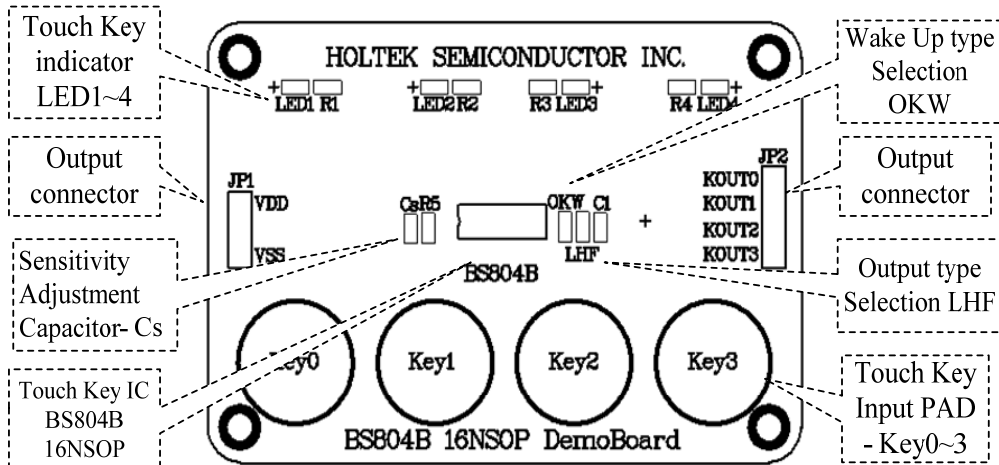


# HOLTEK Touch Key IC Demo Board

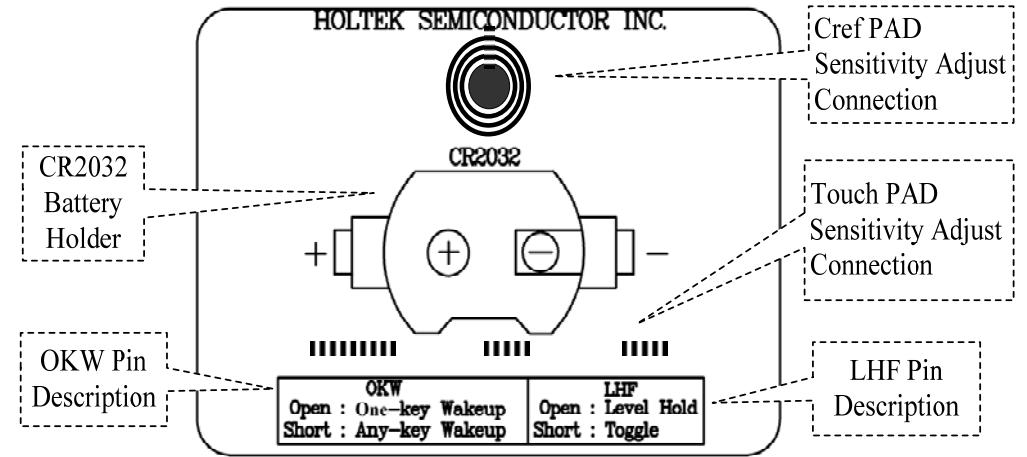
# BS804B User Manual

## Components Description

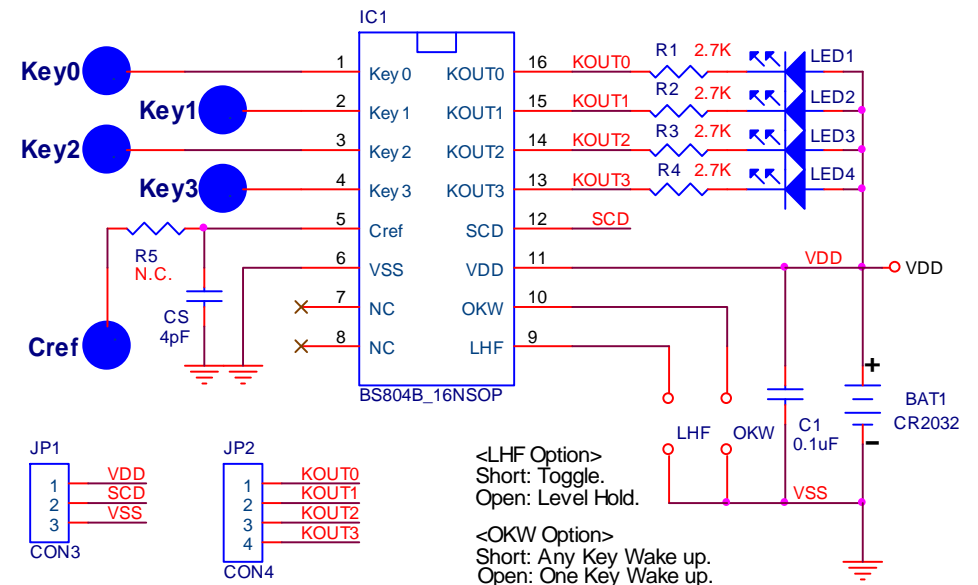
### ● Demo Board–Top Side



### ● Demo Board–Bottom Side



## Circuit Diagram



## Operating Guide

- Pull out the insulator between battery and battery holder to power up the Demo Board. (**Ensure that not touching any component when doing this.**)
- Touch Key0 to wake up the Touch IC. (**Default is in One Key wakeup mode after power on.**)
- After a key touch action has been verified then the output indicator LED1~4 and the KOUT0~3 pins will be activated with a **LEVEL HOLD** output.
- The relationship between LHF, the output LED1~4 status and the KOUT 0~3 pins is shown in the following table:

### 1. LHF floating – selects Level Hold output

Touch Key Condition	LED n	KOUT x pin status when connected to pull-high
Key x is touched	On	0V
Key x is not touched	Off	3.0V

### 2. LHF pulled low – selects Toggle output

Touch Key Condition	LED n	KOUT x pin status when connected to pull-high
Key x is touched	Changes State	Changes state
Key x is not touched	No change	Remains in present state

Note: “x” means 0, 1, 2 or 3; “n” means 1, 2, 3 or 4

- The OKW pin wake up control is described as following table:

OKW pin condition	One Key wake up	Any Key wake up
Ground	-----	∨
Floating	∨	-----

- Using "Touch PAD sensitivity adjust connections" to modify the sensitivity of each key.

