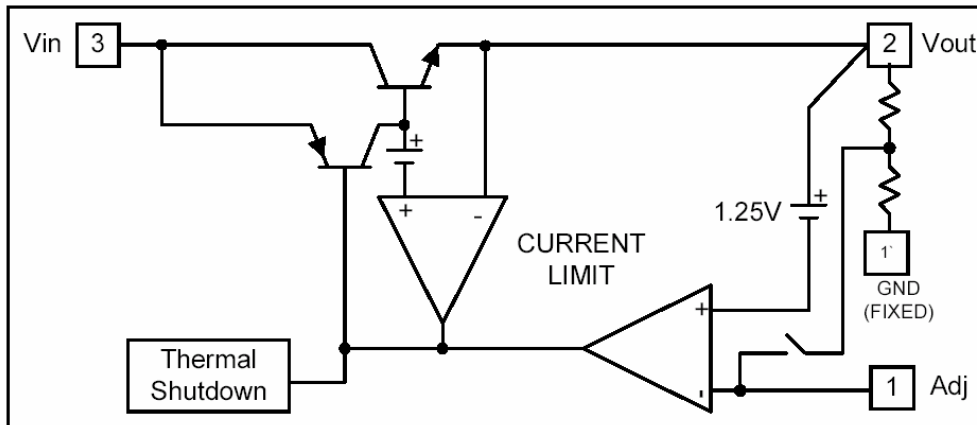




## Block Diagram



## 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	O	2	The output of the regulator. A minimum of 10uF capacitor ( $0.15\Omega \leq ESR \leq 20\Omega$ ) must be connected from this pin to ground to insure stability.
Vin	I	3	The input pin of regulator. Typically a large storage capacitor ( $0.15\Omega \leq ESR \leq 20\Omega$ ) 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
TOP	Operating Junction Temperature Range	0 ~ + 150	°C

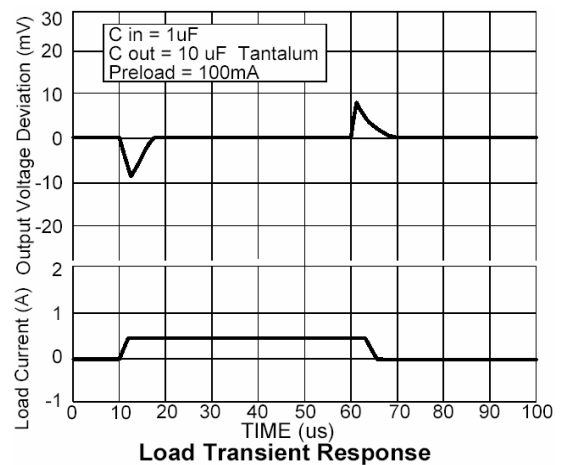
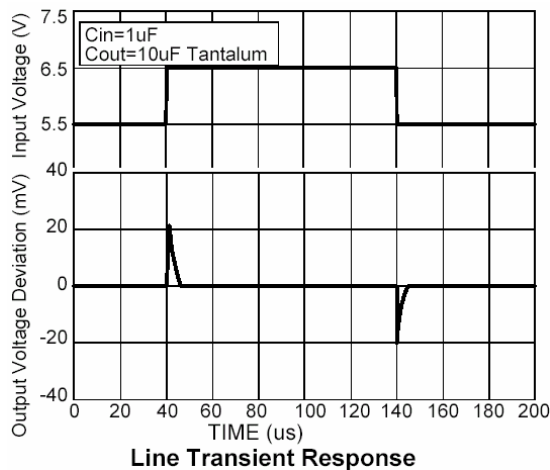
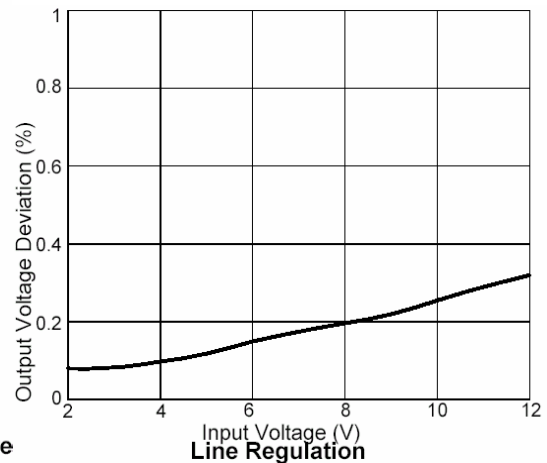
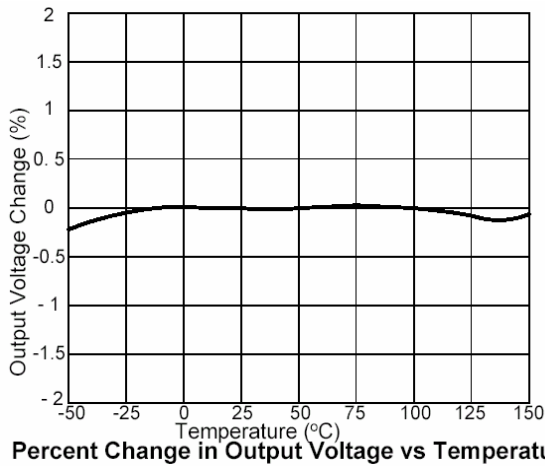
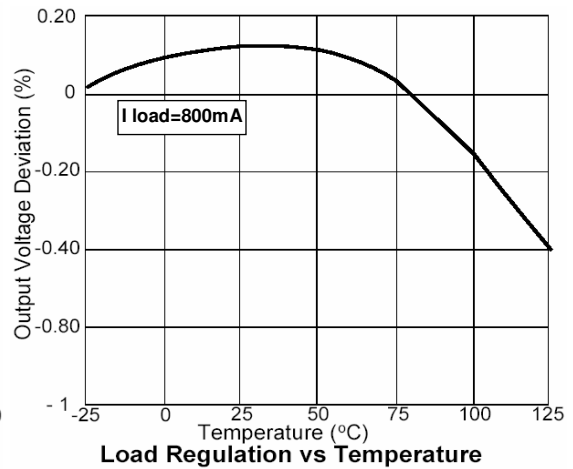
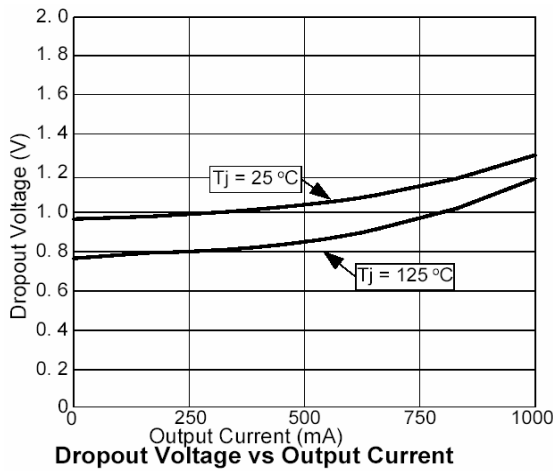
## Electrical Characteristics

