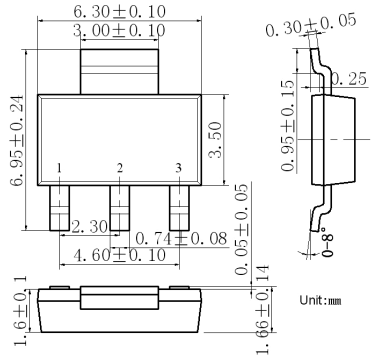
SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOT-223 1A Low Dropout Linear Regulator

A1117-3.3



1. GND
2. Output
3. Input

General Description

The 1117 is a series of low dropout three-terminal regulators with a dropout of 1.15V at 1A output current.

The 1117 series provides current limiting and thermal shutdown. Its circuit includes a trimmed bandgap reference to assure output voltage accuracy to be within 1%. Current limit is trimmed to ensure specified output Current and controlled short-circuit current. On-chip thermal shutdown provides protection against any combination of overload and ambient temperature that would create excessive junction temperature.

Features

- Low Dropout Voltage: 1.15V at 1A Output Current
- Trimmed Current Limit
- On-Chip Thermal Shutdown
- Operation junction Temperature: 0°C to 125°C

Marking: A11173.31407

Applications

- PC Motherboard
- LCD Monitor
- Graphic Card
- DVD-Video player
- NIC/Switch
- Telecom Modem
- ADSL Modem
- Printer and other peripheral Equipment

Maximum Ratings (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_i	Input Voltage	20	V
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	100	°C/W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55~+150	°C
T_L	Lead Temperature (Soldering, 10sec.)	260	°C
V_{ESD}	ESD (Machine Model)	400	V

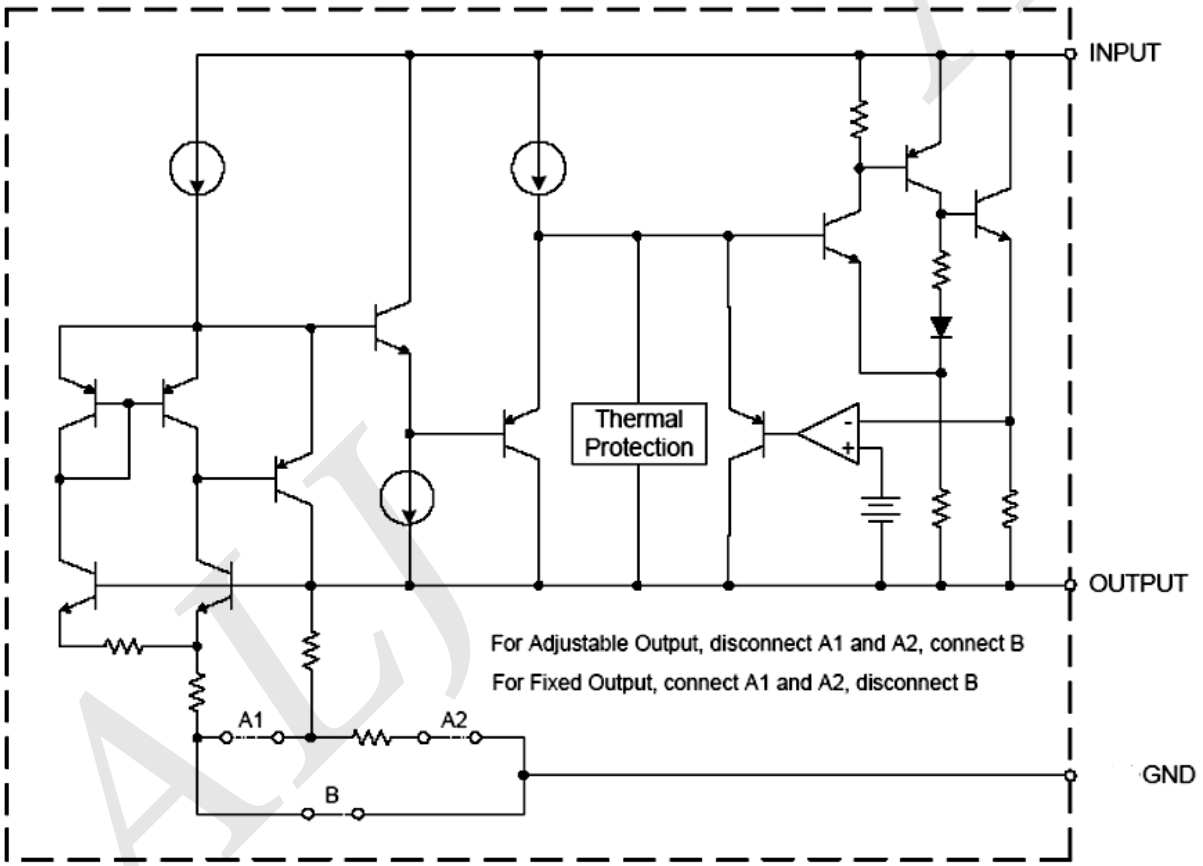
Recommended Operating Conditions

Parameter	Min	Max	Unit
V_{IN}		15	V
Operating Junction Temperature Range	0	125	°C

Electrical Characteristics (Operating Conditions: V_{IN}≤10V, T_J=25°C unless otherwise specified)

Parameter	Conditions	Min	Typ	Max	Unit
Output Voltage	Iout=10mA,V_{IN}=5.3V 10mA ≤Iout≤1A , 4.8V≤V_{IN}≤12V	3.234	3.3	3.366	V
Line Regulation	Iout=10mA, 1.5V≤V_{IN}-Vout≤8.7V			7	mV
Load Regulation	V_{IN}-Vout =1.5V, 10mA≤ Iout≤1A			7	mV
Dropout Voltage	ΔV_{REF}=1%,I_{OUT}=1A			1.3	V
Current Limit	V_{IN}-V_{out} =2V	1.25	1.35		A
Adjust Pin Current			60	120	uA
Adjust Pin Current Change	1.4V≤V_{IN}-Vout≤10V, 10mA≤ Iout≤1A		0.2	5	uA
Quiescent Current	V_{IN}=V_{OUT}+1.25V		5	10	mA
Ripple Rejection	f=120H_Z,C_{out}=22uf Tantalum, V_{IN}-Vout =3V, I_{OUT}=1A	60	75		dB
Temperature Stability			0.5		%
Long-Term Stability	Ta=125°C, 1000hrs		0.3		%
RMS Output Noise (% of V_{OUT})	Ta=25°C, 10HZ≤f≤10KHZ		0.003		%
Thermal Shutdown Hysteresis			25		°C

Functional Block Diagram



Typical Applications