## Purpose of this Demo Board

- Verify the Touch Key sensitivity and response time.
- Determine the Sense PAD external casing material thickness.
- Determine the sense PAD area.
- Test the Touch Key IC Specification Characteristics.
- Provide the customer with a Touch Key related PCB Layout for onslutation.
- Provide the customer with a demonstration and evaluation.

## Troubleshooting

When in use the following problems may be encountered:

Problem	Potential Solution
No actions after battery is installed	Check that whether the battery is not inserted correctly or with the wrong polarity, has poor contacts or has no power.
Abnormal LED action	When a touch action results in abnormal LED illumination, re-install the battery to re-activate or wait for about <b>40</b> seconds after which the LED will automatically extinguish.
LED uneven	The CR2032 is low on power and should be replaced.

## Accessories & Specifications

### ● Accessories

BS804B Touch Key IC Demo Board (**includes a BS804B 16NSOP IC**) x 1  
 CR2032 Battery x 1  
 User Manual x 1

### ● Specifications

Model : BS804B\_DemoV100

Keys : 4 KEY

Battery : CR2032 Lithium Battery

Power Consumption : 1.5μA ( **One Key wakeup standby** )

3.0μA ( **Any Key wakeup standby** )

8.0μA ( **Normal Mode** )

Size : 44mm (H) x 64mm (W) x 11mm (D)

## Contact us

For more information about the touch Key IC, please visit our web site at

<http://www.holtek.com.tw/touchkey>