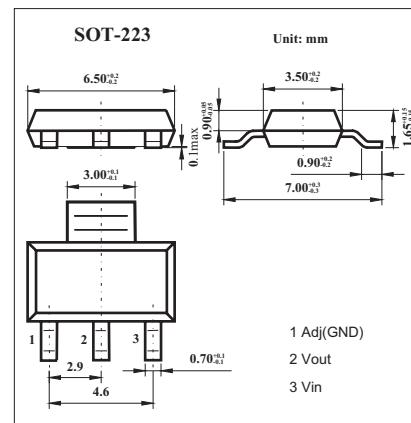# 1A Low Dropout Positive Adjustable
or Fixed-Mode Regulator
AMS1117

■ 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

SOT-223   Unit: mm

1 Adj(GND)
2 Vout
3 Vin

■ 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
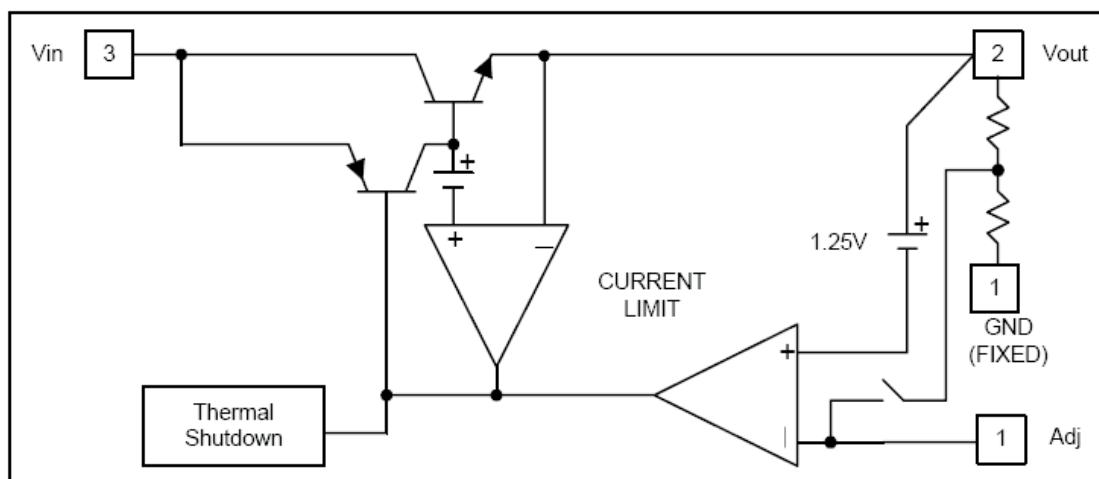
1A Low Dropout Positive Adjustable
or Fixed-Mode Regulator
AMS1117

■ Electrical Characteristics Ta = 25℃

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

Typical Applications