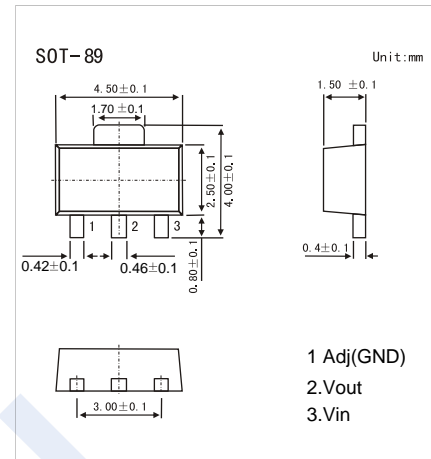


Low Dropout Linear Regulator AS1117-X.X

■ Features

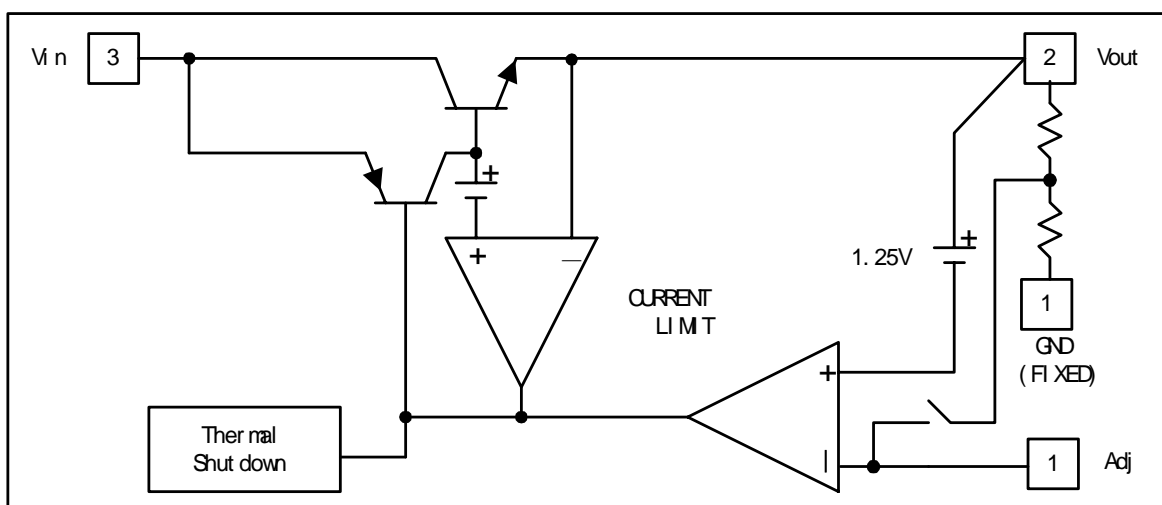
- Low dropout voltage
- Load regulation: 0.2% typical
- Optimized for Low Voltage
- On-chip thermal limiting
- 1.0 A Adjustable/Fixed Low Dropout Linear Regulator
- Three-terminal adjustable or fixed low drop out
1.2V, 1.5V, 1.8V, 1.9V, 2.5V, 3.3V, 5V. Regulators



■ 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	
Operating Junction Temperature Range	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{ST}	-65 to +150	$^\circ\text{C}$

