

GS1085 Series

3A Linear Regulator

Product Description

The GS1085, a linear voltage regulator, can provide up to 3A output current. The dropout voltage of the device is 1.3V typically at the maximum output current, decreasing at lower loads.

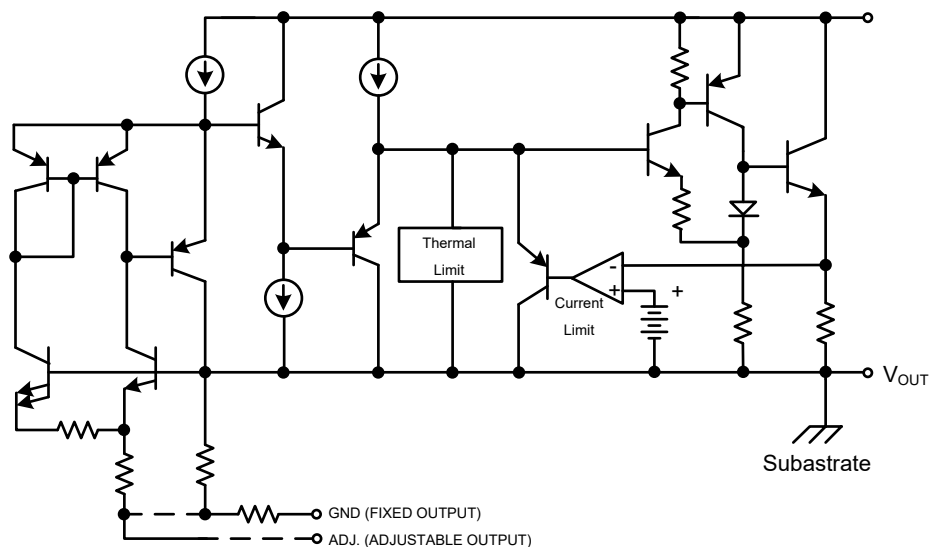
Features

- 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 and SOT-223
- RoHS Compliant and Halogen Free.

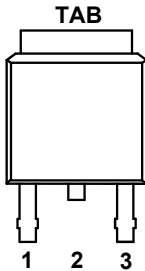
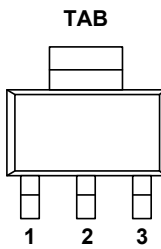
Applications

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

Block Diagram



Packages & Pin Assignments

TO-252-2L		SOT-223	
			
Pin	Description	Pin	Description
1	ADJ	1	ADJ
2	V _{OUT}	2	V _{OUT}
3	V _{IN}	3	V _{IN}
TAB	V _{OUT}	TAB	V _{OUT}

Ordering and Marking Information

Ordering Information			
Part Number	Package	Marking	PCS/Reel
GS1085CLDF	TO-252-2L	GS1085CLD F□□□□	2,500
GS1085LXF	SOT-223	GS1085LX F□□□□	2,500
GS1085 1 2 Product Code: GS1085			
Package Code: 1 is CLD or LX - CLD for TO-252-2L package. - LX for SOT-223 package.			
Green Level: - 2 is F stands for RoHS Compliant and Halogen Free			
Marking Information			
GS1085 1 1 1 2 3 3 3			
Product Code: - GS1085			
Package Code: - 1 1 1 is CLD or LX			
Green Level: - 2 is F stands for RoHS Compliant and Halogen Free.			
GS Code: 3 3 3 3 is GS Code			

Absolute Maximum Ratings ¹ (T_A=25°C, unless otherwise specified)

Symbol	Parameter	Rating	Units
V _{IN}	Supply Voltage	15	V
P _D	Maximum Power Dissipation (T _A =25 °C)	TO-252-2L	1.2
		SOT-223	0.9
R _{θJC}	Thermal Resistance, Junction to Case	TO-252-2L	5
		SOT-223	8
R _{θJA}	Thermal Resistance, Junction to Ambient	TO-252-2L	104
		SOT-223	138
T _J	Operating Junction Temperature	-25 - 125	°C
T _{STG}	Storage Temperature Range	-40 - 150	°C
T _{LEAD}	Lead Temperature (Soldering 10sec)	260	°C

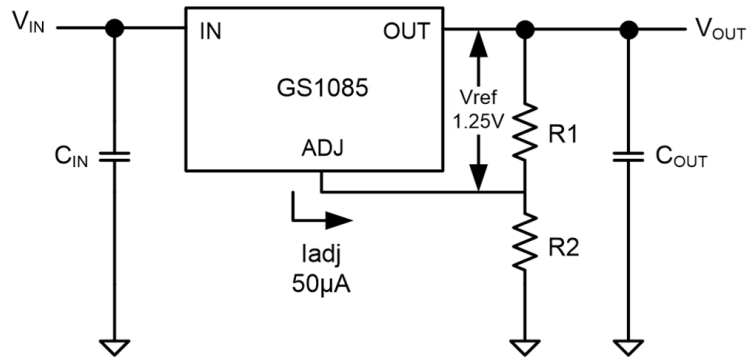
NOTE:

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_A =25°C, unless otherwise specified.)

