



ZHEJIANG UNIÜ-NE Technology CO., LTD

浙江宇力微新能源科技有限公司



U1117 Data Sheet

V 1.1

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Features

- Maximum output current is 1.1A
- Range of operation input voltage: Max 18V
- Line regulation: 0.03%/V (typ.)
- Standby current: 1.8mA (typ.)
- Load regulation: 0.2%/A (typ.)
- Environment Temperature: -20°C~85°C

Applications

- Power Management for Computer Mother Board, Graphic Card
- LCD Monitor and LCD TV
- DVD Decode Board
- ADSL Modem
- Post Regulators For Switching Supplies

General Description

U1117 is a series of low dropout three-terminal regulators with a dropout of 1.3V at 1A load current. U1117 features a very low standby current 1.8mA compared to 5mA of competitor.

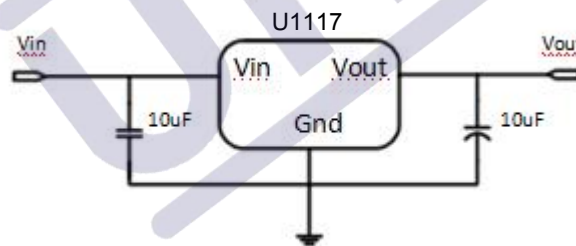
Other than a fixed version, $V_{out} = 1.2V, 1.8V, 2.5V, 2.85V, 3.3V,$ and 5V, U1117 has an adjustable version, which can provide an output voltage from 1.25 to 12V with only

two external resistors.

U1117 offers thermal shut down function, to assure the stability of chip and power system. And it uses trimming technique to guarantee output voltage accuracy within 2%. Other output voltage accuracy can be customized on demand, such as 1%.

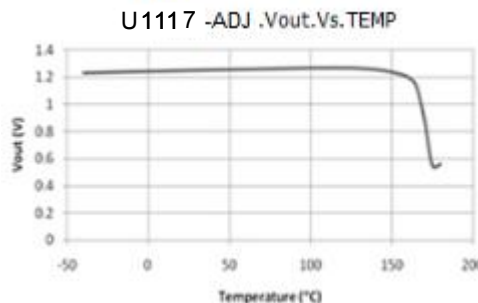
U1117 is available in SOT89 power package.

Typical Application



Application circuit of U1117 fixed version

Typical Electrical Characteristic



Ordering Information

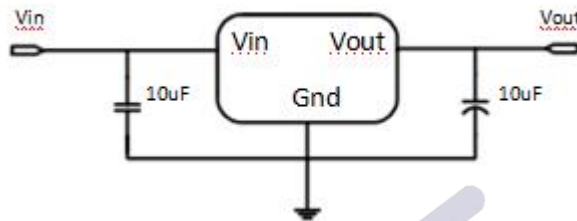
Marking	Designator	Description
7110 XX XXXX	7110	Product code
	XX	Output Voltage 3.3V/5.0V /ADJ
	XXXX	LOT

Note: "XX" stands for output voltages. "XXXX" stands for LOT.

Typical Application

U1117 has an adjustable version and six fixed versions (1.2V, 1.8V, 2.5V, 2.85V, 3.3V and 5V)

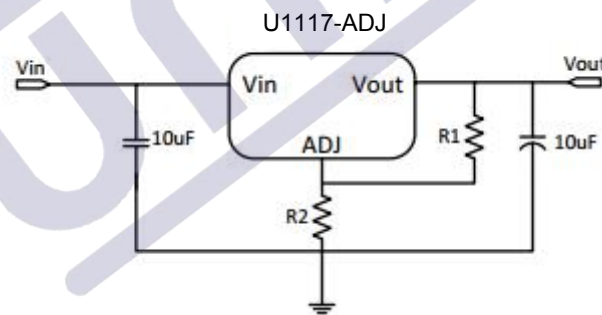
Fixed Output Voltage Version



Application circuit of U1117 fixed version

- 1) Recommend using 10uF tan capacitor as bypass capacitor (C1) for all application circuit.
- 2) Recommend using 10uF tan capacitor to assure circuit stability.

Adjustable Output Voltage Version



Application Circuit of U1117-ADJ

The output voltage of adjustable version follows the equation: $V_{out} = 1.25 \times (1 + R_2/R_1) + I_{Adj} \times R_2$. We can ignore I_{Adj} because I_{Adj} (about 50uA) is much less than the current of R_1 (about 2~10mA).

- 1) To meet the minimum load current (>10mA) requirement, R_1 is recommended to be 125ohm or lower. As U1117-ADJ can keep itself stable at load current about 2mA, R_1 is not allowed to be higher than 625ohm.
- 2) Using a bypass capacitor (C_{ADJ}) between the ADJ pin and ground can improve ripple rejection. This bypass capacitor prevents ripple from being amplified as the output voltage is increased. The impedance of C_{ADJ} should be less than R_1 to prevent ripple from being amplified. As R_1 is normally in the range of 100Ω~500Ω, the value of C_{ADJ} should satisfy this equation: $1/(2\pi \times \text{fripple} \times C_{ADJ}) < R_1$

1.版本记录

DATE	REV.	DESCRIPTION
2018/04/19	1.0	First Release
2021/12/11	1.1	Layout adjustment

2.免责声明

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