

SUNSTAR SS0620 *Key & Touch Linear Dimmer*

Features

- High noise immunity CMOS technology
- Operating voltage: 9V~12V
- High sensitivity and stability
- Polarity insensitive with AC line
- Minimum external components
- Two types of input (Touch-Sense/Key-Trigger) in one chip
- Low power dissipation
- Loading range of sense input from 0 to 1200pf
- Dimmer function: 96 steps or ON/OFF switch
- 50/60 Hz selectable
- 8 pin DIP package

Applications

- Light control

General Description

The SS0620 series is a CMOS fabricated LSI in an 8-lead DIP package. It is designed to control the brightness of an incandescent lamp by changing the triggering angles of the TRIAC with a touch sense input or a key trigger input.

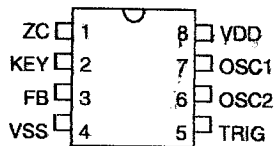
For the key trigger type, if the key is pressed more than 0.7 seconds, the brightness will decrease smoothly until the key is released. If the key is continually held down, the lamp will eventually turn off. But if the key is pressed less than 0.7 seconds, the lamp will switch between

the "ON" and "OFF" states.

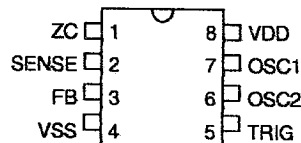
For the touch sense type, the first touch will emit the brightest light. The second touch will make it fade away gradually. The third touch will maintain the level of brightness. The fourth will turn it off completely.

There are four types of processor in the series, namely Key-Trigger (0620A, 50Hz), Key-Trigger (0620B, 60Hz), Touch-Sense (0620C, 50Hz), and Touch-Sense (0620D, 60Hz).

Pin Assignment



Key-trigger-type
SS0620A (50Hz)
SS0620B (60Hz)



Touch-sense type
SS0620C (50Hz)
SS0620D (60Hz)

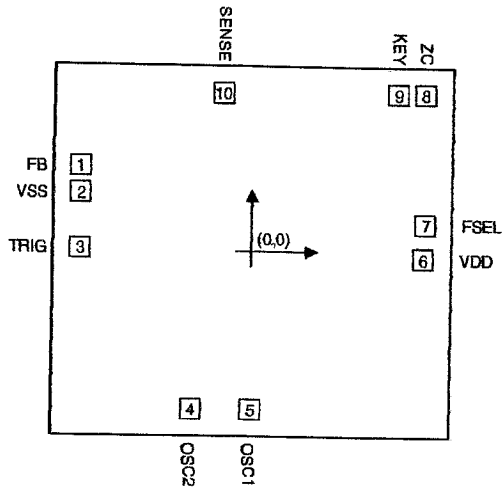
10th Apr '96

SUNSTAR

SS0620

Pad Coordinates

Unit: mil

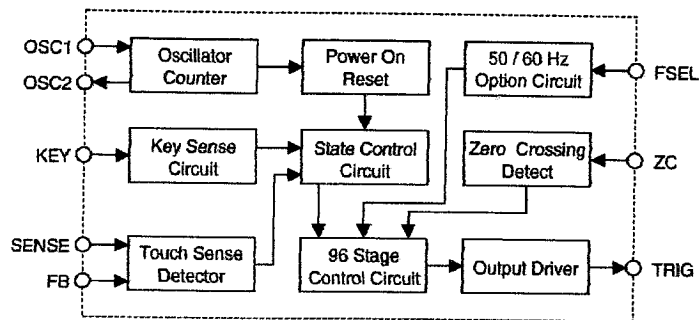


Pad No.	X	Y
1	-51.21	25.11
2	-51.21	17.06
3	-51.26	0.50
4	-17.53	-47.41
5	0.38	-47.41
6	51.12	-1.8
7	51.66	8.46
8	51.21	47.34
9	43.11	47.34
10	-8.80	47.18

Chip size: $116 \times 108 \text{ (mil)}^2$

* The IC substrate should be connected to VSS in the PCB layout artwork.

Block Diagram



Pad Description

Pad No.	Pad Name	I/O	Description
1	FB	I	Feedback signal to control the sink current of SENSOR pin
2	VSS	I	Negative power supply
3	TRIG	O	Trigger output to drive the TRIAC
4	OSC2	O	Oscillator output
5	OSC1	I	Oscillator input
6	VDD	I	Positive power supply
7	FSEL	I	For 50Hz or 60Hz select (open=60Hz, internal pull low)
8	ZC	I	Line frequency 60Hz or 50Hz input for zero crossing
9	KEY	I	Key input (internal pull high)
10	SENSE	I	Touch sense input

