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Product List

OB93TS06W14OP
OB93TS08W16OP
OB93TS12W20SP

Description

The OB93TS is a touch sensor IC. OB93TS can provide 6~12 independent touch keys. The sensibility of all channels may be adjusted by one capacitor CREF.

Ordering Information

OB93TS ihhKL YWW

i: process identifier { W = 2.2V ~ 5.5V }

hh: pin count

k: package type postfix {as table below }

L:PB Free identifier

{No text is Non-PB free, "P" is PB free}

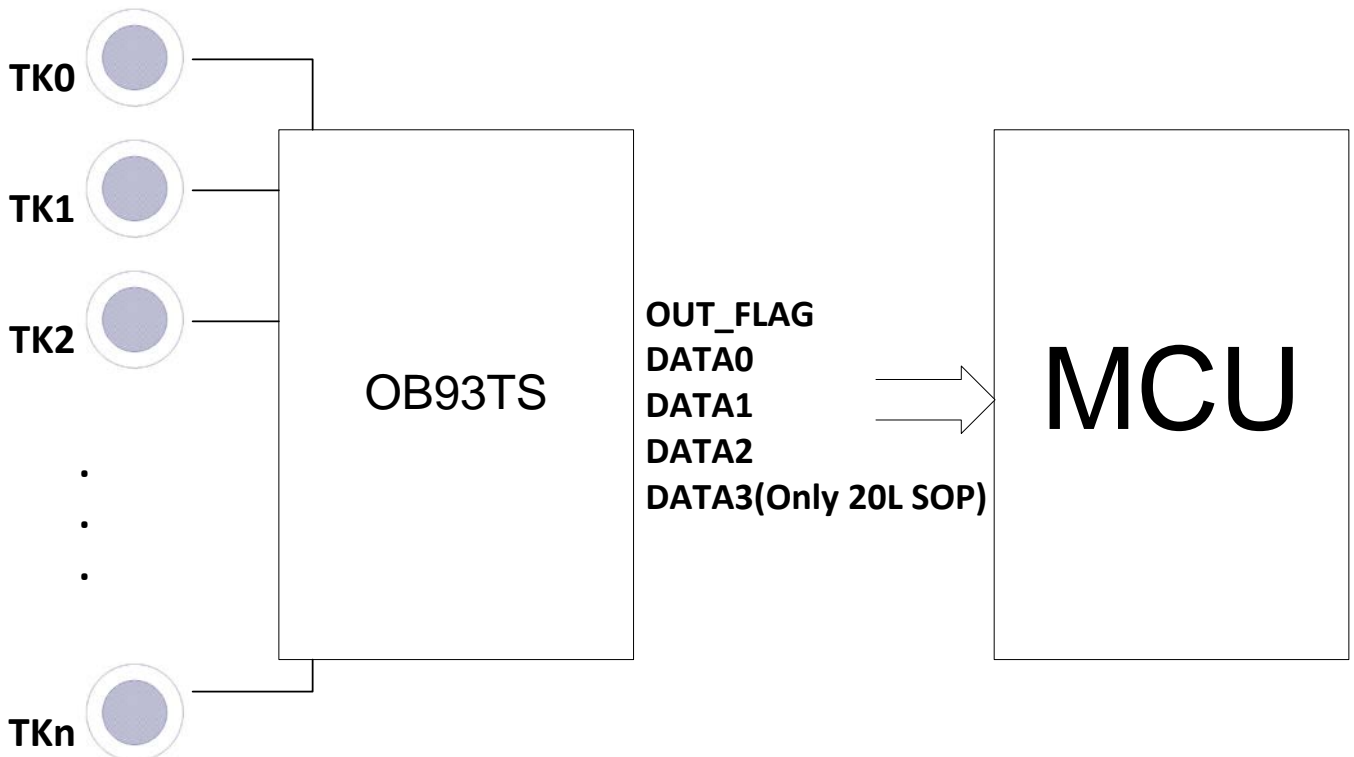
Y: year

WW: week

Postfix	Package
O	SOP (150 mil)
S	SOP (300 mil)

