

# GS5333Y

## High Input Voltage / Low Quiescent Current / Fixed 3.3V Low Dropout Voltage Linear Regulator

### Product Description

The GS5333 is a High Input Voltage and Low Quiescent Current linear regulator with Fixed 3.3V Output Voltage.

The GS5333 includes a voltage reference unit, an error amplifier, resistor net for voltage setting, a current limit circuit. These ICs perform with low dropout voltage.

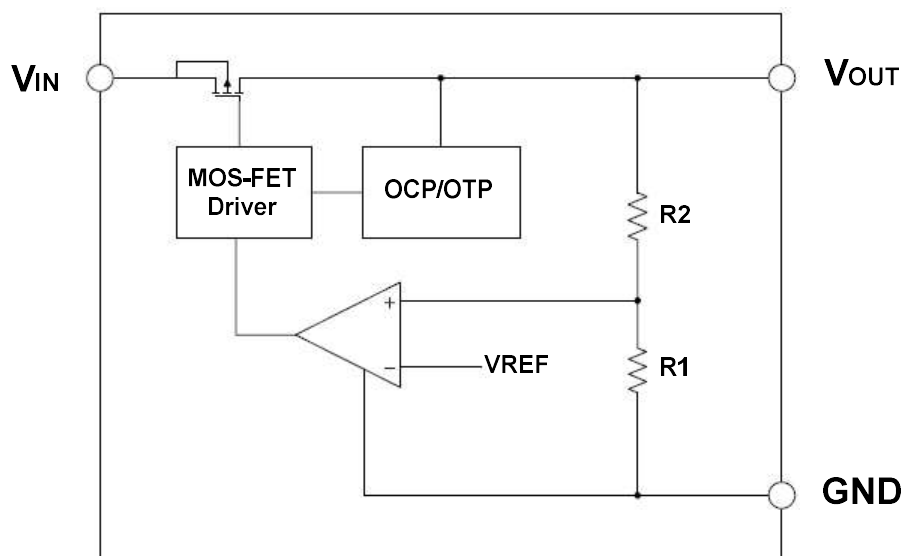
### Features

- Input Voltage Range: 4.3V to 35V
- Output Current: 200mA
- Low Dropout Voltage:
  - 600mV at 200mA
  - 300mV at 100mA
  - 30mV at 10mA
- Output Voltage Accuracy:  $\pm 2.0\%$
- Low Supply Current: 1 $\mu$ A (Typ)
- Over Current Protection
- Fixed Output Voltage: 3.3V
- Miniature Packages: SOT89-3
- RoHS Compliant, 100%Pb & Halogen Free

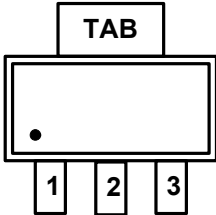
### Applications

- Standby Power Source
- Networking
- Home Appliance
- MCU Application

### Block Diagram



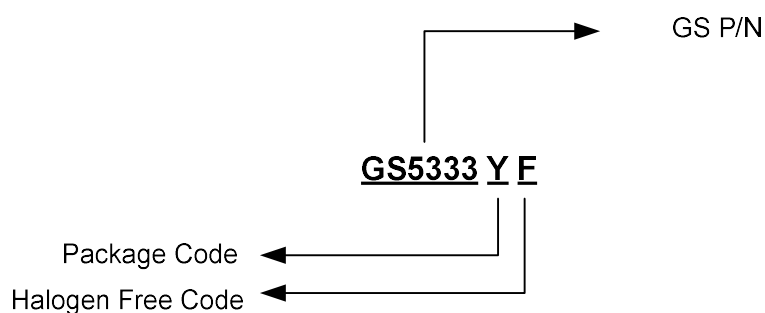
## Packages & Pin Assignments



SOT89-3

Pin No.	Pin Name	Function
1	GND	Ground Pin.
2	V <sub>IN</sub>	Power Supply Input.
3	V <sub>OUT</sub>	The pin is the power output of the device.
TAB	V <sub>IN</sub>	Power Supply Input.

## Ordering Information



## Absolute Maximum Ratings

Symbol	Parameter	Maximum		Unit
V <sub>IN</sub>	Input Voltage	40		V
T <sub>J</sub>	Maximum Operating Junction Temperature	150		°C
T <sub>STG</sub>	Storage temperature Range	-40 to 150		°C
θ <sub>JA</sub>	Thermal Resistance Junction to Ambient	SOT-89	175	°C/W
P <sub>D</sub>	Power Dissipation	SOT-89	0.65	W

