

High-precision Low Voltage Detector

General Description

LP3808 is a series of high precision voltage detector with ultra low current consumption(500nA typ. at $V_{DD}=3.0V$). 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.

Ordering Information

LP3808 -	□	□	□	□	□	□
						F: Pb-Free
						Package Type
						B3: SOT23-3
						B5: SOT23-5
						X3: SOT89-3
						Output Type
						C: CMOS Output
						N: Nch Open Drain
						Detector Voltage
						09: 0.9V
						10: 1.0V
						.
						.
						.
						50: 5.0V
						60: 6.0V

Marketing information

Please see website.

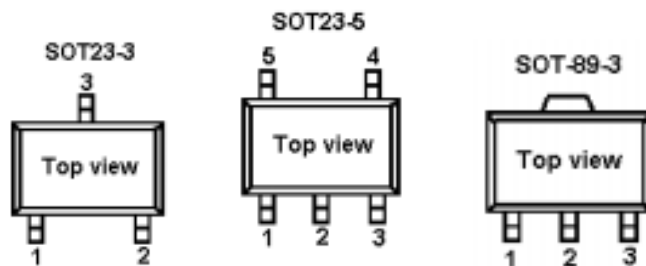
Feature

- ✧ 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 V_{DD} 3.0V)
- ✧ Two Output forms CMOS and N-channel open-drain

Application

- ✧ 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

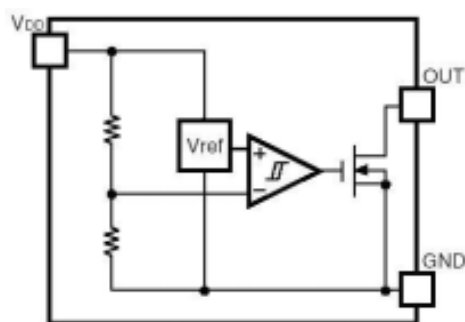
Pin Assignment



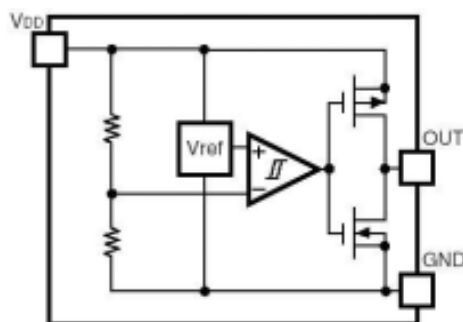
Pin Description

Pin Number			Pin Name	Function
SOT89	SOT23	SOT25		
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



Nch Output Open Drain



CMOS Output Type

Absolute Maximum Ratings

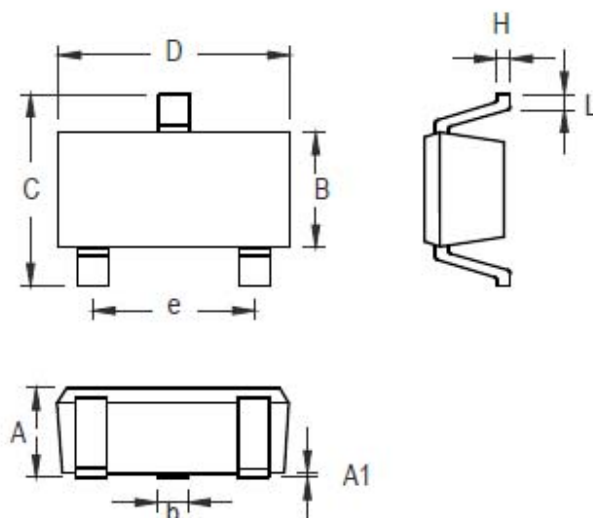
Input Voltage range	-----	-0.3V~12V
Output Voltage range	-----	-0.3V~12V
Maximum Output current	-----	70mA
Maximum power dissipation	-----	150mW
Ambient temperature	-----	-40~+70 C
Storage temperature	-----	-40~125 C
Lead temperature and time	-----	260 C,10S

Electrical Characteristics

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

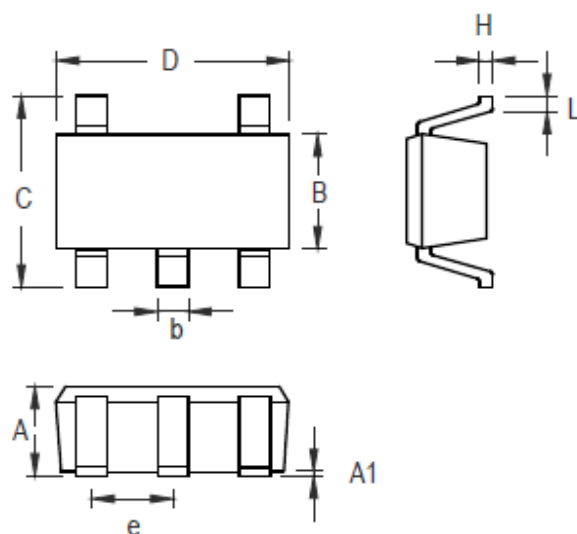
Symbol	Parameter	Conditions	Reference data			Unit
			Min.	Typ.	Max.	
-VDET	Detector Threshold		2.646	2.7	2.754	V
VHYS	Detector Threshold Hysteresis		0.054	0.108	0.162	V
ISS	Current consumption			0.5	1	uA
VDDH	Maximum operating voltage				10	V
VDDL	Minimum Operating voltage			0.5		V
IOUT	Output current	Nch VDS=0.05V VDD=0.70V	0.01	0.05		mA
		Pch VDS=-2.1V VDD=4.50V	1.0	2.0		mA
TPLH	Output Delay Time				20	uS

Package information



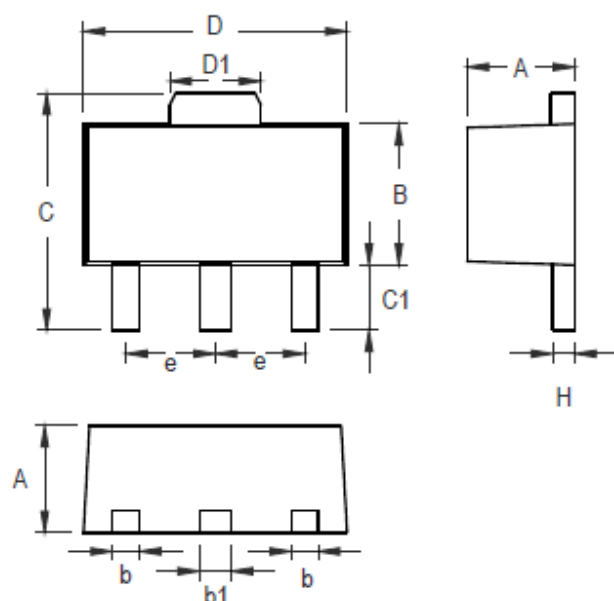
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.889	1.295	0.035	0.051
A1	0.000	0.152	0.000	0.006
B	1.397	1.803	0.055	0.071
b	0.356	0.508	0.014	0.020
C	2.591	2.997	0.102	0.118
D	2.692	3.099	0.106	0.122
e	1.803	2.007	0.071	0.079
H	0.080	0.254	0.003	0.010
L	0.300	0.610	0.012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

SOT-23 Surface Mount Package



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



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