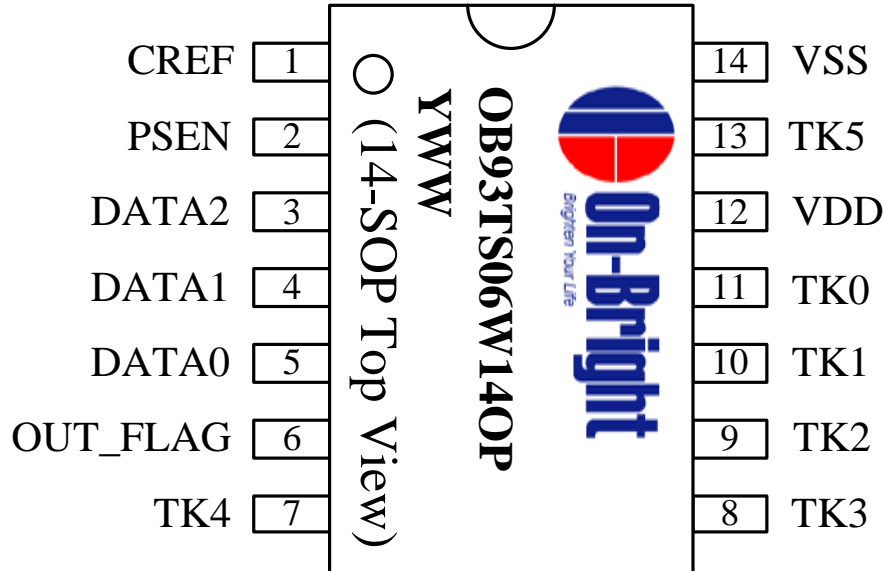
Features

- Operating Voltage:2.2V ~ 5.5V
- 6~12 channel touch key
- Auto-calibration
- Ajustable Sensibility
- Output Format: Binary Code
- Sleep-Mode and Any-key Wakeup

