Elektronische Bauelemente

SL1117A-1.2

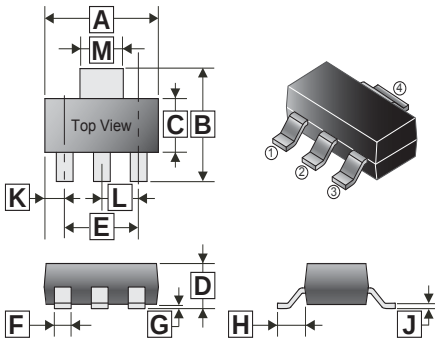
1A Low Dropout Positive Adjustable or Fixed-Mode Regulator

RoHS Compliant Product
A suffix of "-C" specifies halogen free

DESCRIPTION

The SL1117A is a low dropout at positive adjustable or fixed-mode regulator with minimum of 1A output current capability. The product is specifically designed to provide well-regulated supply for low voltage IC applications such as high-speed bus termination and low current 3.3V logic supply. SL1117A is also well suited for other applications such as VGA cards. SL1117A is guaranteed to have lower than 1.4V dropout at full load current making it ideal to provide well-regulated outputs of 1.25 to 5.0 with 6.4V to 12V input supply.

SOT-223



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.30	6.70	G	0.02	0.10
B	6.70	7.30	H	1.50	2.00
C	3.30	3.70	J	0.25	0.35
D	1.42	1.90	K	0.85	1.05
E	4.60 REF.		L	2.30 REF.	
F	0.60	0.80	M	2.90	3.10

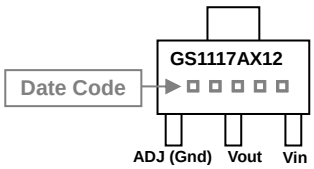
FEATURES

- 1.4Vmaximum dropout full load current
- Fast transient response
- Output current limiting
- Built-in thermal shutdown
- Good noise rejection

APPLICATIONS

- PC peripheral
- Communication

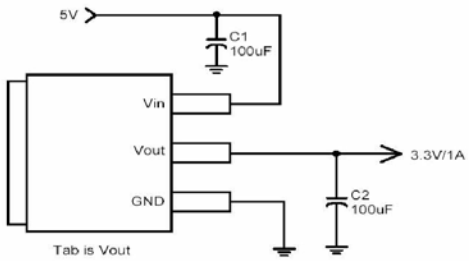
MARKING



PACKAGE INFORMATION

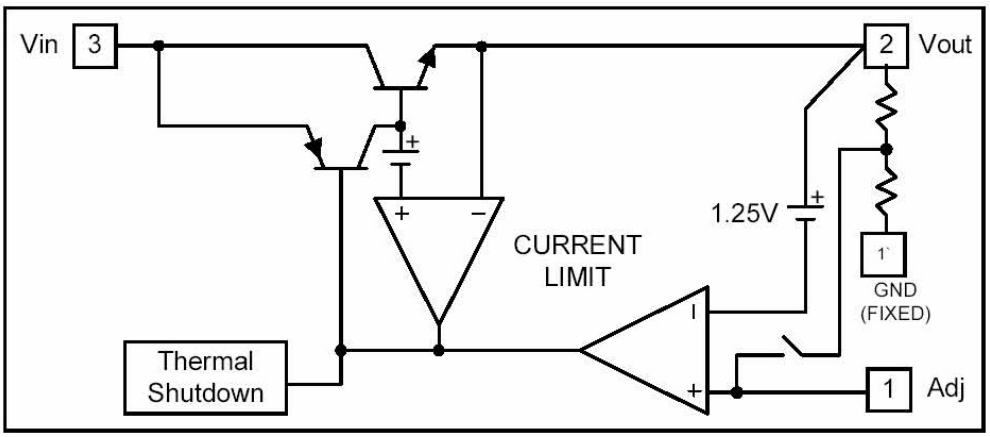
Package	MPQ	Leader Size
SOT-223	2.5K	13' inch

TYPICAL CIRCUIT



(5V/3.3V fixed output)

BLOCK DIAGRAM



PIN DESCRIPTIONS

Name	I/O	Pin#	Description
Adj (Gnd)		1	A resistor divider from this pin to the V_{OUT} pin and ground sets the output voltage (Ground only for fixed mode)
V_{OUT}	O	2	The output pin of regulator. A min. of 10μF capacitor must be connected from this pin to ground to insure stability.
V_{IN}	I	3	The input pin of regulator. Typically a large storage capacitor is connected from this pin to ground to insure that the input voltage does not sag below the min. dropout voltage during the load transient response. This pin must always be 1.3V higher than V_{OUT} in order for the device to regulate properly.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
DC Supply Voltage	Vin	15	V
Power Dissipation (T_A = 25°C)	P_D	850	mW
Operating, Storage Temperature Range	T_{OPR}, T_{STG}	-40~125, -65~150	°C
Lead Temperature (Soldering, 10 sec)	T_{LEAD}	300	°C

ELECTRICAL CHARACTERISTICS

Parameter	Test Conditions	Min.	Typ.	Max	Unit
Output Voltage	V_{IN}=3.7V	1.176	1.2	1.224	V
	V_{IN}=3V, I_{LOAD}=10mA~1A [1]	1.14	1.2	1.248	V
Line Regulation [2]	I_{LOAD}=10mA, 3V≦V_{IN}≦12V [1]	-	10	15	mV
Load Regulation [2]	V_{IN} =3V, 0≦I_{OUT}≦1A	-	8	20	mV
Ground Pin Current	V_{IN} = V_{OUT}+1.5V [1], I_{LOAD} =10mA~1A [1]	-	7	13	mA
Current Limit	V_{IN} – V_{OUT} =1.5V [1]	1	-	-	A
Ripple Rejection [3]	V_{IN}=V_{OUT}+1.5V [1]	60	72	-	dB
Dropout Voltage [2.4]	I_{LOAD} =10mA	-	1	1.15	V
	V_{IN}≧2.65V, I_{LOAD} =1A [1]	-	1.15	1.3	
Temperature Coefficient	V_{IN}= V_{OUT}=1.5V, I_{LOAD} =10mA [1]	-	0.005	-	% / °C
OTP	-	130	150	170	°C
θ_{JA} Thermal Resistance Junction-to-Ambient	-	-	-	135	°C/W
θ_{JC} Thermal Resistance Junction-to-Case	-	-	-	19	°C/W

Note:
1. The denotes the specifications which apply over the full temperature range.
2. Low duty pulse testing with Kelvin connections required.
3. 120Hz input ripple (C_{ADJ} for ADJ=25μF)
4. ΔV_{OUT}, ΔV_{REF}=1%

CHARACTERISTIC CURVES