

# GS1085LDF

## 3A Low Dropout Voltage Regulator

### Product Description

The GS1085LDF is a low drop voltage regulator able to provide up to 3A output current. The dropout voltage of the device is 1.3V typical at the maximum output current, decreasing at lower loads.

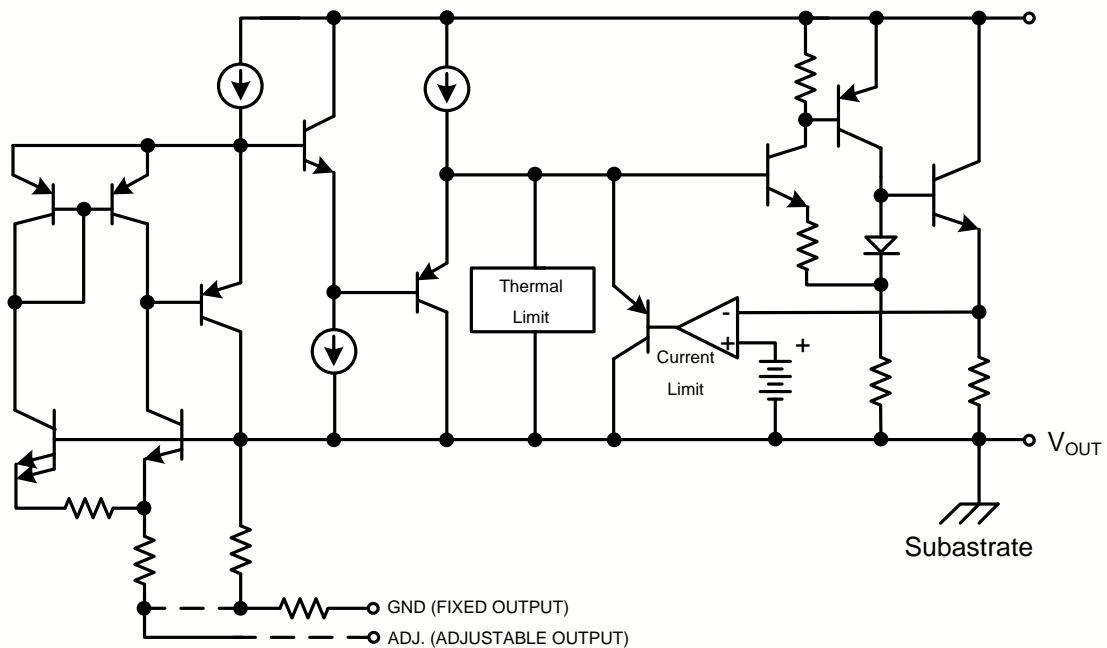
### Features

- Adjustable with 1.25V reference voltage
- Output current 3A
- Typical dropout 1.3V (at 3A)
- Output accuracy is  $\pm 2\%$  at 25 °C
- Package TO-252-2L
- RoHS Compliant and Halogen Free

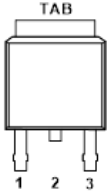
### Applications

- Post Regulators for Switching Supply
- Low Voltage Logic Supplies
- High efficiency linear regulators
- Adjustable power supply

### Block Diagram



## Packages & Pin Assignments

TO-252-2L	Pin Name	Function
	1	ADJ
	2, Tab	V <sub>OUT</sub>
	3	V <sub>IN</sub>

## Ordering and Marking Information

Ordering Information			
Part Number	Package	Marking	PCS/Reel
GS1085LDF	TO-252-2L	GS1085□□□ □□□□□	2,500
<p>GS1085L <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">2</span></p> <p><b>Product Code:</b> GS1085L      <b>Package Code:</b> <span style="border: 1px solid black; padding: 0 2px;">1</span> is D for TO-252-2L package.      <b>Green Level:</b> - <span style="border: 1px solid black; padding: 0 2px;">2</span> is F stands for RoHS Compliant and Halogen Free</p>			
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<p>GS1085 <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">2</span>  <span style="border: 1px solid black; padding: 0 2px;">3</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span></p> <p><b>Product Code:</b> - GS1085      <b>Specific Code:</b> - <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">1</span> is CL or L      <b>Package Code:</b> - <span style="border: 1px solid black; padding: 0 2px;">2</span> is D for TO-252-2L package.</p> <p><b>Green Level:</b> <span style="border: 1px solid black; padding: 0 2px;">3</span> is F stands for RoHS Compliant and Halogen Free      <b>GS Code:</b> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">4</span> is GS Code</p>			