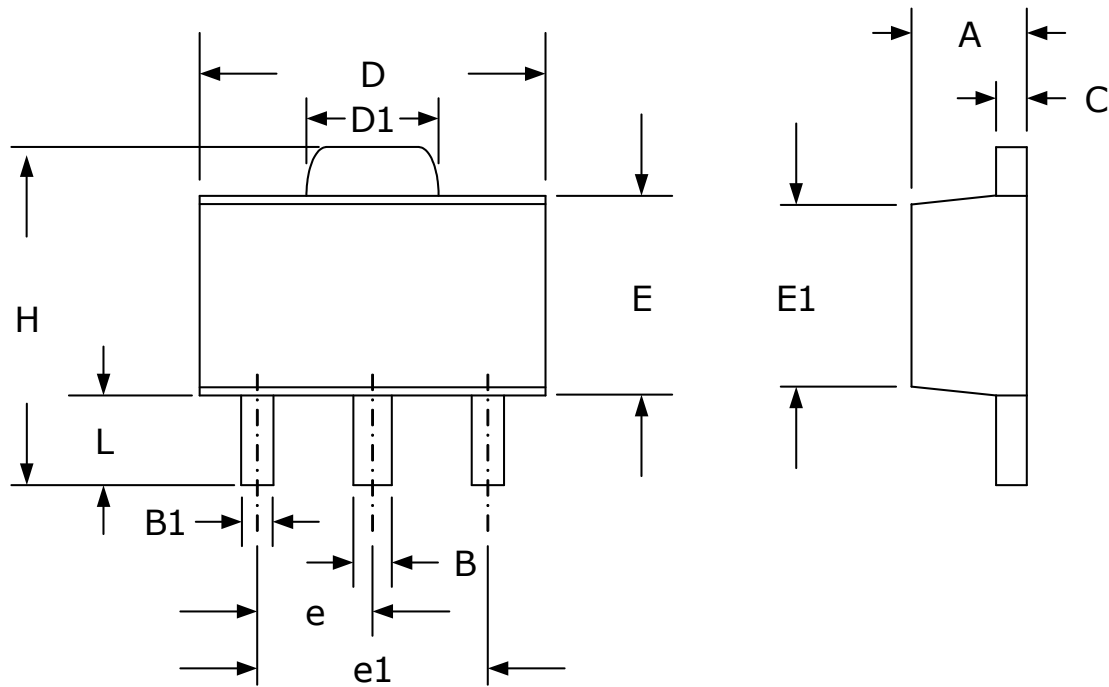
Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operation sections of the specifications is not implied. Exposure to Absolute Maximum Ratings conditions for extended periods may affect device reliability.

## Electrical Characteristics

$I_{OUT}=0mA$ , and  $T_J=+25\text{ }^\circ\text{C}$  unless otherwise specified.

Symbol	Parameter	Conditions	MIN	TYP	MAX	Unit
$V_{IN}$	Input Voltage		4.3	-	36	V
$I_{GND}$	Supply Current	$I_{LOAD} = 0mA$	-	1.0	-	$\mu A$
$V_{OUT}$	Output Voltage	$I_{LOAD} = 10mA$	-2%		+2%	$V_{OUT}$
$I_{OUT}$	Output Current		200	250	-	mA
$V_{DROP}$	Output Voltage	$I_{LOAD} = 10mA$ $\Delta V_{OUT} = -V_{OUTNOM} \times 2\%$	-	30	50	mV
		$I_{LOAD} = 100mA$ $\Delta V_{OUT} = -V_{OUTNOM} \times 2\%$	-	300	400	mV
		$I_{LOAD} = 200mA$ $\Delta V_{OUT} = -V_{OUTNOM} \times 2\%$	-	600	750	mV
$\Delta V_{OUT\_LINE}$	Line Regulation	$I_{LOAD} = 1mA$ , $4.3V \leq V_{IN} \leq 30V$	-	-	0.2	%/V
$\Delta V_{OUT\_LOAD}$	Load Regulation	$1mA \leq I_{LOADOUT} \leq 100mA$	-	20	50	mV
$I_{LIMIT}$	Current Limit	$4.3V \leq V_{IN} \leq 30V$ $R_{LOAD} = V_{OUTNOM} / 1A$	1			A
	Ripple Rejection (Note 2)	$V_{IN} = V_{OUT} + 1.5V$ ,	60	72		dB
	Dropout Voltage (Note 1,3)	$I_{LOAD} = 10mA$		1.00	1.15	V
		$*V_{IN} \geq 2.65V, I_{LOAD} = 1A$		1.15	1.3	V
$TC_{VOUT}$	Temperature Coefficient	$I_{LOAD} = 10mA$ $-40\text{ }^\circ\text{C} \leq T_{AMB} \leq 100^\circ$		0.005		%/°C

## SOT-89 PLASTIC PACKAGE







### Dimensions


SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	1.40	1.60	.055	.063
B	0.44	0.56	.017	.022
B1	0.36	0.48	.014	.019
C	0.35	0.44	.014	.017
D	4.40	4.60	.173	.181
D1	1.62	1.83	.064	.072
E	2.29	2.60	.090	.102
E1	2.13	2.29	.084	.090
e	1.50 (TYP)		.059 (TYP)	
e1	3.00 (TYP)		.118 (TYP)	
H	3.94	4.25	.155	.167
L	0.89	1.20	.035	.047



## NOTICE

Information furnished is believed to be accurate and reliable. However Globaltech Semiconductor assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties, which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Globaltech Semiconductor. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information without express written approval of Globaltech Semiconductor.

## CONTACT US

GS Headquarter	
	4F.,No.43-1,Lane11,Sec.6,Minquan E.Rd NeiHu District Taipei City 114, Taiwan (R.O.C)
	886-2-2657-9980
	886-2-2657-3630
	sales_twn@gs-power.com

Wu-Xi Branch	
	No.21 Changjiang Rd., WND, Wuxi, Jiangsu, China (INFO. &. TECH. Science Park Building A 210 Room)
	86-510-85217051
	86-510-85211238
	sales_cn@gs-power.com

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