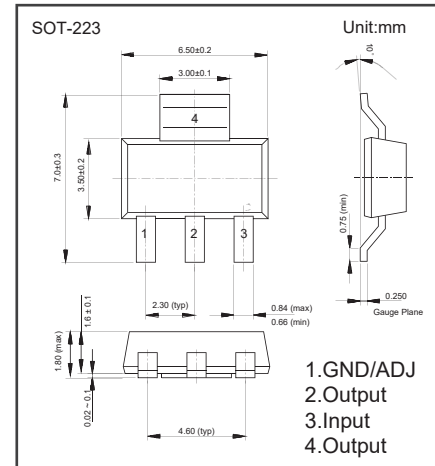


Low Dropout Linear Regulator

AMS1117-X.X (KMS1117-X.X)

■ Features

- Low dropout voltage
- Load regulation: 0.2% typ at
- 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, 1.25V, 1.5V, 1.8V, 1.9V, 2.5V, 2.85V, 3.3V, 5V. Regulators

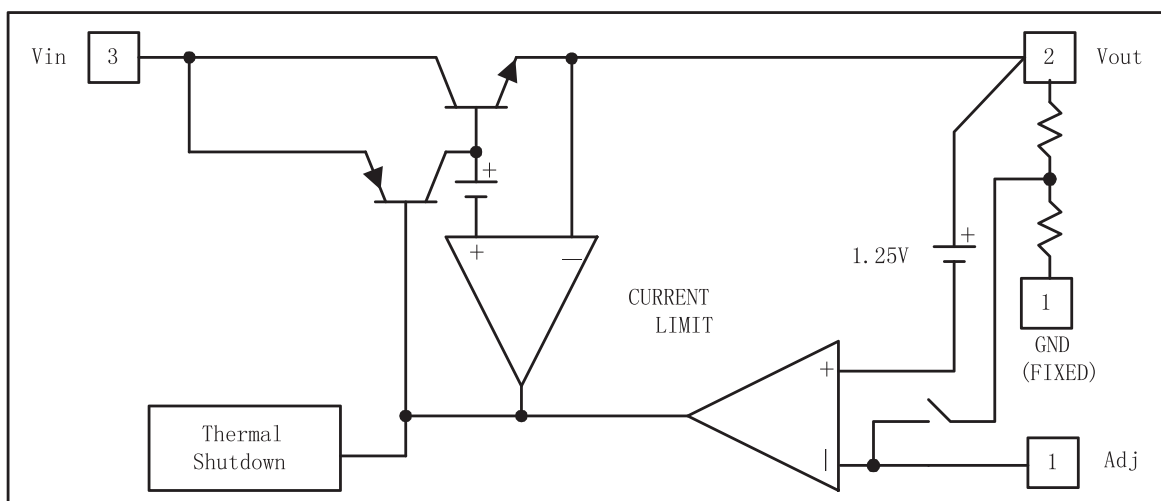


■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Input Voltage	V_{IN}	18	V
Thermal Resistance.Junction- to-Ambient (Note.1)	$R_{\theta JA}$	136	$^\circ\text{C}/\text{W}$
Thermal Resistance.Junction- to-Case	$R_{\theta JC}$	20	
Junction Temperature	T_J	150	$^\circ\text{C}$
Maximum Ambient Temperature	T_A	140	
Lead Temperature (10 sec)		300	
Storage Temperature Range	T_{stg}	-65 to 150	