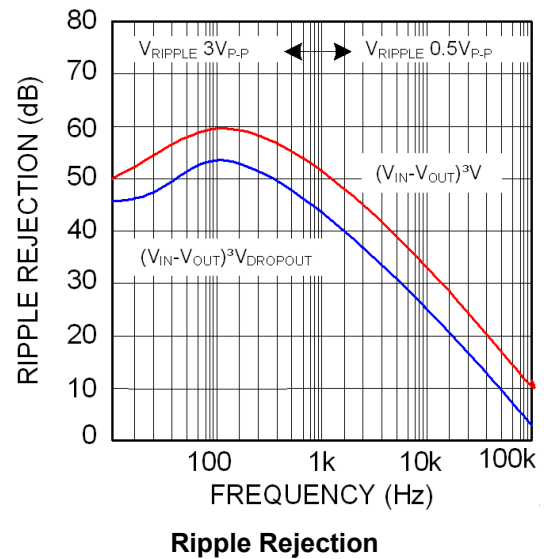
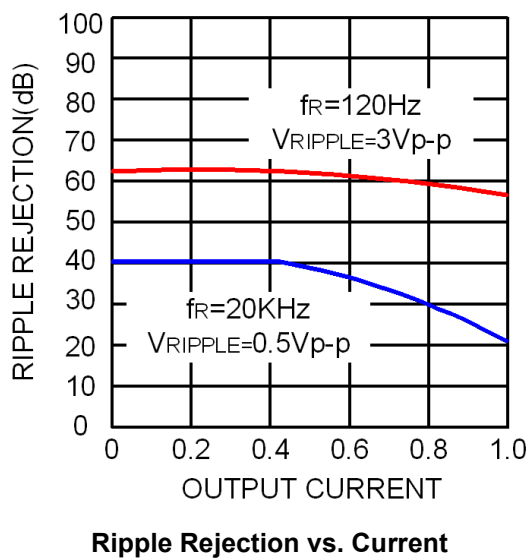
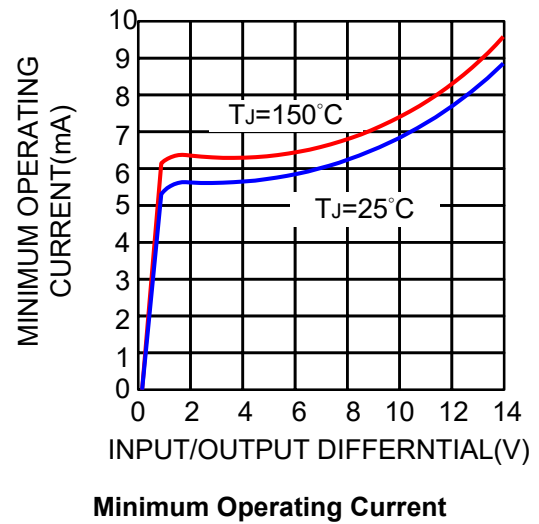
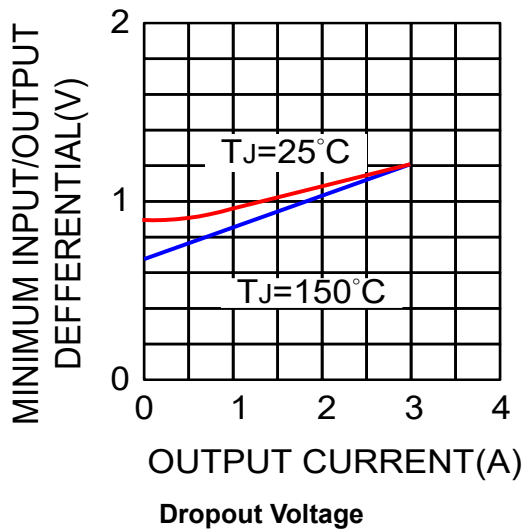
Parameter	Conditions	Min	Typ	Max	Units
Reference Voltage	V _{IN} =2.75V , I _{OUT} =10mA	1.237	1.25	1.263	V
	V _{IN} =2.7 to 7V , I _o =10mA to 3A	1.225	-	1.275	
Dropout Voltage	ΔV _{REF} = 1%, I _{OUT} = 3A	-	1.3	1.45	V
Line Regulation	(V _{OUT} +1.5V) ≤ V _{IN} ≤ 7V I _{OUT} =10mA	-	0.5	2	%
Load Regulation	V _{IN} =V _{OUT} +3.0V, I _{OUT} =10mA to 3A	-	0.5	2.5	%
Current Limit	V _{IN} - V _{OUT} = 2.0V ,	4	5	-	A
Minimum Load Current	(V _o +1.5V) ≤ V _{IN} ≤ 7V	-	10	-	mA
Ripple Rejection	V _{IN} = 5V, I _{OUT} = 3A f = 120Hz, C _{ADJ} =22μF	60	72	-	dB
Adjust Pin Current		-	50	100	μA

