

1.2A LOW DROPOUT VOLTAGE REGULATOR

Description

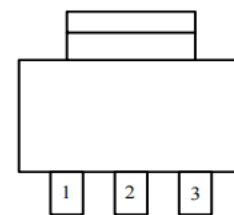
The AMS1117 series of adjustable and fixed voltage regulators are designed to provide 1.2A output current and to operatedown to1V input-to-outputdifferential. The dropoutvoltage of the device is guaranteed maximum 1.3V at maximum output current, decreasing at lower load currents.

Features

Three Terminal Adjustable or Fixed Voltages*
1.5V, 1.8V, 2.5V, 2.85V, 3.3V and 5.0V

- Output Current of 1.2A
- Operates Down to 1V Dropout
- Line Regulation: 0.2% Max. • Load Regulation: 0.4% Max.
- SOT-223

SOT-223 Top View



APPLICATIONS

- High Efficiency Linear Regulators
- Post Regulators for Switching Supplies
- 5V to 3.3V Linear Regulator
- Battery Chargers • Active SCSI Terminators
- Power Management for Notebook
- Battery Powered Instrumentation

ABSOLUTE MAXIMUM RATINGS (Note 1)

Power Dissipation	Internally limited
Input Voltage	15V
Operating Junction Temperature	
Control Section	0°C to 125°C
Power Transistor	0°C to 150°C
Storage temperature	- 65°C to +150°C
Soldering information	
Lead Temperature (25 sec)	265°C
Thermal Resistance	
SOT-223 package	$\phi_{JA} = 90^{\circ}\text{C/W}^*$

* With package soldering to copper area over backside ground plane or internal power plane ϕ_{JA} can vary from 46°C/W to >90°C/W depending on mounting technique and the size of the copper area.

ELECTRICAL CHARACTERISTICS

Electrical Characteristics at $I_{OUT} = 0 \text{ mA}$, and $T_J = +25^\circ\text{C}$ unless otherwise specified.

Parameter	Device	Conditions	Min	Typ	Max	Units
Reference Voltage (Note 2)	AMS1117	$I_{OUT} = 10 \text{ mA}$ $10 \text{ mA} \leq I_{OUT} \leq 1 \text{ A}$, $1.5 \text{ V} \leq (V_{IN} - V_{OUT}) \leq 12 \text{ V}$	1.238	1.250	1.262	V
			1.225	1.250	1.270	V
Output Voltage (Note 2)	AMS1117-1.5	$0 \leq I_{OUT} \leq 1 \text{ A}$, $3.0 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	1.485	1.500	1.515	V
			1.476	1.500	1.524	V
	AMS1117-1.8	$0 \leq I_{OUT} \leq 1 \text{ A}$, $3.3 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	1.782	1.800	1.818	V
			1.773	1.800	1.827	V
	AMS1117-2.5	$0 \leq I_{OUT} \leq 1 \text{ A}$, $4.0 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	2.475	2.500	2.525	V
			2.460	2.500	2.560	V
	AMS1117-2.85	$0 \leq I_{OUT} \leq 1 \text{ A}$, $4.35 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	2.82	2.850	2.88	V
			2.79	2.850	2.91	V
	AMS1117-3.3	$0 \leq I_{OUT} \leq 1 \text{ A}$, $4.75 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	3.267	3.300	3.333	V
			3.235	3.300	3.365	V
	AMS1117-5.0	$0 \leq I_{OUT} \leq 1 \text{ A}$, $6.5 \text{ V} \leq V_{IN} \leq 12 \text{ V}$	4.950	5.000	5.050	V
			4.900	5.000	5.100	V

APPLICATION HINTS

The AMS1117 series of adjustable and fixed regulators are easy to use and are protected against short circuit and thermal overloads. Thermal protection circuitry will shut-down the regulator should the junction temperature exceed 165°C at the sense point.

Pin compatible with older three terminal adjustable regulators, these devices offer the advantage of a lower dropout voltage, more precise reference tolerance and improved reference stability with temperature.

