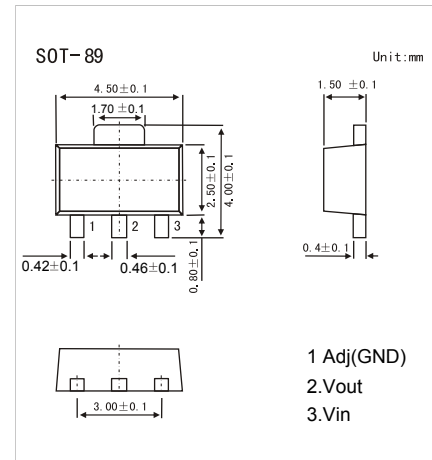


Low Dropout Linear Regulator

RC1117-X.X

■ Features

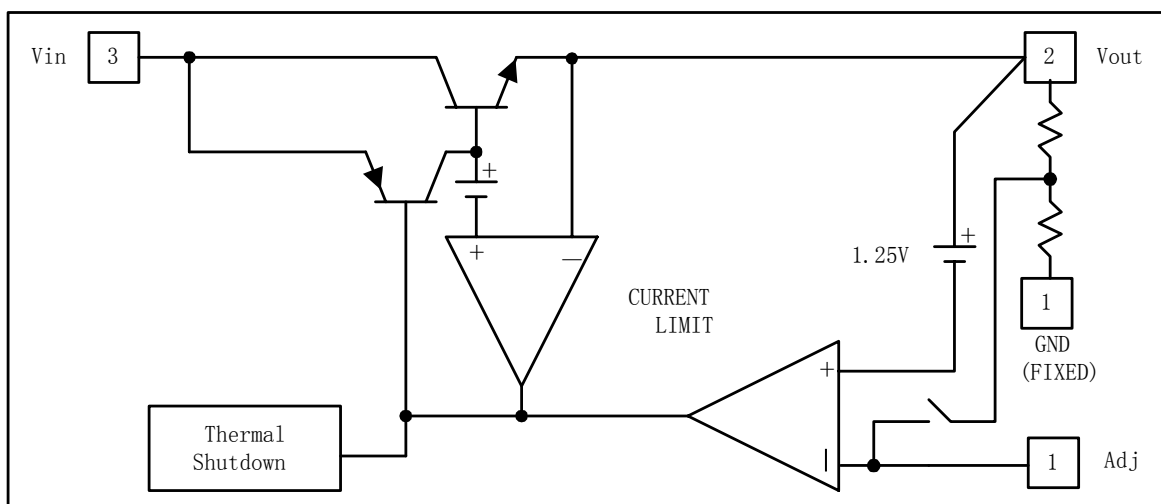
- Low dropout voltage
- Load regulation: 0.2% typical
- Optimized for Low Voltage
- On-chip thermal limiting
- 1A Adjustable/Fixed Low Dropout Linear Regulator
- Three-terminal adjustable or fixed low drop out
1.2V, 1.5V, 1.8V, 1.9V, 2.5V, 3.3V, 5V. Regulators