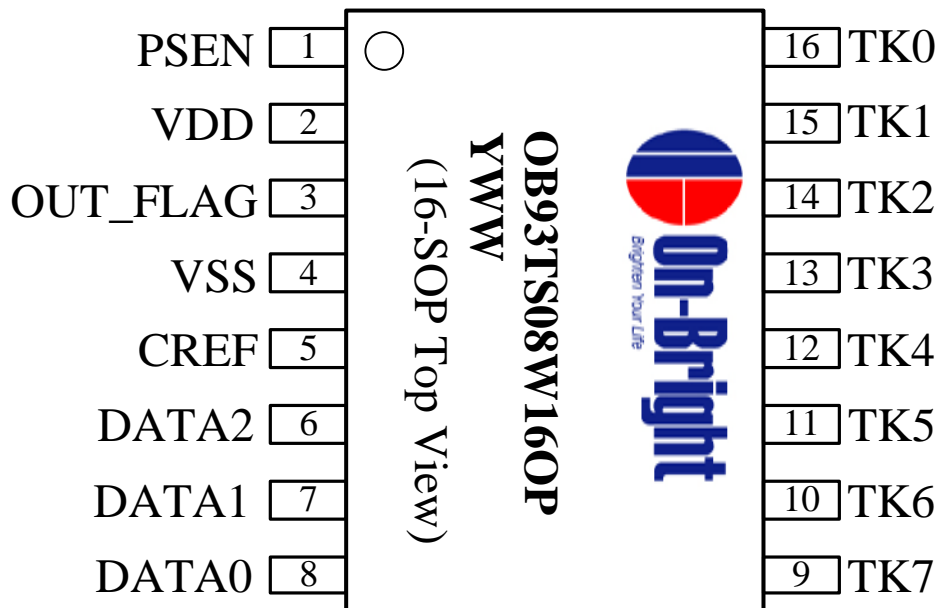


Pin Configuration

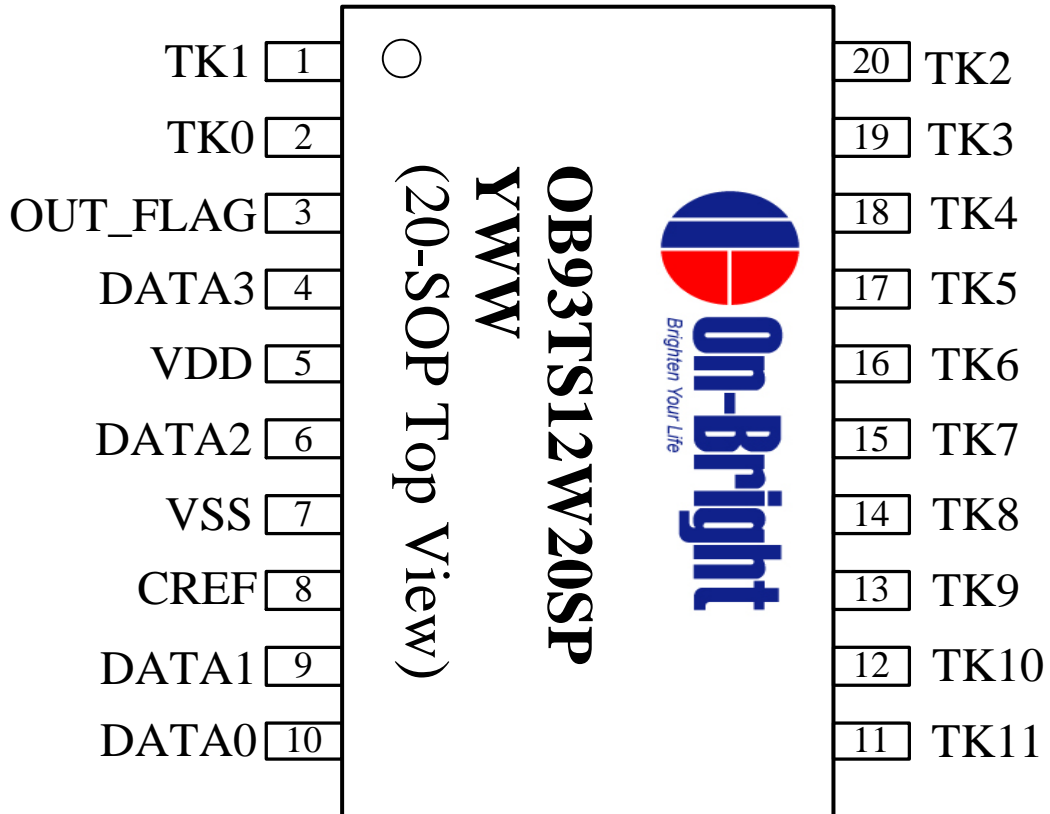
14 Pin SOP



16 Pin SOP



20 Pin SOP



Pin Description

20L SOP	16L SOP	14L SOP	Symbol	I/O	Description
1	15	10	TK1	I	Touch Key Channel 1
2	16	11	TK0	I	Touch Key Channel 0
3	3	6	OUT_FLAG	O	Button Status Indication
4			DATA3	O	Binary Code DATA3 output
5	2	12	VDD	I	Power supply
6	6	3	DATA2	O	Binary Code DATA2 output
7	4	14	VSS	I	Power supply
8	5	1	CREF	I	Touch Key external capacitor (Recommend:10nF~100nF. Typical: 47nF)
9	7	4	DATA1	O	Binary Code DATA1 output
10	8	5	DATA0	O	Binary Code DATA0 output
11			TK11	I	Touch Key Channel 11
12			TK10	I	Touch Key Channel 10
13			TK9	I	Touch Key Channel 9
14			TK8	I	Touch Key Channel 8
15	9		TK7	I	Touch Key Channel 7
16	10		TK6	I	Touch Key Channel 6
17	11	13	TK5	I	Touch Key Channel 5
18	12	7	TK4	I	Touch Key Channel 4
19	13	8	TK3	I	Touch Key Channel 3
20	14	9	TK2	I	Touch Key Channel 2
	1	2	PSEN	I	Connect to VSS