Absolute Maximum Rating

Supply Voltage -0.3V to 13V

Storage Temp -50°C to 125°C

Input Voltage VSS-0.3V to VDD+0.3V

Operating Temp 0°C to 70°C

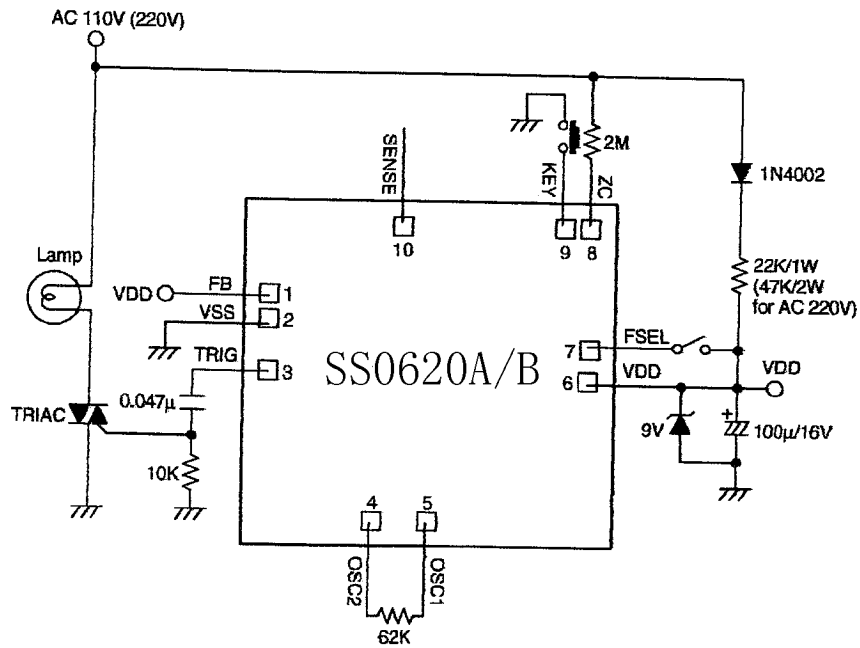
Electrical Characteristics

(Ta=25°C)

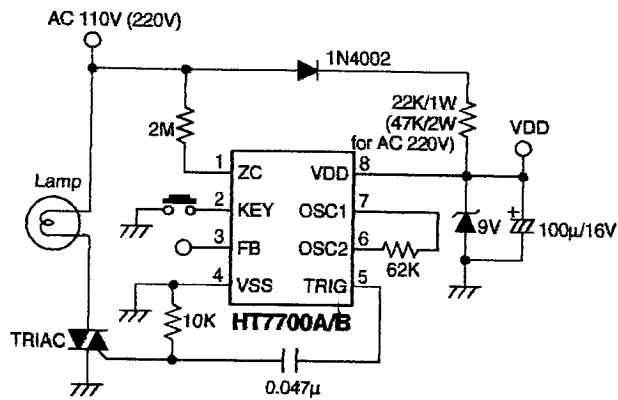
Symbol	Parameter	Test Condition		Min.	Typ.	Max.	Unit
		VDD	Condition				
VDD	Operating Voltage	—	—	9	—	12	V
IDD	Operating Current	9V	No load	—	1	2	mA
FOSC	System Frequency	9V	ROSC=62K	—	320	—	KHz
IOL	TRIG Sink Current	9V	VOL=0.9V	—	14	—	mA
IOH	TRIG Driver Current	9V	VOH=8.1V	—	-0.2	—	mA
VIH	'H' Input Voltage	—	—	0.8VDD	—	—	V
VIL	'L' Input Voltage	—	—	—	—	0.2VDD	V

Application Circuit

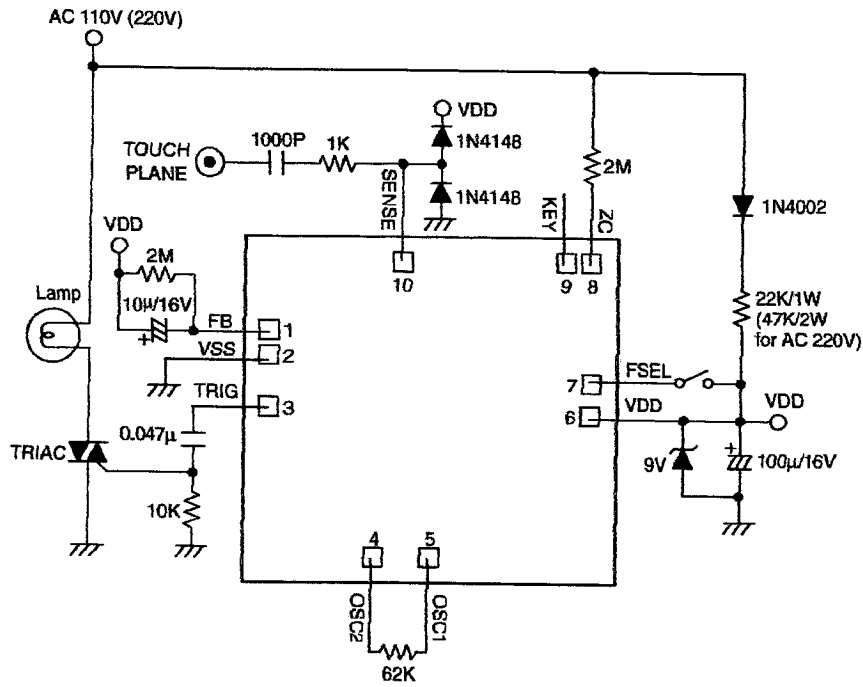
Key trigger input



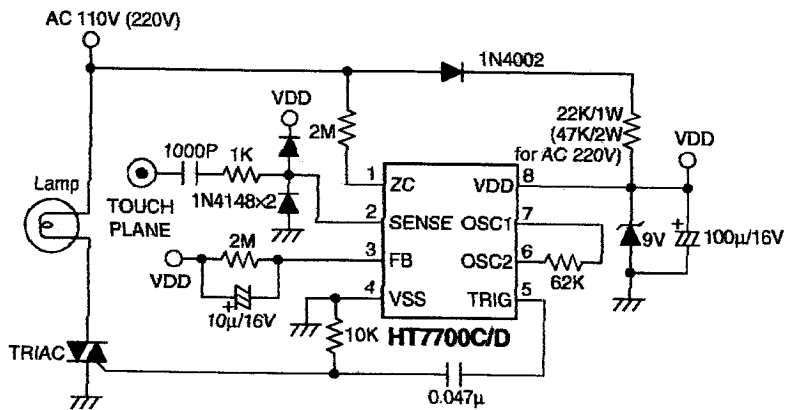
The IC substrate should be connected to VSS in PCB layout artwork.



Touch sense input



* The IC substrate should be connected to VSS in PCB layout artwork.



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