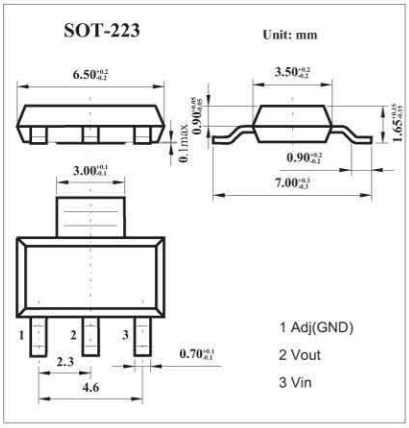
AMS1117



■ Features

1.4V maximum dropout at full load current

Fast transient response

Output current limiting

Built-in thermal shutdown

Good noise rejection

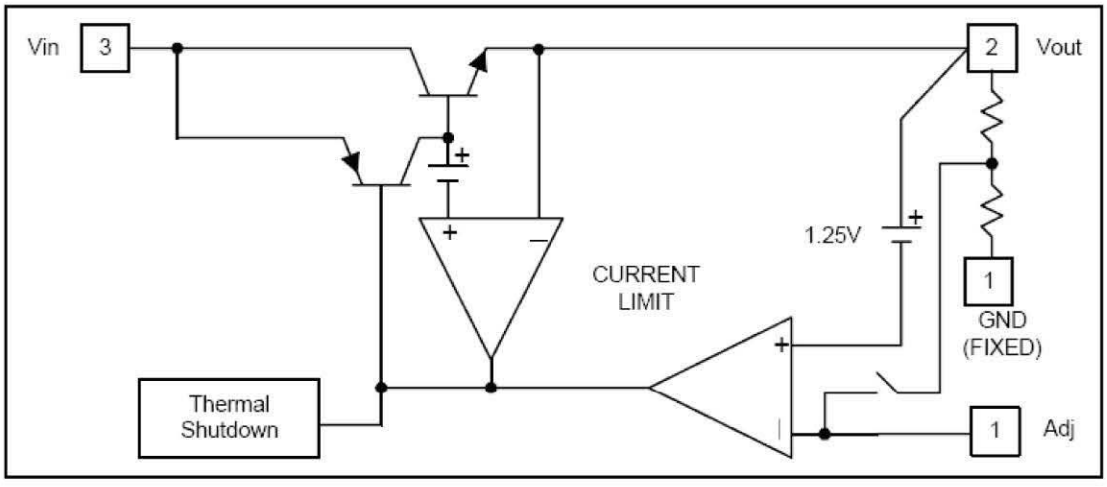
3-Terminal Adjustable or Fixed 1.5V, 1.8V, 1.9V,2.5V, 3.3V, 5.0V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Maximum Input Voltage	V_{in}	18	V
Power Dissipation	P_D	Internally Limited	
Thermal Resistance Junction-to-Ambient	θ_{JA}	117	℃/W
Thermal Resistance Junction-to-Case *	θ_{JC}	15	℃/W
Operating Junction Temperature Range	T_{OP}	0 to +150	℃
Storage Temperature	T_{ST}	-65 to +150	℃

* Control Circuitry/Power Transistor

■ Block Diagram



■ Electrical Characteristics Ta = 25℃

Parameter		Testconditons	Min	Typ	Max	Unit
Reference Voltage	AMS1117-ADJ	T_J=25℃,(V_{IN}-V_{OUT})=1.5V,I_O=10mA	1.225	1.250	1.275	V
Output Voltage	AMS1117-1.5	I_{OUT} = 10mA, T_J = 25℃, 3V≤V_{IN}≤12V	1.470	1.500	1.530	V
	AMS1117-1.8	I_{OUT} = 10mA, T_J = 25℃, 3.3V≤V_{IN}≤12V	1.764	1.800	1.836	V
	AMS1117-1.9	I_{OUT} = 10mA, T_J = 25℃, 3.3V≤V_{IN}≤12V	1.862	1.900	1.938	V
	AMS1117-2.5	I_{OUT} = 10mA, T_J = 25℃, 4V≤V_{IN}≤12V	2.450	2.500	2.550	V
	AMS1117-3.3	I_{OUT} = 10mA, T_J = 25℃, 4.8V≤V_{IN}≤12V	3.235	3.300	3.365	V
	AMS1117-5.0	I_{OUT} = 10mA, T_J = 25℃, 6.5V≤V_{IN}≤12V	4.900	5.000	5.100	V
Line Regulation	AMS1117-XXX	I_O=10mA,V_{OUT}+1.5V＜V_{IN}＜12V, T_J=25℃			0.2	%
Load Regulation	AMS1117-ADJ	V_{IN}=3.3V,V_{adj}=0,0mA＜I_o＜1A,T_J=25℃			1	%
	AMS1117-1.5	V_{IN}=3V,0mA＜I_o＜1A,T_J=25℃		12	15	mV
	AMS1117-1.8	V_{IN}=3.3V,0mA＜I_o＜1A,T_J=25℃		15	18	mV
	AMS1117-1.9	V_{IN}=3.3V,0mA＜I_o＜1A,T_J=25℃		16	19	mV
	AMS1117-2.5	V_{IN}=4V,0mA＜I_o＜1A,T_J=25℃		20	25	mV
	AMS1117-3.3	V_{IN}=5V,0mA≤I_o≤1A,T_J=25℃		26	33	mV
	AMS1117-5.0	V_{IN}=8V,0mA≤I_o≤1A,T_J=25℃		40	50	mV
Dropout Voltage (V_{IN}-V_{OUT})	AMS1117-XXX	I_{OUT} = 1A ,△V_{OUT}=0.1%V_{OUT}		1.3	1.4	V
Current Limit	AMS1117-XXX	(V_{IN}-V_{OUT}) = 5V	1. 1			A
Minimum Load Current	AMS1117-XXX	0℃≤Tj≤125℃		5	10	mA
Thermal Regulation		T_A=25℃, 30ms pulse		0.008	0.04	%/W
Ripple Rejection	F=120Hz,C_{OUT}=25uF Tantalum, I_{OUT}=1A					
	AMS1117-XXX	V_{IN}=V_{OUT}+3V		60	70	dB
Temperature Stability		I_O=10mA		0.5		%

Typical Applications