

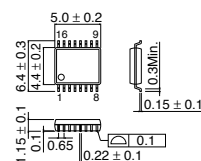
Shock sensor signal processing IC

BU3892FV

● Description

The BU3892FV is an IC developed for shock detection of hard disk. 2-channel signal processing circuit are incorporated. For 1st STAGE, signal from shock sensor is amplified by Op amp. The amplification degree and the value of filtering are determined by external elements. For 2nd STAGE, output of 1st STAGE is amplified by x10 inverting amplifier. The signal is inputted to window comparators and shock detection is started.

● Dimension (Unit : mm)



● Features

- 1) 5V single supply
- 2) Built-in 7 operational amplifiers and 4 comparators
- 3) Low input bias current due to CMOS process
- 4) Low power consumption mode

SSOP-B16

● Applications

Hard disk

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{DD}	-0.3 ~ +7.0	V
Power dissipation	P _d	300 *	mW
Storage temperature range	T _{stg}	-55 ~ +125	°C
Input voltage	V _{IN}	-0.3 ~ V _{DD} +0.3	V
Output voltage	V _{OUT}	-0.3 ~ V _{DD} +0.3	V
Operating temperature range	T _{OPR}	0 ~ +70	°C

*Derating : 3.0mW/°C for operation above Ta=25°C

*This product is not designed for protection against radioactive rays.

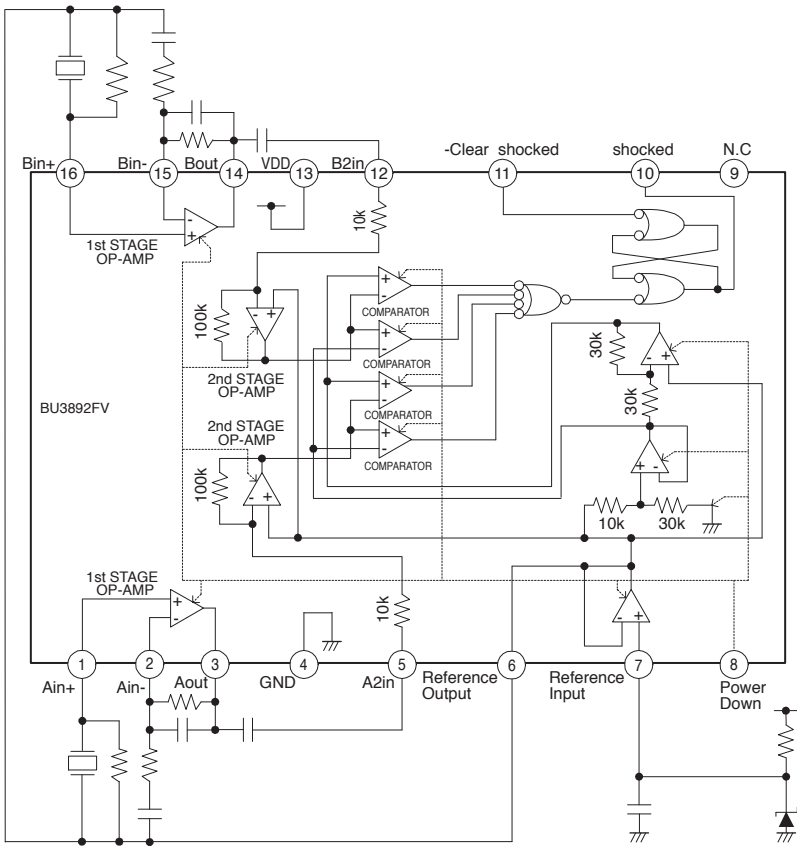
● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V _{DD}	4.5	-	5.5	V
Input L voltage range	V _{IL}	-0.3	-	1.5	V
Input H voltage range	V _{IH}	3.5	-	V _{DD} +0.3	V

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
<FIRST STAGE>							
Input bias current	(Ta=25°C)	IIB1ST	–	1	20	pA	Measurement between Ain+, Ain-, Bin+, Bin- and GND.
	(Ta=75°C)		–	–	2000		
Max. output current		IO1ST	0.5	–	–	mA	
Supply voltage rejection ratio		SVR1ST	65	–	–	dB	
Gain band width		GB1ST	–	1.4	–	MHz	
Max. amplitude voltage gain		AV1ST	10	–	–	V/mV	
<REFERENCE INPUT>							
Input current		IIREF	–	–	10	μA	Reference Input=2V
Output impedance		ROREF	–	–	30	Ω	Reference Input=2V
<SECOND STAGE>							
Input current A2in, B2in		I2nd	–11	–16	–22	μA	Input current when (Reference input–0.2V) voltage is applied.
"H" threshold voltage A2in, B2in		DVH2nd	+0.04	+0.05	+0.06	V	Reference Input=2V –Clear Shocked=GND level Relative value with Reference Input
"L" threshold voltage A2in, B2in		DVL2nd	–0.06	–0.05	–0.04		
<TOTAL>							
Recovery time from Power Down		TRCVRY	–	–	1	ms	Time when it can be operated in the specification range after Power Down become "L".
Current consumption		IDD	–	4	6.5	mA	Power Down "L" input
			–	15	100	μA	Power Down "H" input

Note) Shocked outputs "H" when Power Down becomes "L".

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