

Features

- Twelve Independent touch keys
- Individual outputs per channel
- Support multi-key sensing
- Sensitivity can be adjusted per channel
- Auto calibration
- Auto drift compensation
- Noise filtering
- 2.7V to 5.5V operating voltage
- Low power consumption, less than 20uA
- I²C compatible interface
- 32-pin QFN 5x5mm (RoHS Compliant)

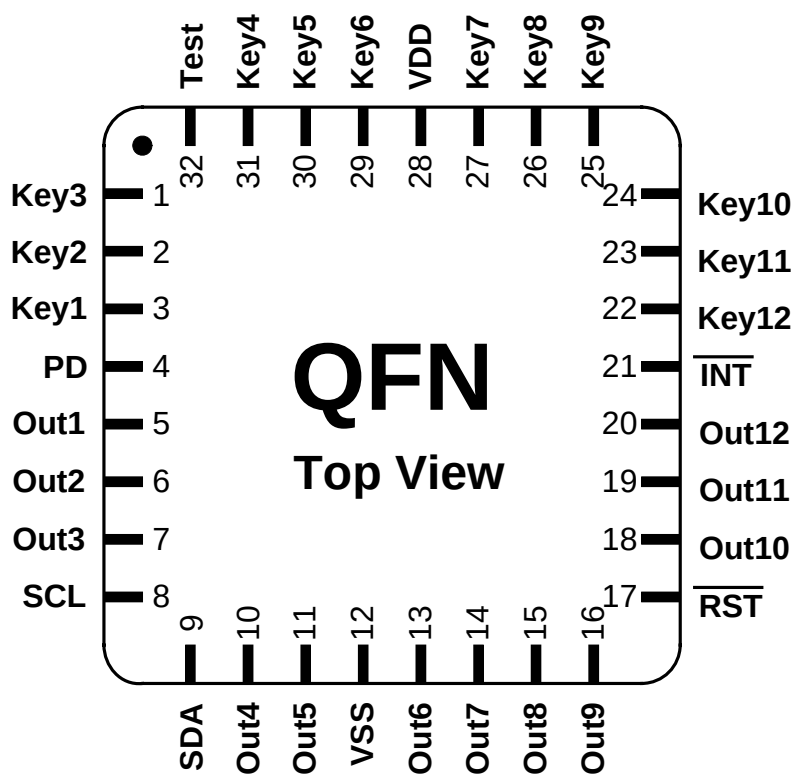
General Description

The C12 12 Key touch sensor IC is capable of detecting near-proximity or touch on four electrodes. It allows electrodes to project independent sense field through any dielectric like glass, plastic, ceramic, and wood.

Applications

- Audio/Video components
 - PC peripherals
 - Home appliance
 - Gaming machine/console
 - Security systems
 - Instruments panels
 - Access system
-

Pin Assignment and Package



Pin	Name	Pin Description
1	Key3	Sense pin 3
2	Key2	Sense pin 2
3	Key1	Sense pin 1
4	PD	Power down, active high
5	Out1	Key 1 output
6	Out2	Key 2 output
7	Out3	Key 3 output
8	SCL	SCL – I ² C clock input
9	SDA	SDA – I ² C open drain data I/O pin
10	Out4	Key 4 output
11	Out5	Key 5 output
12	VSS	Ground
13	Out6	Key 6 output
14	Out7	Key 7 output
15	Out8	Key 8 output
16	Out9	Key 9 output
17	$\overline{\text{RST}}$	Reset pin, active low
18	Out10	Key 10 output
19	Out11	Key 11 output
20	Out12	Key 12 output
21	$\overline{\text{INT}}$	Interrupt, active low
22	Key12	Sense pin 12
23	Key11	Sense pin 11
24	Key10	Sense pin 10
25	Key9	Sense pin 9
26	Key8	Sense pin 8
27	Key7	Sense pin 7
28	VDD	Power
29	Key6	Sense pin 6
30	Key5	Sense pin 5
31	Key4	Sense pin 4
32	Test	Test output

Overview

The C12 devices are capacitive touch sensor IC designed for touch controls. They include all hardware and signal processing functions necessary to provide stable sensing under a wide variety of conditions. Only a low cost resistor (optional) per channel is required for operation. Figure 1 shows basic circuits for the device.

