GL1118

0.8A Low Dropout Positive Adjustable or Fixed-Mode Regulator

Description

The GL1118 is a low dropout at positive adjustable or fixed-mode regulator with minimum of 0.8A 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. GL1118 is also well suited for other applications such as VGA cards. GL1118 is guaranteed to have lower than 1.3V dropout at full load current making it ideal to provide well regulated outputs of 1.25V to 5.0V with up to 12V input supply.

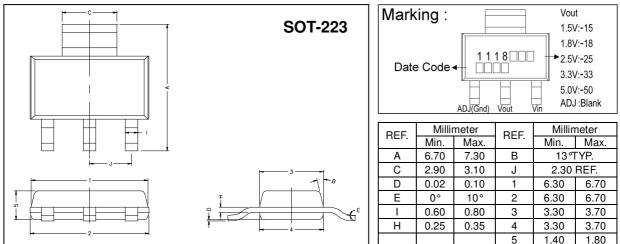
Features

- 1.4Vmaximum dropout 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,2.5V,3.3V,5.0V

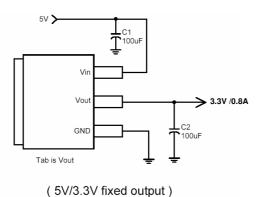
Applications

- PC peripheral
- Communication

Package Dimensions

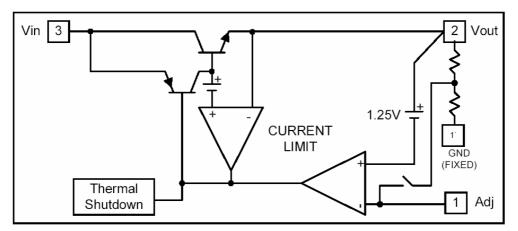


Typical Circuit



5V Tab is Vout V_{o} V_{e} V_{e} $V_$

Block Diagram



Pin Descriptions

Name	I/O	Pin#	Function		
Adj (GND)		1	A resistor divider from this pin to the Vout pin and ground sets the output voltage (Ground only for fixed mode)		
Vout	0	2	The output of the regulator. A minimum of 10uF capacitor ($0.15\Omega \le ESR \le 20\Omega$ must be connected from this pin to ground to insure stability.		
Vin	I	3	The input pin of regulator. Typically a large storage capacitor $(0.15\Omega \le ESR \le 20\Omega)$ is connected from this pin to ground to insure that the input voltage does not sag below the minimum dropout voltage during the load transient response. This pin must always be 1.3V higher than Vout in order for the device to regulate properly.		

Absolute Maximum Ratings

Symbol	Parameter	Ratings	Unit
Vin	DC Supply Voltage	-0.3 to 12	V
Pd	Power Dissipation Internally Limited		
Tst	Storage Temperature	-65 ~ + 150	°C
Тор	Operating Junction Temperature Range	0 ~ + 150	°C

