

AMS1117

■ Features

1.4V maximum dropout at full load current

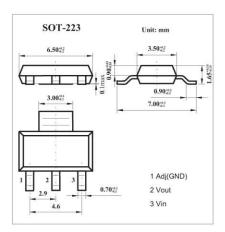
Fast transient response

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

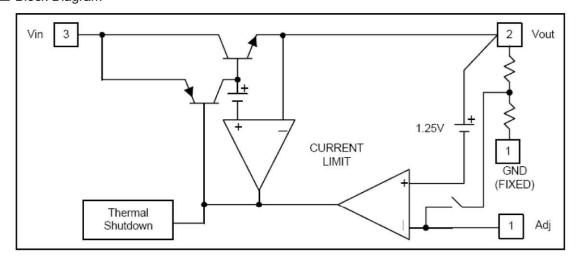


■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit	
Maximum Input Voltage	Vin	18	V	
Power Dissipation	PD	Internally Limited		
Thermal Resistance Junction-to-Ambient	to-Ambient θ JA 117		°C/W	
Thermal Resistance Junction-to-Case *	θ JC	15 ℃/\		
Operating Junction Temperature Range	Тор	0 to +150	°C	
Storage Temperature	Тѕт	-65 to +150	°C	

^{*} Control Circuitry/Power Transistor

■ Block Diagram



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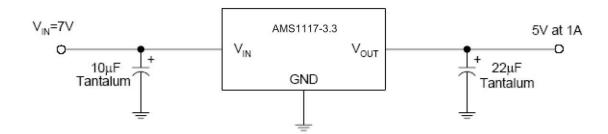


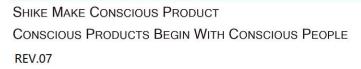


■ Electrical Characteristics Ta = 25°C

Parameter		Testconditons	Min	Тур	Max	Unit	
Reference Voltage	AMS1117-ADJ	ТJ=25℃,(VIN-ОUT)=1.5V,Io=10mA	1.225	1.250	1.275	V	
Output Voltage	AMS1117-1.5	IOUT = 10mA, TJ = 25°C, 3V≪VIN≪12V	1.470	1.500	1.530	V	
	AMS1117-1.8	IOUT = 10mA, TJ = 25°C, 3.3V≪VIN≪12V	1.764	1.800	1.836	V	
	AMS1117-1.9	IOUT = 10mA, TJ = 25°C, 3.3V≤VIN≤12V	1.862	1.900	1.938	٧	
	AMS1117-2.5	IOUT = 10mA, TJ = 25°C, 4V≪VIN≪12V	2.450	2.500	2.550	٧	
	AMS1117-3.3	IOUT = 10mA, TJ = 25°C, 4.8V≪VIN≪12V	3.235	3.300	3.365	٧	
	AMS1117-5.0	IOUT = 10mA, TJ = 25°C, 6.5V≤VIN≤12V	4.900	5.000	5.100	٧	
Line Regulation	AMS1117-XXX	Io=10mA,Vout+1.5V <vin<12v, tj="25°C</td"><td></td><td></td><td>0.2</td><td>%</td></vin<12v,>			0.2	%	
Load Regulation	AMS1117-ADJ	VIN=3.3V,Vadj=0,0mA <io<1a,tj=25°c< td=""><td></td><td></td><td>1</td><td>%</td></io<1a,tj=25°c<>			1	%	
	AMS1117-1.5	VIN=3V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>12</td><td>15</td><td>mV</td></i₀<1a,tj=25°c<>		12	15	mV	
	AMS1117-1.8	VIN=3.3V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>15</td><td>18</td><td>mV</td></i₀<1a,tj=25°c<>		15	18	mV	
	AMS1117-1.9	VIN=3.3V,0mA <io<1a,tj=25°c< td=""><td></td><td>16</td><td>19</td><td>mV</td></io<1a,tj=25°c<>		16	19	mV	
	AMS1117-2.5	V _{IN} =4V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>20</td><td>25</td><td>mV</td></i₀<1a,tj=25°c<>		20	25	mV	
	AMS1117-3.3	Vin=5V,0mA≤I₀≤1A,TJ=25°C		26	33	mV	
	AMS1117-5.0	VIN=8V,0mA≤I₀≤1A,TJ=25°C		40	50	mV	
Dropout Voltage (Vin-Vouт)	AMS1117-XXX	louт = 1A ,△Vouт=0.1%Vouт		1.3	1.4	٧	
Current Limit	AMS1117-XXX	(VIN-VOUT) = 5V	1.1			Α	
Minimum Load Current	AMS1117-XXX	0°C≤Tj≤125°C		5	10	mA	
Thermal Regulation		Ta=25°C, 30ms pulse		0.008	0.04	%/W	
Ripple Rejection AMS1		F=120Hz,Cout=25uF Tantalum, Iout=1A					
	AMS1117-XXX	VIN=VOUT+3V		60	70	dB	
Temperature Stability		Io=10mA		0.5		%	

Typical Applications







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