3V, 10mA ≤ I _{out} ≤ 800mA V _{in} =2.6V, 0 ≤ I _{out} ≤ 800mA V _{in} =2.65V, 0 ≤ I _{out} ≤ 800mA V _{in} =2.9V, 0 ≤ I _{out} ≤ 800mA V _{in} =3.2V, 0 ≤ I _{out} ≤ 800mA V _{in} =3.9V, 0 ≤ I _{out} ≤ 800mA V _{in} =4.25V, 0 ≤ I _{out} ≤ 800mA V _{in} =4.75V, 0 ≤ I _{out} ≤ 800mA V _{in} =6.5V, 0 ≤ I _{out} ≤ 800mA		0.2 3	0.4 10	% mV

Electrical Characteristics(TA = 25 °C unless otherwise specified)

Dropout voltage	Vin-Vout	$\Delta V_{out}, \Delta V_{ref} = 1\%, I_{out} = 100mA$		1.11	1.2	V
		$\Delta V_{out}, \Delta V_{ref} = 1\%, I_{out} = 500mA$		1.18	1.25	
		$\Delta V_{out}, \Delta V_{ref} = 1\%, I_{out} = 800mA$		1.26	1.3	
Current limit	Ilimit	$V_{in} - V_{out} = 2V, T_j = 25^\circ C$	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:

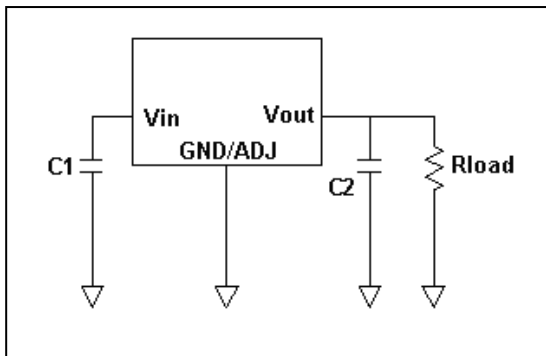


Chart 1: Application circuit of AMS1117 fixed version

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

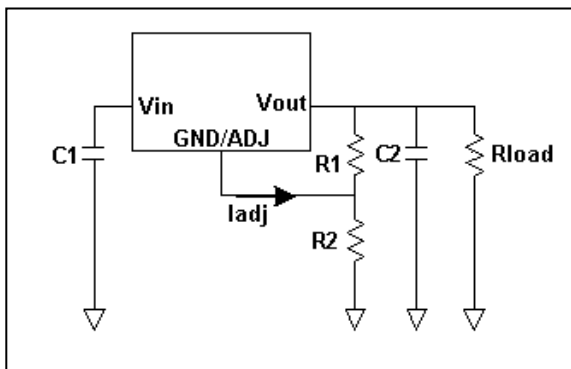


Chart 2. Application Circuit of AMS1117 adjustable version

Ordering information

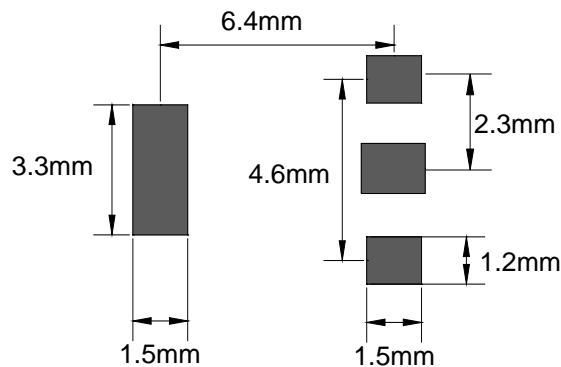
Package	Packing Description	Base Quantity	Packing Quantity
SOT-223	Tape/Reel,7"reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton
	Tape/Reel,13"reel	2500pcs/Reel	5000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-223

Dim	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

The recommended mounting pad size



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