海芯科技 AVIA Semiconductor

HX610

6-Key Capacitive Touch Key Controller

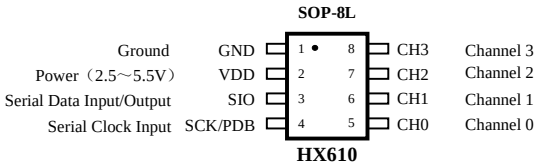
DESCRIPTION

Based on Avia Semiconductor's patented technology, HX610 has 4 input channels, capable of controlling up to 6 keys in a 2 dimensional electrical array arrangement. It's essentially insensitive to RF interferences (>30V/m) and external ESD discharges (>15k Volts within less than 5cm).

Each input channel has an independent input analog low noise programmable gain amplifier. This enables on chip independent sensitivity tuning of each channels, without any external component. Integrated analog filters, high performance analog-to-digital converters and adaptive self calibration of analog circuitry combined with a dedicated capacitive touch key digital signal processor substantially improve the capacitive touch key pad performance under strong RF interferences, temperature and humidity variations, static charge/discharge and wet keyboard surface conditions.

FEATURES

- **On-chip touch key sensitivity adjustment by internal control registers for each input channel, without any external component**
- **6 keys can be implemented using SINGLE LAYER PCB without any external component (no jumper needed)**
- **Programmability: key sensitivity, touch validation trigger with programmable hysteresis, key scanning time, creep tracking, MCU wake up time and mode …**
- **Programmable key scanning time: 20 ~ 500 mS**
- **Current consumption (10 Hz key scanning and 3.3V power supply): 3.5μA**
- **Operating voltage: 2.5 ~ 5.5 V**
- **Operating temperature: -40 ~ +85℃**
- **Package: 8 pin SOP**



Pin Number	Pin Name	Function	Descriptions
5～8	CH0～CH3	Analog input	4 input channels
1	GND	Ground input	Ground input
2	VDD	Power input	Power input（2.5～5.5V）
3	SIO	Digital Input/Output	Serial data input/output
4	SCK/PDB	Digital Input	Serial clock and power down control input

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