## Absolute Maximum Ratings (T<sub>A</sub>=25°C, unless otherwise specified)

Symbol	Parameter	Maximum Ratings	Units
V <sub>IN</sub>	Input Voltage	15	V
P <sub>D</sub>	Internal Power Dissipation	1.2	W
R <sub>θJC</sub>	Thermal Resistance (Junction to Case)	5	°C/W
R <sub>θJA</sub>	Thermal Resistance (Junction to Ambient)	104	°C/W
T <sub>J</sub>	Junction Temperature	125	°C
T <sub>STG</sub>	Storage Range	-40 to 150	°C
T <sub>LEAD</sub>	Lead Temperature ( Soldering 10sec)	260	°C

### Note:

Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

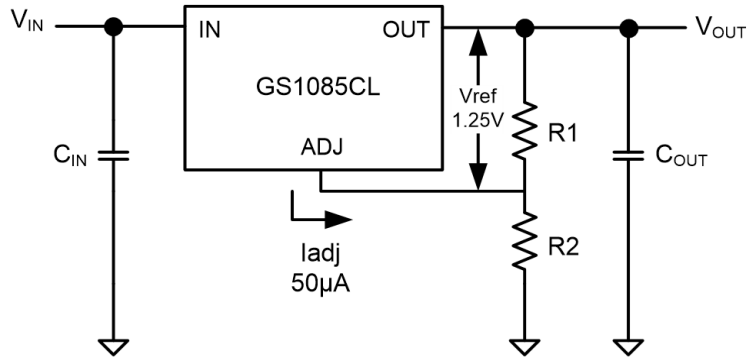
## Electrical Characteristics (T<sub>A</sub>=25°C, unless otherwise specified)

Parameter	Conditions	Min	Typ	Max	Units
Reference Voltage	V <sub>IN</sub> =2.75V , I <sub>o</sub> =10mA	1.238	1.25	1.263	V
	V <sub>IN</sub> =2.7 to 7V , I <sub>o</sub> =10mA to 3A	1.225	-	1.275	
Dropout Voltage	ΔV <sub>REF</sub> = 1%, I <sub>OUT</sub> = 3A	-	1.3	1.45	V
Line Regulation	(V <sub>o</sub> +1.5V) ≤ V <sub>IN</sub> ≤ 7V I <sub>o</sub> =10mA	-	0.04	0.2	%
Load Regulation	V <sub>IN</sub> =V <sub>o</sub> +3.0V , I <sub>o</sub> =0mA to 3A	-	0.08	0.4	%
Current Limit	V <sub>IN</sub> =V <sub>o</sub> +2.0V ,	3	5	-	A
Minimum Load Current	(V <sub>o</sub> +1.5V) ≤ V <sub>IN</sub> ≤ 7V	-	5	10	mA
Ripple Rejection	(V <sub>IN</sub> -V <sub>OUT</sub> ) = 3V I <sub>OUT</sub> = 3A C <sub>OUT</sub> = 25μF, C <sub>ADJ</sub> =25μF	60	72	-	dB
Adjust Pin Current		-	50	120	μA

### Note

For the adjustable device the minimum load current is the minimum current required to maintain regulation. Normally the current in the resistor divider used to set the output voltage is selected to meet the minimum load current requirement.