Note.1: No air flow

■ Block Diagram



Low Dropout Linear Regulator

AMS1117-X.X (KMS1117-X.X)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Reference Voltage	VREF	AMS1117-ADJ	10mA ≤ IOUT ≤ 800mA, 1.5V ≤ VIN - VOUT ≤ 12V	1.225	1.25	1.275	V
Output Voltage	VOUT	AMS1117-1.2	0 ≤ IOUT ≤ 800mA, 2.6V ≤ VIN - VOUT ≤ 12V	1.175	1.2	1.225	
		AMS1117-1.25	0 ≤ IOUT ≤ 800mA, 2.65V ≤ VIN - VOUT ≤ 12V	1.238	1.25	1.275	
		AMS1117-1.5	0 ≤ IOUT ≤ 800mA, 2.9V ≤ VIN - VOUT ≤ 12V	1.47	1.5	1.53	
		AMS1117-1.8	0 ≤ IOUT ≤ 800mA, 3.2V ≤ VIN - VOUT ≤ 12V	1.764	1.8	1.836	
		AMS1117-1.9	0 ≤ IOUT ≤ 800mA, 3.3V ≤ VIN - VOUT ≤ 12V	1.862	1.9	1.938	
		AMS1117-2.5	0 ≤ IOUT ≤ 800mA, 3.9V ≤ VIN - VOUT ≤ 12V	2.45	2.5	2.55	
		AMS1117-2.85	0 ≤ IOUT ≤ 800mA, 4.25V ≤ VIN - VOUT ≤ 12V	2.822	2.85	2.878	
		AMS1117-3.3	0 ≤ IOUT ≤ 800mA, 4.75V ≤ VIN - VOUT ≤ 12V	3.234	3.3	3.366	
		AMS1117-5.0	0 ≤ IOUT ≤ 800mA, 6.5V ≤ VIN - VOUT ≤ 12V	4.9	5	5.1	
Line Regulation	ΔVOUT	AMS1117-ADJ	IOUT = 10mA, 1.5V ≤ VIN - VOUT ≤ 12V		0.035	0.2	%
		AMS1117-1.2	IOUT = 10mA, 2.6V ≤ VIN - VOUT ≤ 12V		9	12	mV
		AMS1117-1.25	IOUT = 10mA, 2.65V ≤ VIN - VOUT ≤ 12V				
		AMS1117-1.5	IOUT = 10mA, 2.9V ≤ VIN - VOUT ≤ 12V				
		AMS1117-1.8	IOUT = 10mA, 3.2V ≤ VIN - VOUT ≤ 12V				
		AMS1117-1.9	IOUT = 10mA, 3.3V ≤ VIN - VOUT ≤ 12V				
		AMS1117-2.5	IOUT = 10mA, 3.9V ≤ VIN - VOUT ≤ 12V				
		AMS1117-2.85	IOUT = 10mA, 4.25V ≤ VIN - VOUT ≤ 12V				
		AMS1117-3.3	IOUT = 10mA, 4.75V ≤ VIN - VOUT ≤ 12V				
		AMS1117-5.0	IOUT = 10mA, 6.5V ≤ VIN - VOUT ≤ 12V				
Load Regulation	ΔVOUT	AMS1117-ADJ	VIN - VOUT = 3V, 10mA ≤ IOUT ≤ 800mA		0.2	0.4	%
		AMS1117-1.2	VIN = 2.6V, 10mA ≤ IOUT ≤ 800mA		3	10	mV
		AMS1117-1.25	VIN = 2.65V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-1.5	VIN = 2.9V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-1.8	VIN = 3.2V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-1.9	VIN = 3.3V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-2.5	VIN = 3.9V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-2.85	VIN = 4.25V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-3.3	VIN = 4.75V, 10mA ≤ IOUT ≤ 800mA				
		AMS1117-5.0	VIN = 6.5V, 10mA ≤ IOUT ≤ 800mA				
Dropout Voltage	VIN - VOUT	AMS1117-XXX	ΔVOUT, ΔVREF = 1%, IOUT = 0.1A		1.11	1.2	V
			ΔVOUT, ΔVREF = 1%, IOUT = 0.5A		1.18	1.25	
			ΔVOUT, ΔVREF = 1%, IOUT = 0.8A		1.26	1.3	
Current Limit	Ilimit	AMS1117-XXX	VIN - VOUT = 5V, TJ = 25°C	1.25	1.4	1.6	A
		AMS1117-XXX	AMS1117-ADJ		5	10	mA
Adjust Pin Current	IADJ				55	120	uA
Adjust Pin Current Change	IChange				0.2		



Low Dropout Linear Regulator

AMS1117-X.X (KMS1117-X.X)

■ Electrical Characteristics Ta = 25°C

Quiescent Current	Iq	AMS1117-1.2	Vin-Vout=1.25V		4	8	mA
		AMS1117-1.25					
		AMS1117-1.5					
		AMS1117-1.8					
		AMS1117-1.9					
		AMS1117-2.5					
		AMS1117-2.85					
		AMS1117-3.3					
		AMS1117-5.0					

■ Marking

Marking	1117-X.X K****
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Low Dropout Linear Regulator

AMS1117-X.X (KMS1117-X.X)