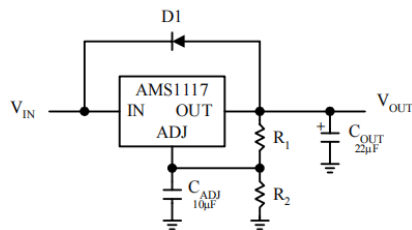
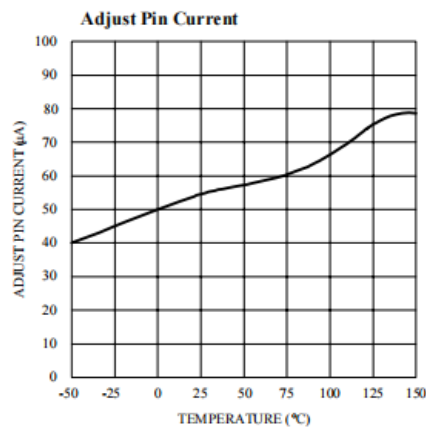
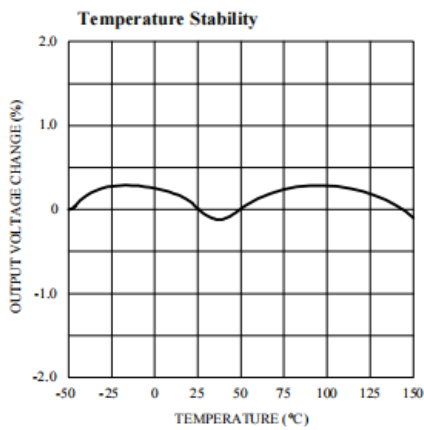
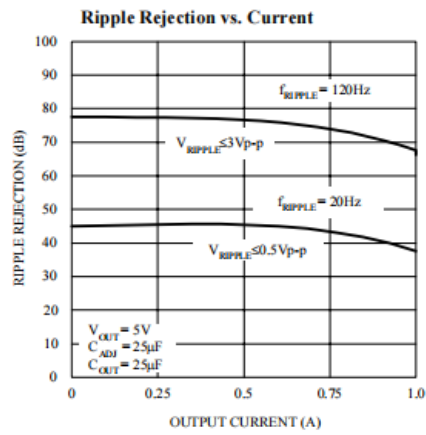
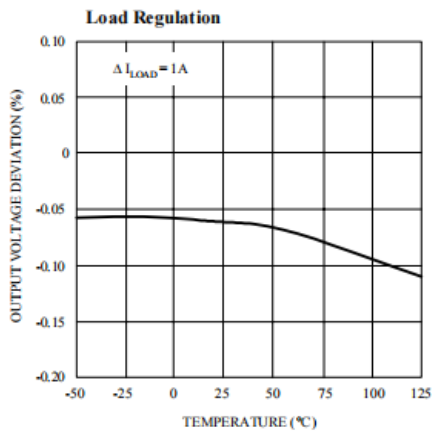
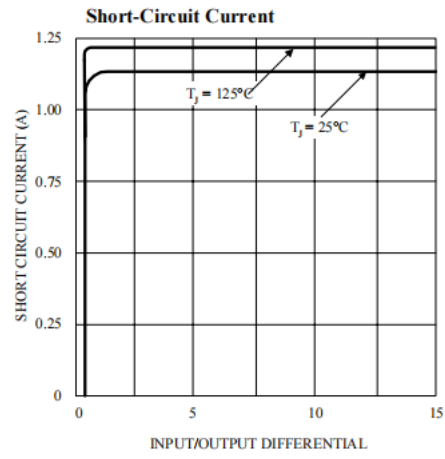
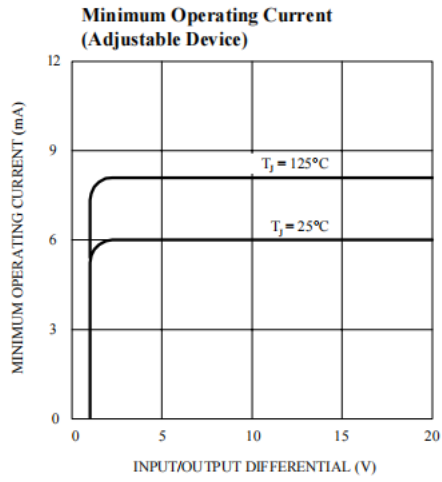


Figure 1.

TYPICAL PERFORMANCE CHARACTERISTICS



PACKAGE DIMENSIONS

3 LEAD SOT-223 PLASTIC PACKAGE