■ 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

RC1117-X.X

■ Electrical Characteristics Ta = 25°C

Parameter		Testconditons	Min	Typ	Max	Unit	
Reference Voltage	Vref	RC1117-ADJ	10mA ≤ Iout ≤ 800mA, 1.5V ≤ Vin-Vout ≤ 12V	1.225	1.250	1.275	V
Output Voltage	Vout	RC1117-1.2V	0 ≤ Iout ≤ 800mA, 2.6V ≤ Vin-Vout ≤ 12V	1.175	1.200	1.225	V
		RC1117-1.5V	0 ≤ Iout ≤ 800mA, 2.9V ≤ Vin-Vout ≤ 12V	1.470	1.500	1.530	V
		RC1117-1.8V	0 ≤ Iout ≤ 800mA, 3.2V ≤ Vin-Vout ≤ 12V	1.764	1.800	1.836	V
		RC1117-1.9V	0 ≤ Iout ≤ 800mA, 3.3V ≤ Vin-Vout ≤ 12V	1.862	1.900	1.938	V
		RC1117-2.5V	0 ≤ Iout ≤ 800mA, 3.9V ≤ Vin-Vout ≤ 12V	2.450	2.500	2.550	V
		RC1117-3.3V	0 ≤ Iout ≤ 800mA, 4.75V ≤ Vin-Vout ≤ 12V	3.234	3.300	3.366	V
		RC1117-5.0V	0 ≤ Iout ≤ 800mA, 6.5V ≤ Vin-Vout ≤ 12V	4.900	5.000	5.100	V
Line Regulation	ΔVout		Iout=10mA, 1.5V ≤ Vin-Vout ≤ 13.775V		0.035	0.2	%
		RC1117-1.2V	Iout=10mA, 2.6V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-1.5V	Iout=10mA, 2.9V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-1.8V	Iout=10mA, 3.2V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-1.9V	Iout=10mA, 3.3V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-2.5V	Iout=10mA, 3.9V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-3.3V	Iout=10mA, 4.75V ≤ Vin-Vout ≤ 12V		9	12	mV
		RC1117-5.0V	Iout=10mA, 6.5V ≤ Vin-Vout ≤ 12V		9	12	mV
Load Regulation	ΔVout	RC1117-ADJ	Vin-Vout=3V, 10mA ≤ Iout ≤ 800mA		0.2	0.4	%
		RC1117-1.2V	Vin=2.6V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-1.5V	Vin=2.9V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-1.8V	Vin=3.2V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-1.9V	Vin=3.3V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-2.5V	Vin=3.9V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-3.3V	Vin=4.75V, 0 ≤ Iout ≤ 800mA		3	10	mV
		RC1117-5.0V	Vin=6.5V, 0 ≤ Iout ≤ 800mA		3	10	mV
Dropout Voltage	Vin-Vout	RC1117-XXX	ΔVout, ΔVref=1%, Iout=100mA		1.11	1.2	V
		RC1117-XXX	ΔVout, ΔVref=1%, Iout=500mA		1.18	1.25	V
		RC1117-XXX	ΔVout, ΔVref=1%, Iout=800mA		1.26	1.3	V
Current Limit	Ilimit	RC1117-XXX	Vin-Vout = 5V, Tj=25°C	1.25	1.4	1.6	A
Minimum Load Current		RC1117-XXX	KS1117-ADJ		5	10	mA
Quiescent current	Iq	RC1117-1.2V	Vin-Vout=1.25V		4	8	mA
		RC1117-1.5V	Vin-Vout=1.25V		4	8	mA
		RC1117-1.8V	Vin-Vout=1.25V		4	8	mA
		RC1117-1.9V	Vin-Vout=1.25V		4	8	mA
		RC1117-2.5V	Vin-Vout=1.25V		4	8	mA
		RC1117-3.3V	Vin-Vout=1.25V		4	8	mA
		RC1117-5.0V	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 RC1117-X.X