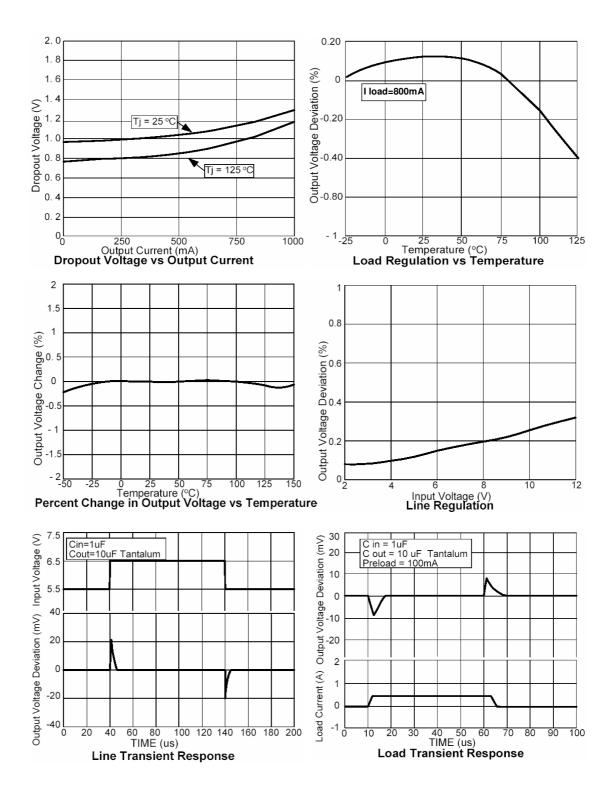
Electrical Characteristics

Parameter		Conditions	Min	Тур	Max	Unit
Reference Voltage	GL1118ADJ	Io=10mA, TJ=25°C, (VIN-VOUT)=1.5V	1.225	1.250	1.275	V
	GL1118-1.5	lo=10mA, TJ=25°C, 3.0V≤ VIN ≤12V	1.470	1.500	1.530	V
	GL1118-1.8	lo=10mA, TJ=25°C, 3.3V≤ Vเℕ ≤12V	1.764	1.800	1.836	V
Output Voltage	GL1118-2.5	lo=10mA, Tj=25℃, 4.0V≤ Vin ≤12V	2.450	2.500	2.550	V
	GL1118-3.3	lo=10mA, TJ=25°C, 4.8V≤ VIN ≤12V	3.235	3.300	3.365	V
	GL1118-5.0	lo=10mA, TJ=25°C, 6.5V≤ Vเℕ ≤12V	4.900	5.000	5.100	V
Line Regulation	GL1118-XXX	Io=10mA, Vout+1.5V< Vin <12V, Tj=25℃	-	-	0.2	%
	GL1118ADJ	VIN=3.3V, Vadj=0, 0mA< lo <0.8A, TJ=25℃ (Note 1,2)	-	-	1	%
	GL1118-1.5	VIN=3.0V, 0mA< lo <0.8A, TJ=25 $^\circ\!\mathrm{C}$ (Note 1,2)	-	12	15	mV
Load Regulation	GL1118-1.8	VIN=3.3V, 0mA< lo <0.8A, TJ=25 $^\circ\!\mathrm{C}$ (Note 1,2)	-	15	18	mV
	GL1118-2.5	VIN=4.0V, 0mA< Io <0.8A, TJ=25°C (Note 1,2)	-	20	25	mV
	GL1118-3.3	VIN=5.0V, 0mA< Io <0.8A, TJ=25°C (Note 1,2)	-	26	33	mV
	GL1118-5.0	VIN=8.0V, 0mA< Io <0.8A, TJ=25°C (Note 1,2)	-	40	50	mV
Dropout Voltage (VIN-VOUT)	GL1118-XXX	Io=0.8A (Δ VOUT =0.1% VOUT)	-	1.2	1.4	v
Current Limit	GL1118-XXX	VIN-VOUT=5V	0.9	-	-	А
Minimum Load Current	Adjustable model	Vin=5V	-	5	10	mA
Adjust Pin Current	Adjustable model	Vin=12V, Io=10mA	-	50	100	uA
Quiescent Current	fixed model	Vin=12V, Io=0mA	-	-	12	mA
Thermal Regulation TA=25℃,30ms pulse		ulse	-	0.008	0.04	%/W
Dinnla Dejection	F=120Hz, Cout=		•			
Ripple Rejection	GL1118-XXX	VIN=VOUT+3V	-	60	70	dB
Temperature Stability	lo=10mA		-	0.5	-	%
θJA Thermal Resistance Junction-to-Ambient(No heat sink ;No air flow)			-	117	-	°C/W
θJc Thermal Resistance Junction-to-Case			-	15	-	°C/W

Note 1: See thermal regulation specifications for changes in output voltage due to heating effects. Line and load regulation are measured at a constant junction temperature by low duty cycle pulse testing. Load regulation is measured at the output lead =1/18" from the package.

Note 2: Line and load regulation are guaranteed up to the maximum power dissipation of 3W. Power dissipation is determined by the difference between input and output and the output current. Guaranteed maximum power dissipation will not be available over the full input/output range.

Characteristics Curve



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