Parameter	Conditions		Min	Typ	Max	Unit
Reference Voltage	GL1118ADJ	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $(V_{IN}-V_{OUT})=1.5\text{V}$	1.225	1.250	1.275	V
Output Voltage	GL1118-1.5	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $3.0\text{V} \leq V_{IN} \leq 12\text{V}$	1.470	1.500	1.530	V
	GL1118-1.8	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $3.3\text{V} \leq V_{IN} \leq 12\text{V}$	1.764	1.800	1.836	V
	GL1118-2.5	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $4.0\text{V} \leq V_{IN} \leq 12\text{V}$	2.450	2.500	2.550	V
	GL1118-3.3	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $4.8\text{V} \leq V_{IN} \leq 12\text{V}$	3.235	3.300	3.365	V
	GL1118-5.0	$I_o=10\text{mA}$ , $T_J=25^\circ\text{C}$ , $6.5\text{V} \leq V_{IN} \leq 12\text{V}$	4.900	5.000	5.100	V
Line Regulation	GL1118-XXX	$I_o=10\text{mA}$ , $V_{OUT}+1.5\text{V} < V_{IN} < 12\text{V}$ , $T_J=25^\circ\text{C}$	-	-	0.2	%
Load Regulation	GL1118ADJ	$V_{IN}=3.3\text{V}$ , $V_{adj}=0$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	-	1	%
	GL1118-1.5	$V_{IN}=3.0\text{V}$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	12	15	mV
	GL1118-1.8	$V_{IN}=3.3\text{V}$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	15	18	mV
	GL1118-2.5	$V_{IN}=4.0\text{V}$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	20	25	mV
	GL1118-3.3	$V_{IN}=5.0\text{V}$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	26	33	mV
	GL1118-5.0	$V_{IN}=8.0\text{V}$ , $0\text{mA} < I_o < 0.8\text{A}$ , $T_J=25^\circ\text{C}$ (Note 1,2)	-	40	50	mV
Dropout Voltage ( $V_{IN}-V_{OUT}$ )	GL1118-XXX	$I_o=0.8\text{A}$ ( $\Delta V_{OUT}=0.1\% V_{OUT}$ )	-	1.2	1.4	V
Current Limit	GL1118-XXX	$V_{IN}-V_{OUT}=5\text{V}$	0.9	-	-	A
Minimum Load Current	Adjustable model	$V_{in}=5\text{V}$	-	5	10	mA
Adjust Pin Current	Adjustable model	$V_{in}=12\text{V}$ , $I_o=10\text{mA}$	-	50	100	$\mu\text{A}$
Quiescent Current	fixed model	$V_{in}=12\text{V}$ , $I_o=0\text{mA}$	-	-	12	mA
Thermal Regulation	$T_A=25^\circ\text{C}$ , 30ms pulse		-	0.008	0.04	%/W
Ripple Rejection	$F=120\text{Hz}$ , $C_{OUT}=25\mu\text{F}$ Tantalum, $I_{OUT}=0.8\text{A}$					
	GL1118-XXX	$V_{IN}=V_{OUT}+3\text{V}$	-	60	70	dB
Temperature Stability	$I_o=10\text{mA}$		-	0.5	-	%
$\theta_{JA}$ Thermal Resistance Junction-to-Ambient(No heat sink ;No air flow)			-	117	-	$^\circ\text{C}/\text{W}$
$\theta_{JC}$ Thermal Resistance Junction-to-Case	Control Circuitry/Power Transistor		-	15	-	$^\circ\text{C}/\text{W}$

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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