■ Typical Characteristics

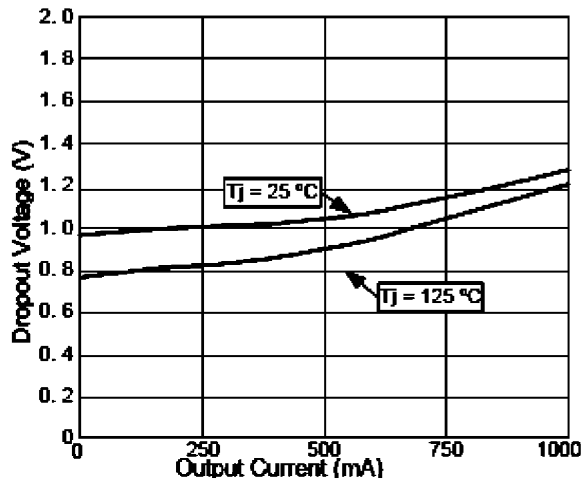


Fig.1 Dropout Voltage vs Output Current

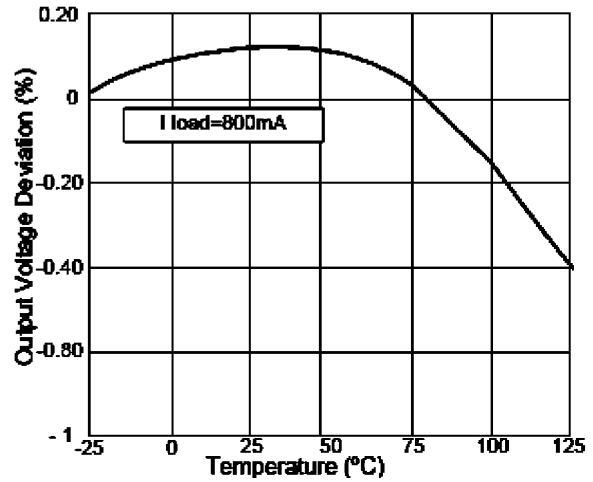


Fig.2 Load Regulation vs Temperature

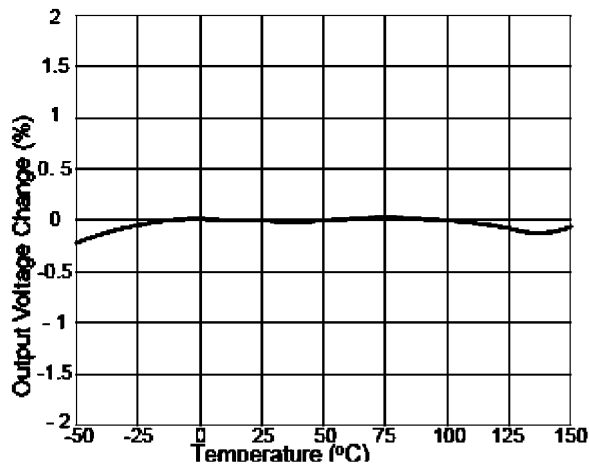


Fig.3 Percent Change in Output Voltage vs Temperature

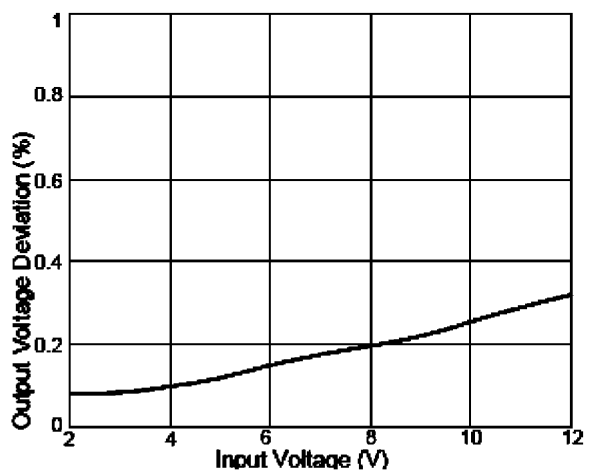


Fig.4 Line Regulation

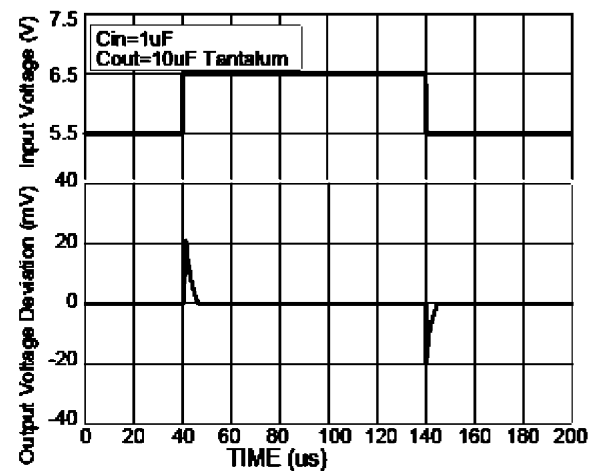


Fig.5 Line Transient Response

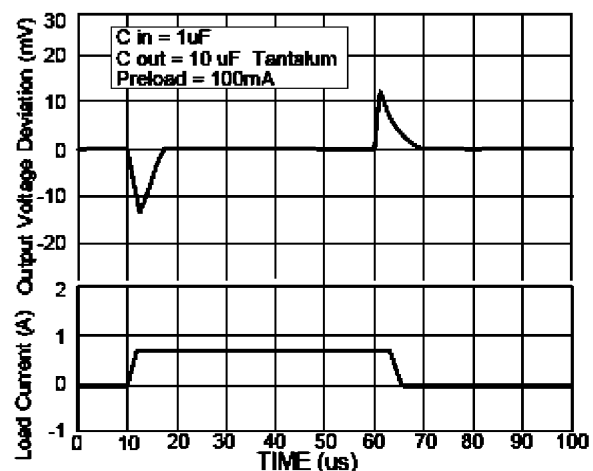


Fig.6 Load Transient Response