■ Block Diagram



Low Dropout Linear Regulator

AS1117-X.X

■ Electrical Characteristics Ta = 25°C

Parameter		Testconditions	Min	Typ	Max	Unit
Reference Voltage	Vref	AS1117-ADJ 10mA ≤ Iout ≤ 800mA, 1.5V ≤ Vin-Vout ≤ 12V	1.225	1.250	1.275	V
Output Voltage	Vout	AS1117-1.2 0 ≤ Iout ≤ 800mA, 2.6V ≤ Vin-Vout ≤ 12V	1.175	1.200	1.225	V
		AS1117-1.5 0 ≤ Iout ≤ 800mA, 2.9V ≤ Vin-Vout ≤ 12V	1.470	1.500	1.530	V
		AS1117-1.8 0 ≤ Iout ≤ 800mA, 3.2V ≤ Vin-Vout ≤ 12V	1.764	1.800	1.836	V
		AS1117-1.9 0 ≤ Iout ≤ 800mA, 3.3V ≤ Vin-Vout ≤ 12V	1.862	1.900	1.938	V
		AS1117-2.5 0 ≤ Iout ≤ 800mA, 3.9V ≤ Vin-Vout ≤ 12V	2.450	2.500	2.550	V
		AS1117-3.3 0 ≤ Iout ≤ 800mA, 4.75V ≤ Vin-Vout ≤ 12V	3.234	3.300	3.366	V
		AS1117-5.0 0 ≤ Iout ≤ 800mA, 6.5V ≤ Vin-Vout ≤ 12V	4.900	5.000	5.100	V
Line Regulation	ΔVout	AS1117-ADJ Iout=10mA, 1.5V ≤ Vin-Vout ≤ 13.775V		0.035	0.2	%
		AS1117-1.2 Iout=10mA, 2.6V ≤ Vin-Vout ≤ 12V		9	12	mV
		AS1117-1.5 Iout=10mA, 2.9V ≤ Vin-Vout ≤ 12V		9	12	mV
		AS1117-1.8 Iout=10mA, 3.2V ≤ Vin-Vout ≤ 12V		9	12	mV
		AS1117-1.9 Iout=10mA, 3.3V ≤ Vin-Vout ≤ 12V		9	12	mV
		AS1117-2.5 Iout=10mA, 3.9V ≤ Vin-Vout ≤ 12V		9	12	mV
		AS1117-3.3 Iout=10mA, 4.75V ≤ Vin-Vout ≤ 12V		9	12	mV
Load Regulation	ΔVout	AS1117-ADJ Vin-Vout=3V, 10mA ≤ Iout ≤ 800mA		0.2	0.4	%
		AS1117-1.2 Vin=2.6V, 0 ≤ Iout ≤ 800mA		3	10	mV
		AS1117-1.5 Vin=2.9V, 0 ≤ Iout ≤ 800mA		3	10	mV
		AS1117-1.8 Vin=3.2V, 0 ≤ Iout ≤ 800mA		3	10	mV
		AS1117-1.9 Vin=3.3V, 0 ≤ Iout ≤ 800mA		3	10	mV
		AS1117-2.5 Vin=3.9V, 0 ≤ Iout ≤ 800mA		3	10	mV
		AS1117-3.3 Vin=4.75V, 0 ≤ Iout ≤ 800mA		3	10	mV
Dropout Voltage	Vin-Vout	AS1117-XXX ΔVout, ΔVref=1%, Iout=100mA		1.11	1.2	V
		AS1117-XXX ΔVout, ΔVref=1%, Iout=500mA		1.18	1.25	V
		AS1117-XXX ΔVout, ΔVref=1%, Iout=800mA		1.26	1.3	V
Current Limit	Ilimit	AS1117-XXX VIN-VOUT = 5V, Tj=25°C	1.25	1.4	1.6	A
Minimum Load Current		AS1117-XXX AS1117-ADJ		5	10	mA
Quiescent current	Iq	AS1117-1.2 Vin-Vout=1.25V		4	8	mA
		AS1117-1.5 Vin-Vout=1.25V		4	8	mA
		AS1117-1.8 Vin-Vout=1.25V		4	8	mA
		AS1117-1.9 Vin-Vout=1.25V		4	8	mA
		AS1117-2.5 Vin-Vout=1.25V		4	8	mA
		AS1117-3.3 Vin-Vout=1.25V		4	8	mA
		AS1117-5.0 Vin-Vout=1.25V		4	8	mA
Adjust Pin Current (Adjustable Version)	Iadj			55	120	μA
Adjust Pin Current Change	Ichange			0.2		μA

■ Marking

Marking	1117-X.X
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Low Dropout Linear Regulator