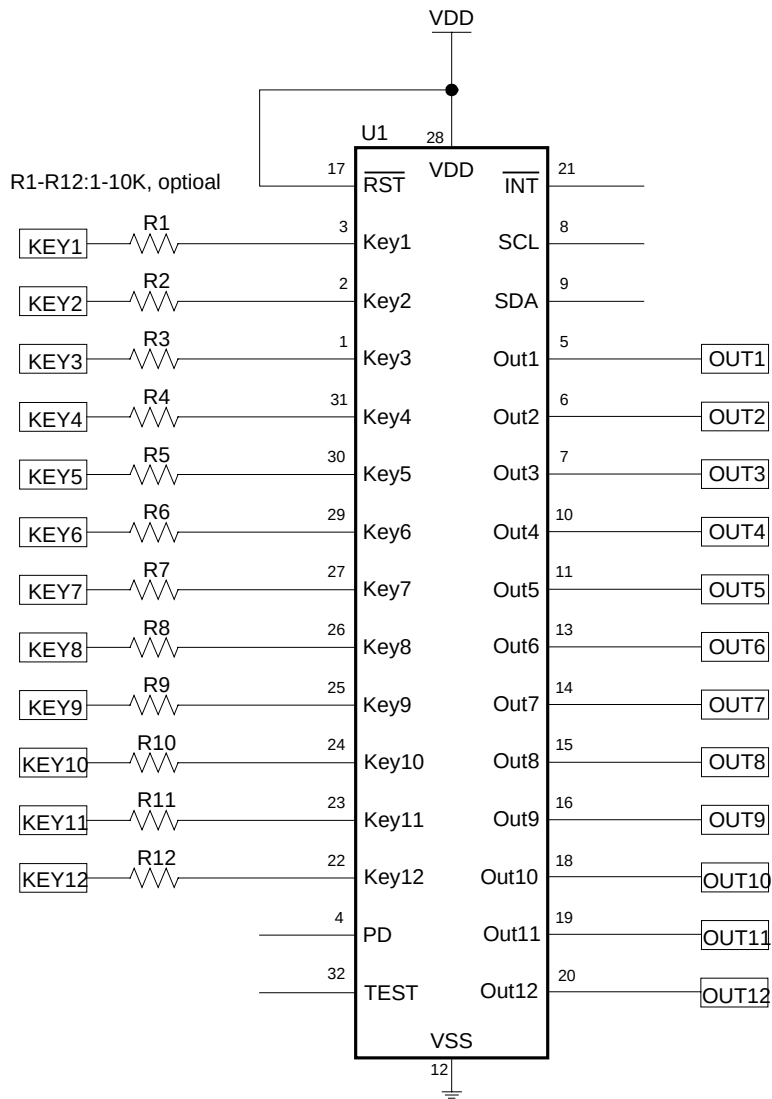
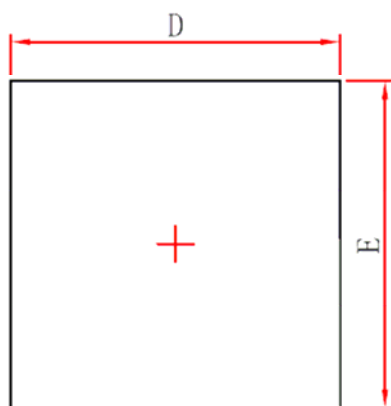
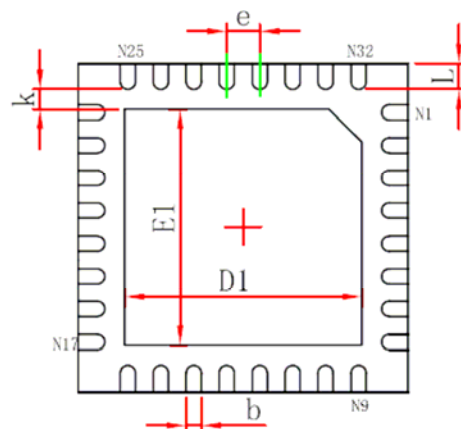


Figure 1. Basic circuits diagram

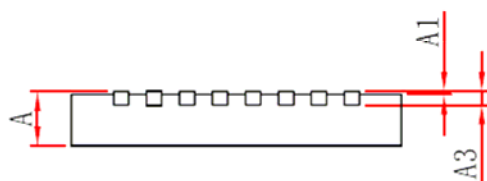
Package Dimensions



Top View



Bottom View



Side View

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700/0.800	0.800/0.900	0.028/0.031	0.031/0.035
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	4.924	5.076	0.194	0.200
E	4.924	5.076	0.194	0.200
D1	3.300	3.500	0.130	0.138
E1	3.300	3.500	0.130	0.138
k	0.200MIN.		0.008MIN.	
b	0.180	0.300	0.007	0.012
e	0.500TYP.		0.020TYP.	
L	0.324	0.476	0.013	0.019