

**GENERAL DESCRIPTION**

The L1089 Series are positive and low dropout three-terminal voltage regulators with 0.3A output current capability. These devices are designed for use in low voltage applications that offers lower dropout voltage and faster transient response.

These devices are fully protected against over current faults, over temperature operation, reversed input polarity, reversed lead insertion, transient voltage spike ...etc.

On-Chips trimming the reference voltage to 2% and features the low dropout of maximum 1.35 volts.

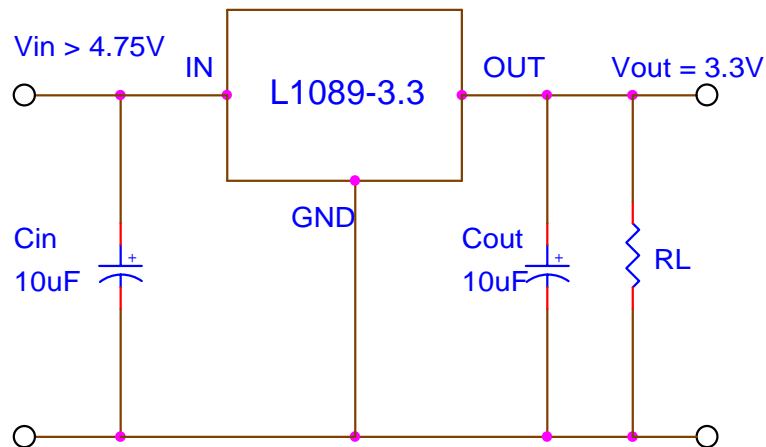
**FEATURES**

- Fixed 3.3V output voltage
- Low dropout voltage
- Low ground current
- Fast transient response
- Current & thermal limiting
- Line regulation: 0.5% typical
- Load regulation: 0.5% typical
- Available in SOT-89 package

**APPLICATIONS**

- Low voltage micro-controllers
- Battery Chargers
- 5V to 3.3V linear regulators
- Motherboard clock supplies
- Post regulator for switching supplies

**TYPICAL APPLICATION**



1. Cin needed if device is far from filter capacitors
2. Cout required for stability.

**- Fixed Voltage Regulator -**

**ABSOLUTE MAXIMUM RATINGS**

- Maximum Supply Voltage 7V
- Power Dissipation Internally Limited
- Thermal Resistance Junction to Case,  $\theta_{JC}$  18 °C/W
- Thermal Resistance Junction to Ambient,  $\theta_{JA}$  160 °C/W
- Operating Junction Temperature Range 0 to 125 °C
- Storage Temperature Range -40 to 150 °C
- Lead Temperature (Soldering, 10 Seconds) 260 °C

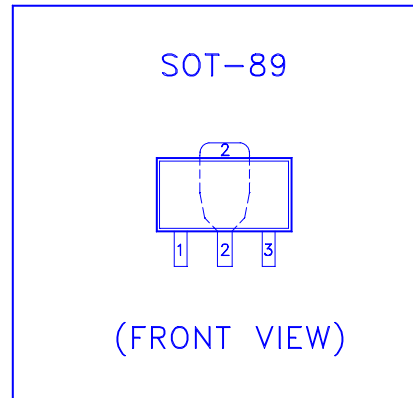
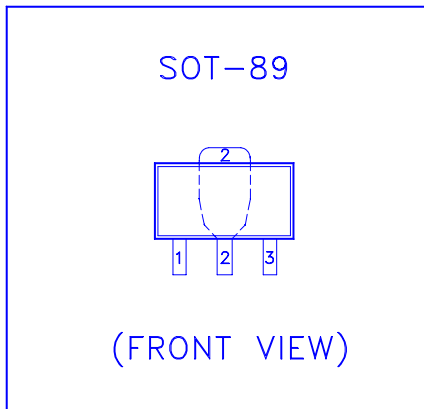
**ELECTRICAL CHARACTERISTICS** (Unless otherwise specified,  $T_A = 25\text{ °C}$ )

Parameter	Symbol	Test Conditions	Typical	Limits
Output Voltage (Fixed version)	$V_o$	$V_{IN} = 5V, I_{OUT} = 10mA$	3.30V	$3.234V_{Min}$ $3.367V_{Max}$
Dropout Voltage	$V_D$	$\Delta V_{REF} = 1\%, I_{OUT} = 0.3A$	1.1V	1.35V
Line Regulation	$REG_{(LINE)}$	$(V_{OUT} + 1.5V) \leq V_{IN} \leq 7V, I_{OUT} = 10mA$	0.5%	1.0%
Load Regulation	$REG_{(LOAD)}$	$(V_{IN} - V_{OUT}) = 2V, 10mA \leq I_{OUT} \leq 0.3A$	0.5%	2.0%
Minimum Load Current	$I_o$	$V_{IN}=5.0V$	10mA	
Adjust Pin Current	$I_{ADJ}$		55 $\mu$ A	100 $\mu$ A
Current Limit	$I_{CL}$	$V_{IN} - V_{OUT} = 2V$	0.35A	0.32A (Min)
RMS Output Noise	$V_N$		0.003% of $V_{OUT}$	
Ripple Rejection Ratio	$R_A$	$V_{IN} = 5V, I_{OUT} = 0.3A$	72dB	60dB (Min)

**DEVICE SELECTION GUIDE**

Device	L1089C-3.3A	L1089C-3.3B
Voltage Version	3.3V	3.3V
Package	SOT-89	SOT-89
Marking	89-3.3A	89-3.3B

**PIN CONFIGURATIONS**



Pin #	Function
1	Ground
2	Input
3	Output

L1089C-3.3A

**Note: TAB is Input Pin**

Pin #	Function
1	Output
2	Ground
3	Input

L1089C-3.3B

**Note: TAB is Input Pin**

**SOT-89 MECHANICAL DATA**

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.3	4.5	4.7	H	1.4	1.5	1.6
B	1.6	1.7	1.8	I	2.8	3.0	3.2
C	0.4	0.5	0.6	J	1.3	1.5	1.7
D	2.4	2.5	2.6	K	3.8	4.2	4.6
E	0.8	1.2	1.4	L	0.3	0.4	0.5
F	0.4	0.45	0.5	M			
G	0.4	0.5	0.6	N			