AS1117-X.X

■ Typical Characteristics

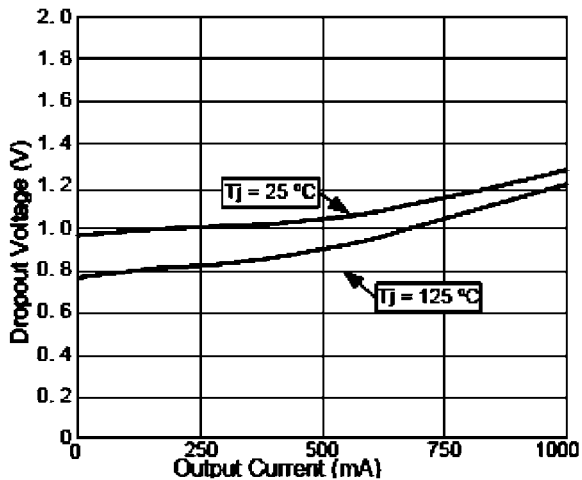


Fig.1 Dropout Voltage vs Output Current

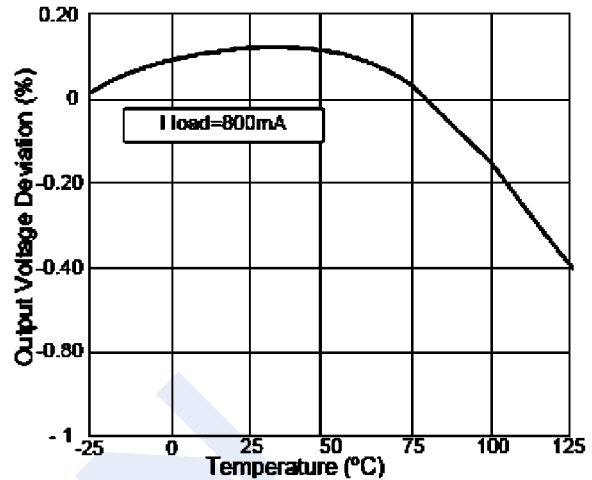


Fig.2 Load Regulation vs Temperature

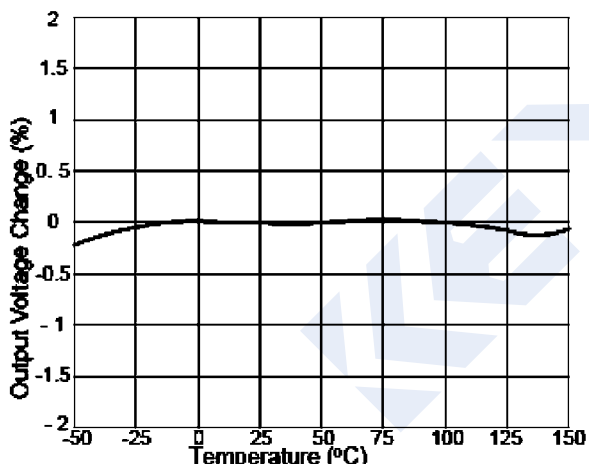


Fig.3 Percent Change in Output Voltage vs Temperature

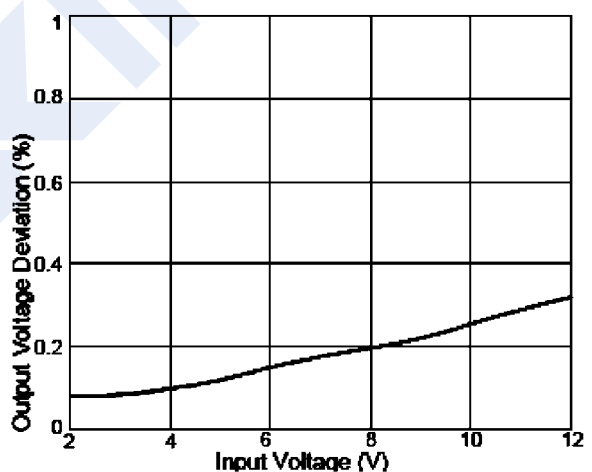


Fig.4 Line Regulation

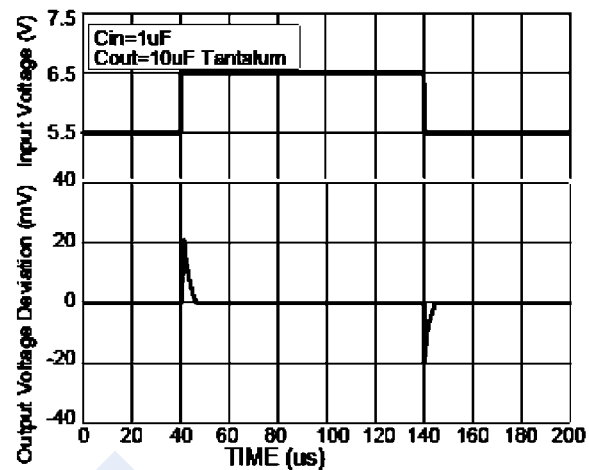


Fig.5 Line Transient Response

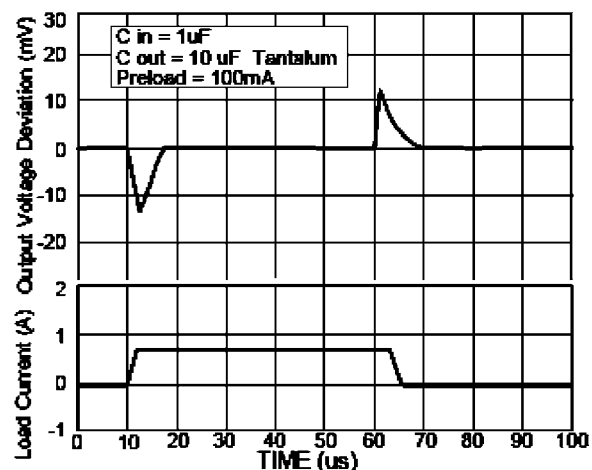


Fig.6 Load Transient Response