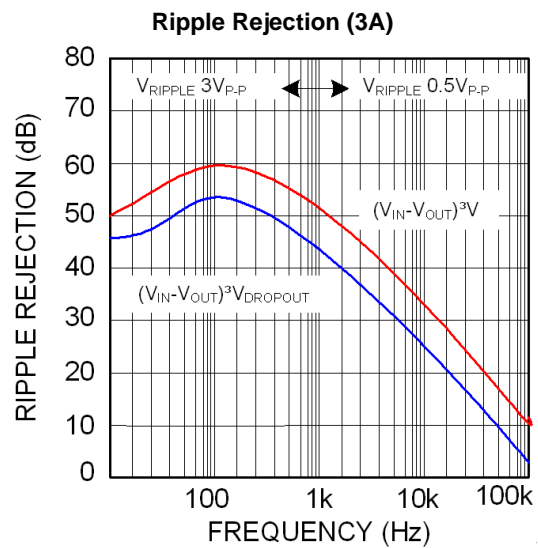
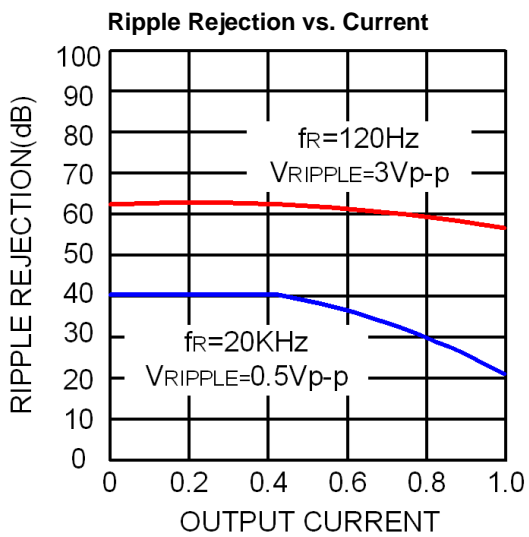
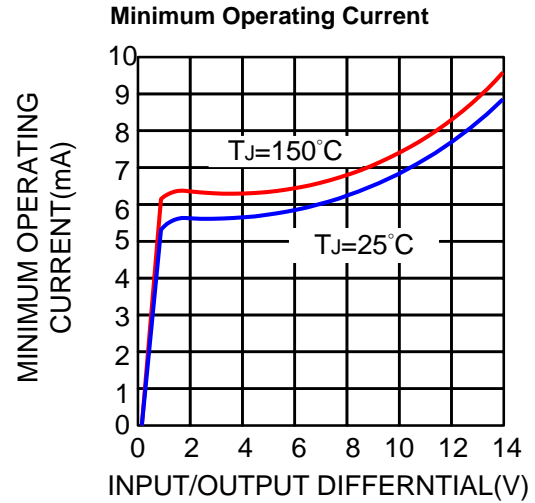
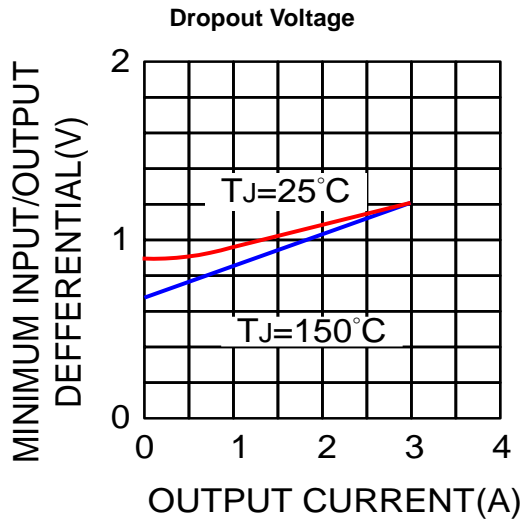
## Typical Applications



$$V_{OUT} = V_{REF} (1 + R2/R1) + I_{ADJ}R2$$

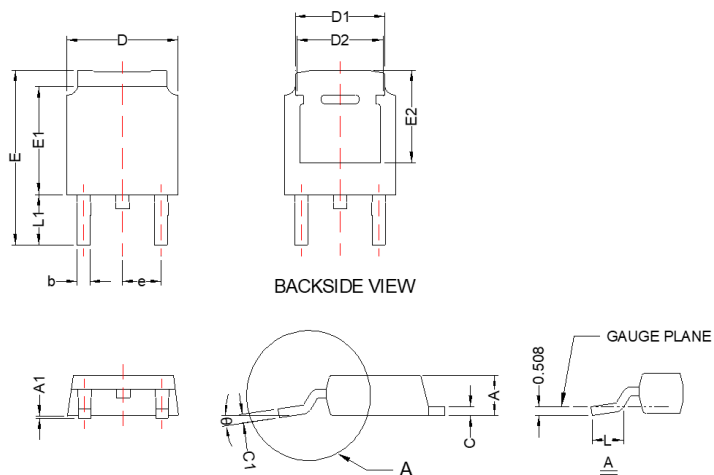
Adjustable Voltage Regulator

## Typical Performance Characteristics

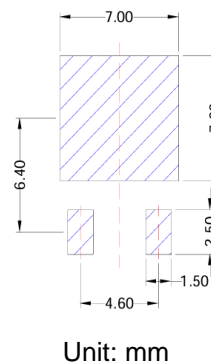


# TO-252-2L

## Package Dimension



## Recommended Land Pattern



## Dimensions

Symbol	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.18	2.40	0.086	0.094
A1	0.00	0.15	0.000	0.006
b	0.64	0.90	0.025	0.035
c	0.40	0.89	0.016	0.035
c1	0.40	0.61	0.016	0.024
D	6.35	6.73	0.250	0.265
D1	4.95	5.46	0.195	0.215
D2	4.32	---	0.170	---
E	9.40	10.41	0.370	0.410
E1	5.97	6.22	0.235	0.245
E2	4.95	---	0.195	---
e	2.286 BSC		0.090 BSC	
L	1.40	1.77	0.055	0.070
L1	2.67	3.07	0.105	0.121
$\theta$	0°	8°	0°	8°





**NOTE:**



Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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