



## High-precision Low Voltage Detector

### General Description

LP3808 is a series of high precision voltage detector with ultra low current consumption(500nA typ. at Vdd=3.0V). It can work at very low voltage, which makes it perfect for system reset.

LP3808 is composed of high precision voltage reference, comparator, output driver and resistor array. Internally preset detect voltage has a low temperature drift and requires no external trimming.

Two type of output, CMOS and N-channel open-drain are available.LP3808 is available in SOT-89-3,SOT-23-3, SOT23-5 packages which is Pb-free.

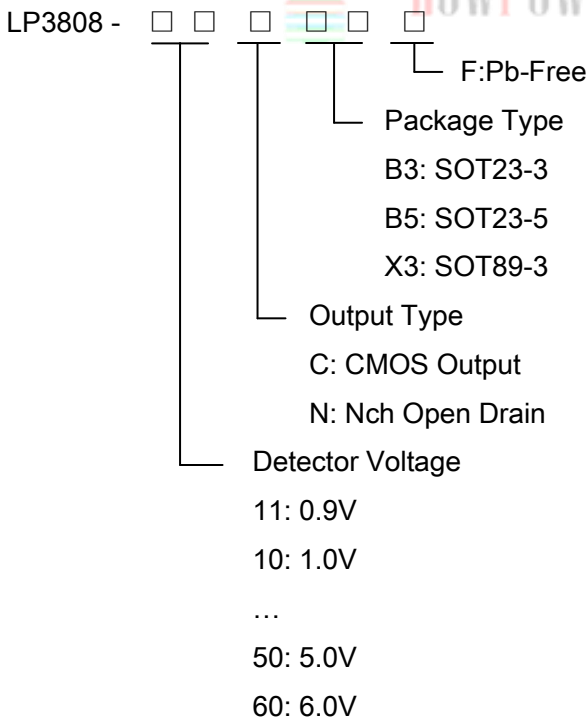
### Features

- ◆ High-precision detection Voltage 2%
- ◆ Detection Voltage 0.9V~6.0V (in 0.1V steps)
- ◆ Precise hysteresis 4% typ.
- ◆ Operating Voltage range 0.7V~10V
- ◆ Ultra-low current consumption 500nA typ. (at VDD 3.0V)
- ◆ Two Output forms CMOS and N-channel open-drain

### Applications

- ◇ Power monitor for portable equipment such as
- ◇ PDA, DSC, Mobile phone,Notebook,MP3
- ◇ CPU and Logic Circuit Reset
- ◇ Battery Checker
- ◇ Battery Back-up Circuit
- ◇ Power Failure Detector

### Order Information



### Marking Information

Device	Marking	Package	Shipping
LP3808	XXXX	SOT23-3	3K/REEL
		SOT23-5	
		SOT89-3	



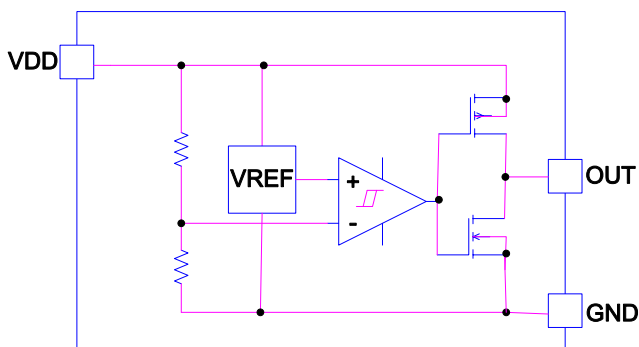
### Pin Assignment

Package Type	Pin Configurations		
SOT89-3 SOT23-3 SOT23-5	<p>SOT89-3</p> <p>TOP VIEW</p>	<p>SOT23-3</p> <p>TOP VIEW</p>	<p>SOT23-5</p> <p>TOP VIEW</p>

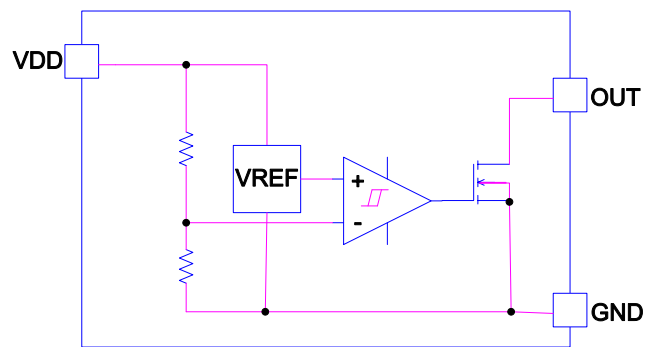
### Pin Description

Pin Number			Pin Name	Function
SOT89-3	SOT23-3	SOT23-5		
1	1	1	VOUT	Voltage Detection output Pin
2	3	2	VDD	Voltage input pin
3	2	3	VSS	GND pin
		4,5	NC	No Connection

### Block Diagram



N-channel Output Open Drain



CMOS Output Type



## Absolute Maximum Ratings

- ✧ Input Voltage range ----- -0.3V~12V
- ✧ Output Voltage range ----- -0.3V~12V
- ✧ Maximum Output current ----- 70mA
- ✧ Maximum power dissipation ----- 150mW
- ✧ Ambient temperature ----- -40~+85 C
- ✧ Storage temperature ----- -40~125 C
- ✧ Lead temperature and time ----- 260°C,10S