Typical Applications



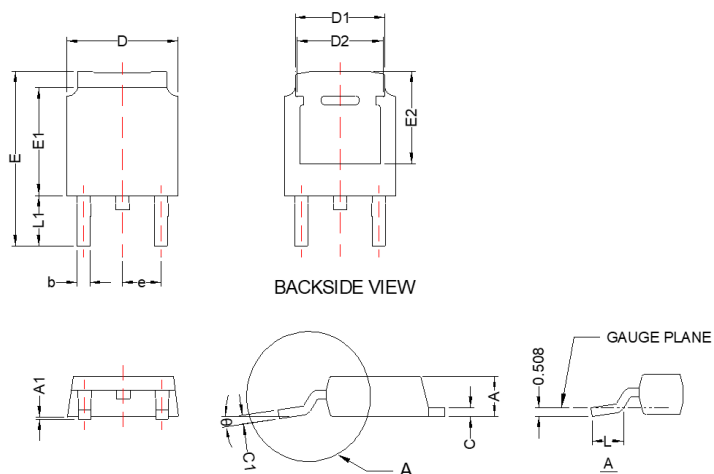
$$V_{OUT} = V_{REF} (1 + R2/R1) + I_{ADJ} R2$$

Performance Characteristics (T_A = 25°C, unless otherwise specified.)

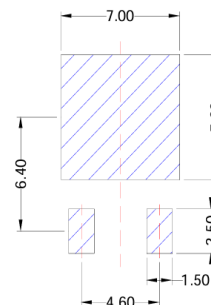


TO-252-2L

Package Dimension



Recommended Land Pattern



Unit: mm

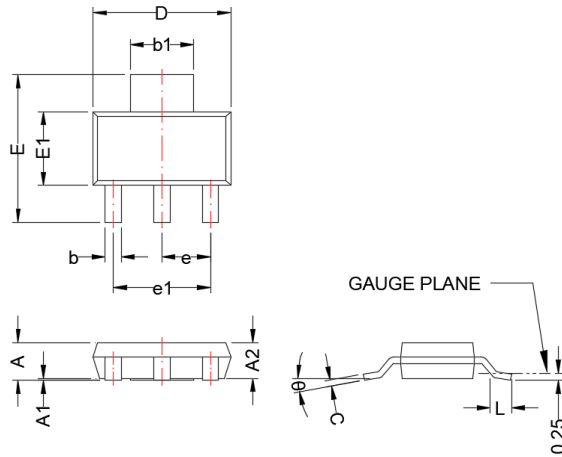
Dimensions				
Symbol	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.18	2.40	0.086	0.094
A1	0.00	0.15	0.000	0.006
b	0.64	0.90	0.025	0.035
c	0.40	0.89	0.016	0.035
c1	0.40	0.61	0.016	0.024
D	6.35	6.73	0.250	0.265
D1	4.95	5.46	0.195	0.215
D2	4.32	---	0.170	---
E	9.40	10.41	0.370	0.410
E1	5.97	6.22	0.235	0.245
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
θ	0°	8°	0°	8°

NOTE:

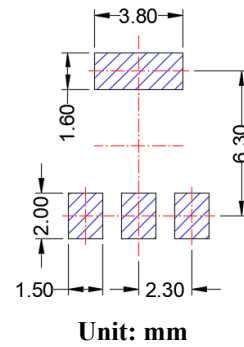
Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

SOT-223

Package Dimension



Recommended Land Pattern



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	1.50	1.80	0.059	0.071
A1	0.00	0.12	0.000	0.005
A2	1.45	1.75	0.057	0.069
b	0.60	0.84	0.024	0.033
b1	2.90	3.10	0.114	0.122
c	0.23	0.35	0.009	0.014
D	6.20	6.70	0.244	0.264
E	6.70	7.30	0.264	0.287
E1	3.30	3.70	0.130	0.146
e	2.30 BSC		0.091 BSC	
e1	4.60 BSC		0.181 BSC	
L	0.75	---	0.030	---
θ	0°	10°	0°	10°

NOTE:

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

NOTICE

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CONTACT US

GS Headquarter	
	4F, NO.43-1, Lane 11, Sec. 6, Minquan E. Rd Neihu District, Taipei City 114761, Taiwan (R.O.C).
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

RD Division	
	824 Bolton Drive Milpitas. CA. 95035
	1-408-457-0587