

AMS1117

■ Features

1.4V maximum dropout at full load current

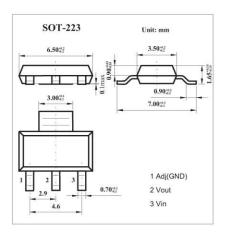
Fast transient response

Output current limiting

Built-in thermal shutdown

Good noise rejection

3-Terminal Adjustable or Fixed 1.5V, 1.8V, 1.9V,2.5V, 3.3V, 5.0V

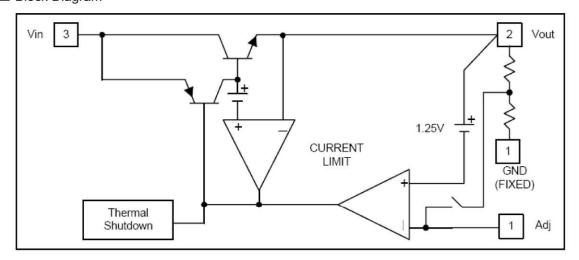


■ Absolute Maximum Ratings Ta = 25°C

| Parameter | Symbol | Rating | Unit | |
|--|--------------------------|--------------------|------|--|
| Maximum Input Voltage | Vin | 18 | V | |
| Power Dissipation | PD | Internally Limited | | |
| Thermal Resistance Junction-to-Ambient | θ ЈА | 117 | °C/W | |
| Thermal Resistance Junction-to-Case * | nction-to-Case * θ JC 15 | | °C/W | |
| Operating Junction Temperature Range | Тор | 0 to +150 | °C | |
| Storage Temperature | Тѕт | -65 to +150 | °C | |

^{*} Control Circuitry/Power Transistor

■ Block Diagram



SHIKE MAKE CONSCIOUS PRODUCT
CONSCIOUS PRODUCTS BEGIN WITH CONSCIOUS PEOPLE
REV.07

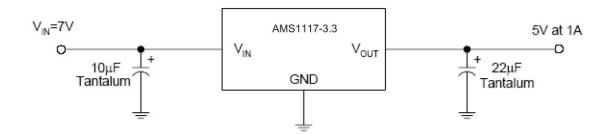


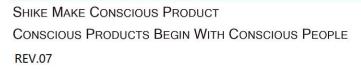


■ Electrical Characteristics Ta = 25°C

| Parameter | | Testconditons | Min | Тур | Max | Unit | |
|----------------------------|-------------|---|-------|-------|-------|------|--|
| Reference Voltage | AMS1117-ADJ | ТJ=25℃,(VIN-ОUТ)=1.5V,Io=10mA | 1.225 | 1.250 | 1.275 | V | |
| Output Voltage | AMS1117-1.5 | IOUT = 10mA, TJ = 25°C, 3V≪VIN≪12V | 1.470 | 1.500 | 1.530 | V | |
| | AMS1117-1.8 | IOUT = 10mA, TJ = 25°C, 3.3V≪VIN≪12V | 1.764 | 1.800 | 1.836 | V | |
| | AMS1117-1.9 | IOUT = 10mA, TJ = 25°C, 3.3V≤VIN≤12V | 1.862 | 1.900 | 1.938 | ٧ | |
| | AMS1117-2.5 | Іо∪т = 10mA, Тл = 25°С, 4V≪Vin≪12V | 2.450 | 2.500 | 2.550 | ٧ | |
| | AMS1117-3.3 | IOUT = 10mA, TJ = 25°C, 4.8V≪VIN≪12V | 3.235 | 3.300 | 3.365 | V | |
| | AMS1117-5.0 | IOUT = 10mA, TJ = 25°C, 6.5V≤VIN≤12V | 4.900 | 5.000 | 5.100 | ٧ | |
| Line Regulation | AMS1117-XXX | Io=10mA,Vouт+1.5V <vin<12v, tj="25℃</td"><td></td><td></td><td>0.2</td><td>%</td></vin<12v,> | | | 0.2 | % | |
| Load Regulation | AMS1117-ADJ | V _{IN} =3.3V,V _{adj} =0,0mA <i₀<1a,tj=25°c< td=""><td></td><td></td><td>1</td><td>%</td></i₀<1a,tj=25°c<> | | | 1 | % | |
| | AMS1117-1.5 | VIN=3V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>12</td><td>15</td><td>mV</td></i₀<1a,tj=25°c<> | | 12 | 15 | mV | |
| | AMS1117-1.8 | VIN=3.3V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>15</td><td>18</td><td>mV</td></i₀<1a,tj=25°c<> | | 15 | 18 | mV | |
| | AMS1117-1.9 | VIN=3.3V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>16</td><td>19</td><td>mV</td></i₀<1a,tj=25°c<> | | 16 | 19 | mV | |
| | AMS1117-2.5 | V _{IN} =4V,0mA <i₀<1a,tj=25°c< td=""><td></td><td>20</td><td>25</td><td>mV</td></i₀<1a,tj=25°c<> | | 20 | 25 | mV | |
| | AMS1117-3.3 | Vin=5V,0mA≤I₀≤1A,TJ=25°C | | 26 | 33 | mV | |
| | AMS1117-5.0 | VIN=8V,0mA≤I₀≤1A,TJ=25°C | | 40 | 50 | mV | |
| Dropout Voltage (VIN-Vouт) | AMS1117-XXX | IOUT = 1A ,△VOUT=0.1%VOUT | | 1.3 | 1.4 | V | |
| Current Limit | AMS1117-XXX | (VIN-VOUT) = 5V | 1.1 | | | Α | |
| Minimum Load Current | AMS1117-XXX | 0°C≤Tj≤125°C | | 5 | 10 | mA | |
| Thermal Regulation | | Ta=25℃, 30ms pulse | | 0.008 | 0.04 | %/W | |
| Ripple Rejection | | F=120Hz,Cout=25uF Tantalum, Iout=1A | | | | | |
| Lybbie izelection | AMS1117-XXX | VIN=VOUT+3V | | 60 | 70 | dB | |
| Temperature Stability | | Io=10mA | | 0.5 | | % | |

Typical Applications







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