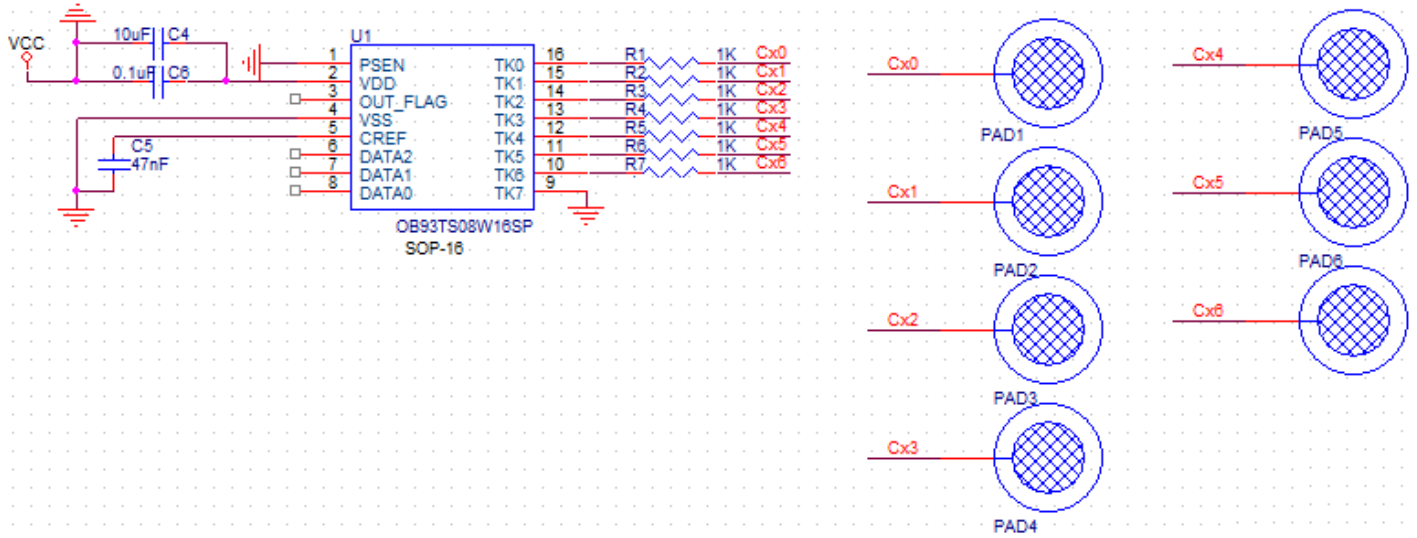
Function Description

1. The Application Circuit

C5: Adjustable Sensibility. 10nF~100nF. Please put them close to touch IC.

R1~R7: 560Ω~1KΩ. Please put them close to touch IC.

Unused touch key channels must be connected to ground, such as TK7.



2. Output Indication

When any touch key is touched, OB93TS will output a low level signal from OUT_FLAG, and output Binary code from DATA0, DATA1, DATA2, DATA3(Only 20L SOP) in the same time. MCU can read the Binary code when OUT_FLAG signal is low.



	OUT_FLAG	Binary code			
		DATA3 (Only 20L SOP)	DATA2	DATA1	DATA0
Initial	H	H	H	H	H
Leave	H	hold	hold	hold	Hold
TK0 touch	L	L	L	L	L
TK1 touch	L	L	L	L	H
TK2 touch	L	L	L	H	L
TK3 touch	L	L	L	H	H
TK4 touch	L	L	H	L	L
TK5 touch	L	L	H	L	H
TK6 touch	L	L	H	H	L
TK7 touch	L	L	H	H	H
TK8 touch(Only 20L SOP)	L	H	L	L	L
TK9 touch(Only 20L SOP)	L	H	L	L	H
TK10 touch(Only 20L SOP)	L	H	L	H	L
TK11 touch(Only 20L SOP)	L	H	L	H	H

Operating Conditions

Symbol	Description	Min.	Typ.	Max.	Unit.	Remarks
TA	Operating temperature	-40	25	85	°C	Ambient temperature under bias
VDD	Supply voltage	2.2		5.5	V	

DC Characteristics

TA = -40°C to 85°C, Vcc = 5.0V

Symbol	Parameter	Valid	Min	TPY	Max	Units	Conditions
VOL	Output Low-voltage	OUT_FALG,DATA			0.45	V	IOL=16mA Vcc=5V
VOH	Output High-voltage	OUT_FALG,DATA	2.4			V	IOH= -250uA
ICC	Power Supply Current	VDD		3.3	5	mA	Active mode