## Electrical Characteristics

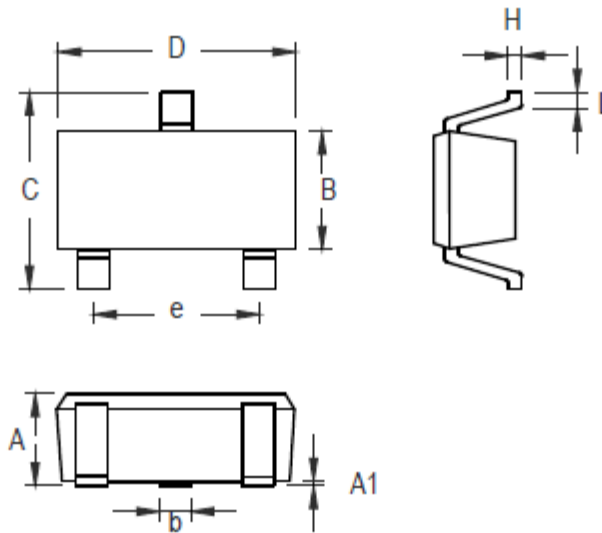
(LP3808-27B3F, T=25°C, Unless otherwise specified.)

Symbol	Parameter	Conditions	Reference data			Unit
			Min.	Typ.	Max.	
VDET	Detector Threshold		1.06	1.1	1.14	V
VHYS	Detector Threshold Hysteresis			0.1	0.162	V
ISS	Current consumption			0.5	1	uA
VDDH	Maximum operating voltage				10	V
VDDL	Minimum Operating voltage		0.7			V
IOUT	Output current	Nch VDS=0.05V VDD=0.70V	0.01	0.05		mA
		Pch VDS=-1V VDD=4.50V		20		mA
TPLH	Output Delay Time				20	uS



### Packaging Information

#### SOT23-3

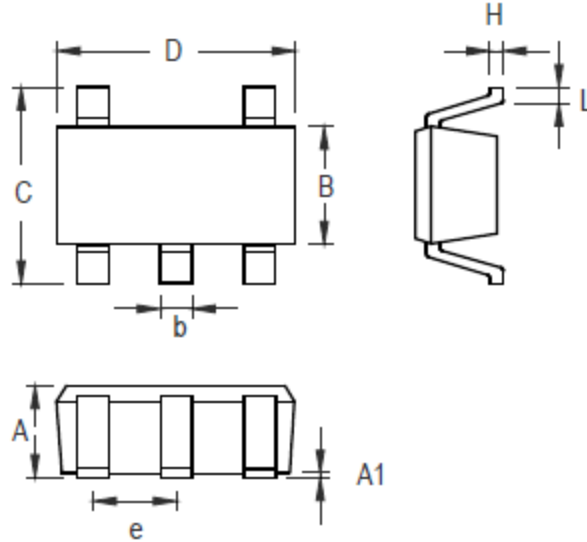


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.295	0.035	0.051
A1	0.000	0.152	0.000	0.006
B	1.397	1.803	0.055	0.071
b	0.356	0.508	0.014	0.020
C	2.591	2.997	0.102	0.118
D	2.692	3.099	0.106	0.122
e	1.803	2.007	0.071	0.079
H	0.080	0.254	0.003	0.010
L	0.300	0.610	0.012	0.024

#### SOT-23 Surface Mount Package



SOT23-5

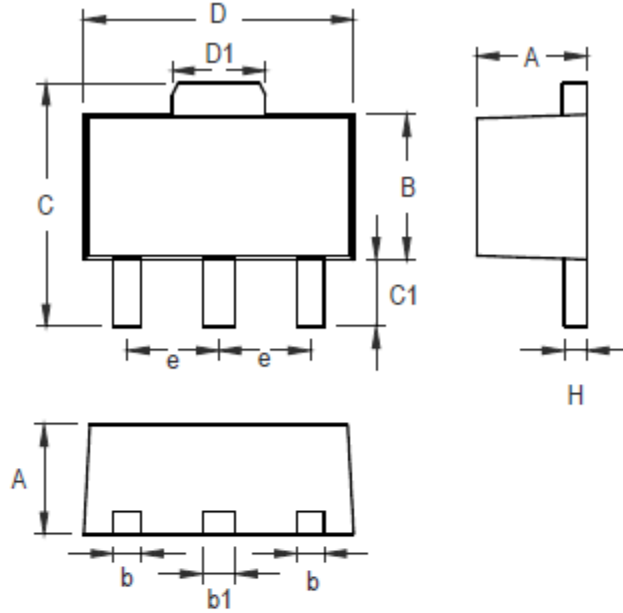


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.295	0.035	0.051
A1	0.000	0.152	0.000	0.006
B	1.397	1.803	0.055	0.071
b	0.356	0.559	0.014	0.022
C	2.591	2.997	0.102	0.118
D	2.692	3.099	0.106	0.122
e	0.838	1.041	0.033	0.041
H	0.080	0.254	0.003	0.010
L	0.300	0.610	0.012	0.024

SOT- 25 Surface Mount Package



SOT-89



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.397	1.600	0.055	0.063
b	0.356	0.483	0.014	0.019
B	2.388	2.591	0.094	0.102
b1	0.406	0.533	0.016	0.021
C	3.937	4.242	0.155	0.167
C1	0.787	1.194	0.031	0.047
D	4.394	4.597	0.173	0.181
D1	1.397	1.753	0.055	0.069
e	1.448	1.549	0.057	0.061
H	0.356	0.432	0.014	0.017

3-Lead SOT-89 Surface Mount Package