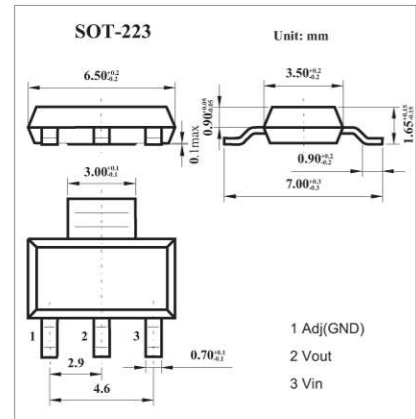


## ■ Features

- 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

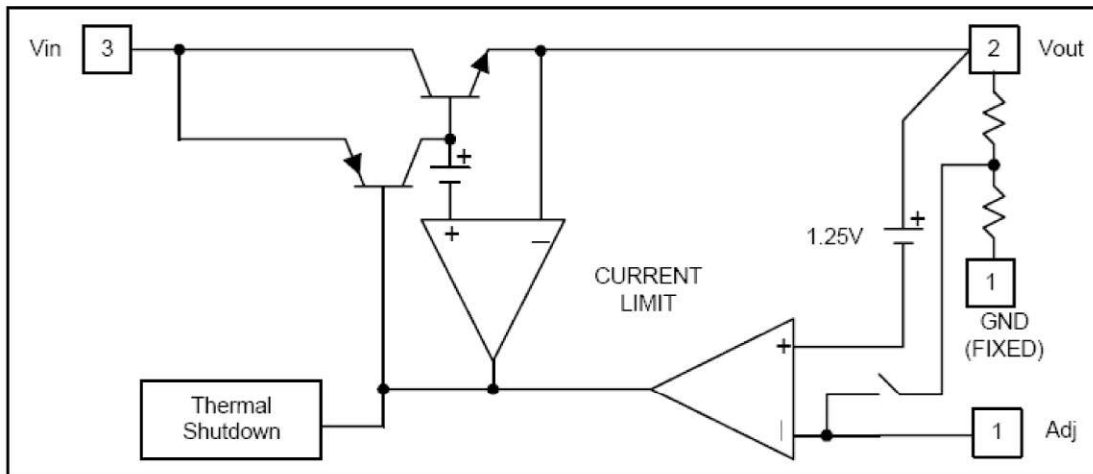


## ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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

\* Control Circuitry/Power Transistor

## ■ Block Diagram



■ Electrical Characteristics Ta = 25°C

Parameter	Testconditions	Min	Typ	Max	Unit
Reference Voltage	AMS1117-ADJ T <sub>J</sub> =25°C, (V <sub>IN</sub> -V <sub>OUT</sub> )=1.5V, I <sub>o</sub> =10mA	1.225	1.250	1.275	V
Output Voltage	AMS1117-1.5 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 3V ≤ V <sub>IN</sub> ≤ 12V	1.470	1.500	1.530	V
	AMS1117-1.8 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 3.3V ≤ V <sub>IN</sub> ≤ 12V	1.764	1.800	1.836	V
	AMS1117-1.9 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 3.3V ≤ V <sub>IN</sub> ≤ 12V	1.862	1.900	1.938	V
	AMS1117-2.5 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 4V ≤ V <sub>IN</sub> ≤ 12V	2.450	2.500	2.550	V
	AMS1117-3.3 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 4.8V ≤ V <sub>IN</sub> ≤ 12V	3.235	3.300	3.365	V
	AMS1117-5.0 I <sub>OUT</sub> = 10mA, T <sub>J</sub> = 25°C, 6.5V ≤ V <sub>IN</sub> ≤ 12V	4.900	5.000	5.100	V
Line Regulation	AMS1117-XXX I <sub>o</sub> =10mA, V <sub>OUT</sub> +1.5V < V <sub>IN</sub> < 12V, T <sub>J</sub> =25°C			0.2	%
Load Regulation	AMS1117-ADJ V <sub>IN</sub> =3.3V, V <sub>adj</sub> =0, 0mA < I <sub>o</sub> < 1A, T <sub>J</sub> =25°C			1	%
	AMS1117-1.5 V <sub>IN</sub> =3V, 0mA < I <sub>o</sub> < 1A, T <sub>J</sub> =25°C		12	15	mV
	AMS1117-1.8 V <sub>IN</sub> =3.3V, 0mA < I <sub>o</sub> < 1A, T <sub>J</sub> =25°C		15	18	mV
	AMS1117-1.9 V <sub>IN</sub> =3.3V, 0mA < I <sub>o</sub> < 1A, T <sub>J</sub> =25°C		16	19	mV
	AMS1117-2.5 V <sub>IN</sub> =4V, 0mA < I <sub>o</sub> < 1A, T <sub>J</sub> =25°C		20	25	mV
	AMS1117-3.3 V <sub>IN</sub> =5V, 0mA ≤ I <sub>o</sub> ≤ 1A, T <sub>J</sub> =25°C		26	33	mV
	AMS1117-5.0 V <sub>IN</sub> =8V, 0mA ≤ I <sub>o</sub> ≤ 1A, T <sub>J</sub> =25°C		40	50	mV
Dropout Voltage (V <sub>IN</sub> -V <sub>OUT</sub> )	AMS1117-XXX I <sub>OUT</sub> = 1A, ΔV <sub>OUT</sub> =0.1%V <sub>OUT</sub>		1.3	1.4	V
Current Limit	AMS1117-XXX (V <sub>IN</sub> -V <sub>OUT</sub> ) = 5V	1.1			A
Minimum Load Current	AMS1117-XXX 0°C ≤ T <sub>J</sub> ≤ 125°C		5	10	mA
Thermal Regulation	T <sub>A</sub> =25°C, 30ms pulse		0.008	0.04	%/W
Ripple Rejection	F=120Hz, C <sub>OUT</sub> =25uF Tantalum, I <sub>OUT</sub> =1A				
	AMS1117-XXX V <sub>IN</sub> =V <sub>OUT</sub> +3V		60	70	dB
Temperature Stability	I <sub>o</sub> =10mA		0.5		%

## Typical Applications