■ Typical Applications

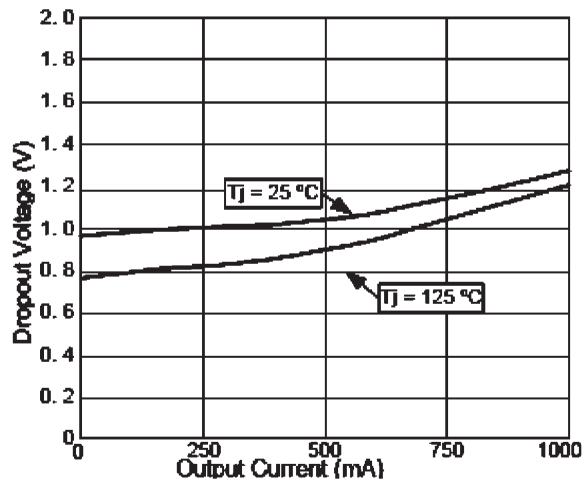


Fig.1 Dropout Voltage vs Output Current

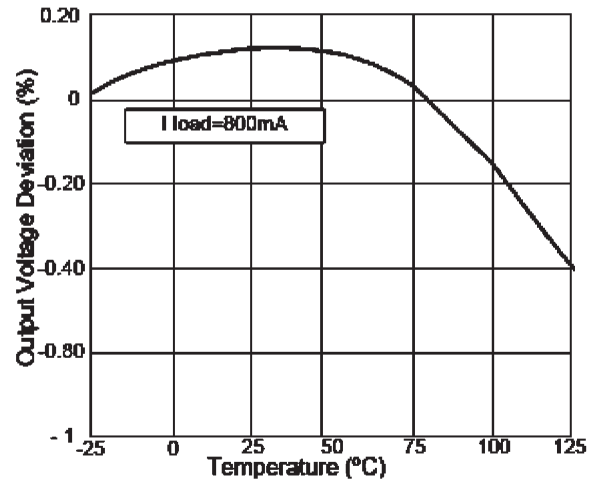


Fig.2 Load Regulation vs Temperature

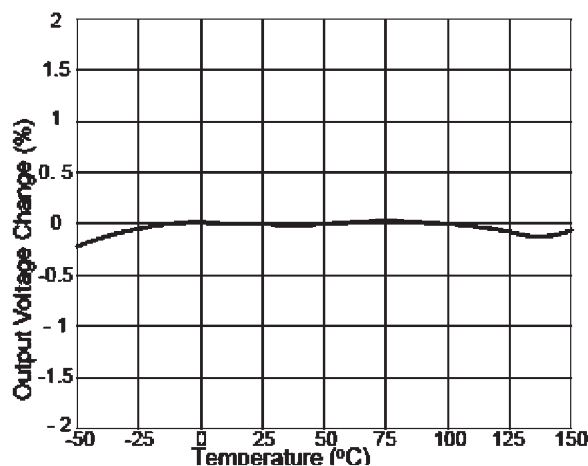


Fig.3 Percent Change in Output Voltage vs Temperature

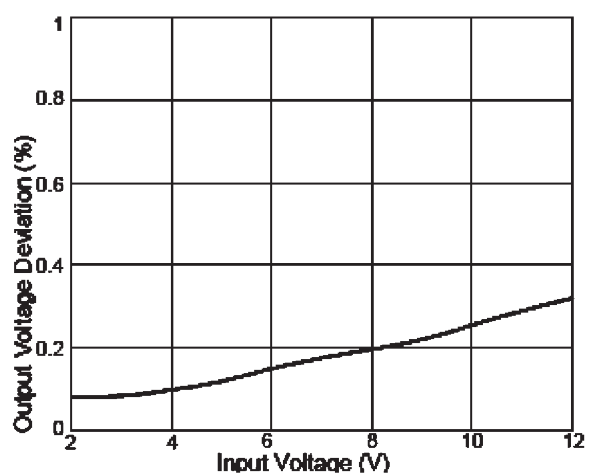


Fig.4 Line Regulation

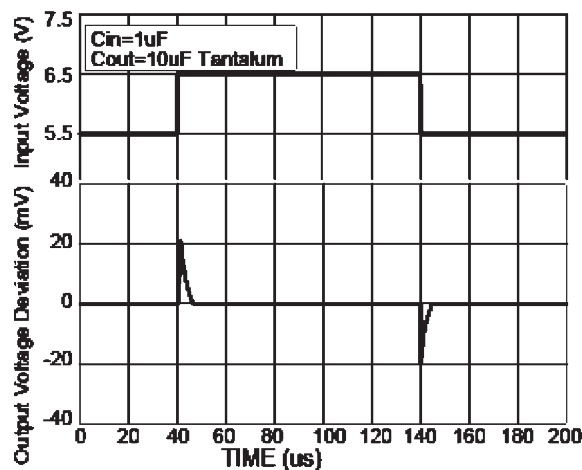


Fig.5 Line Transient Response

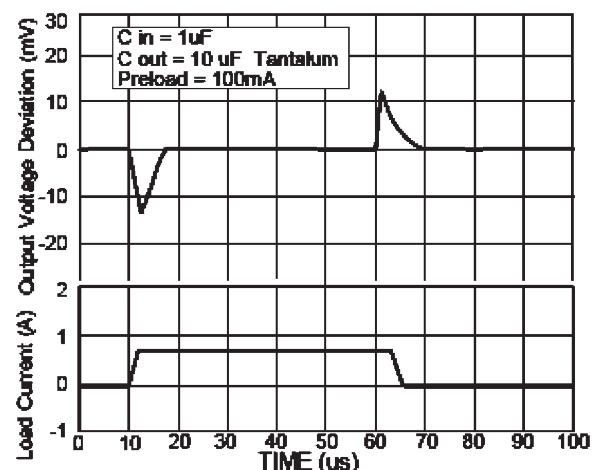


Fig.6 Load Transient Response