

Product Overview

LC717A10AR: Capacitance-Digital-Converter for Electrostatic Capacitive Touch Sensors

For complete documentation, see the data sheet.

The LC717A10AR is a high-performance and low-cost capacitance-digital-converter LSI for electrostatic capacitive touch sensor, especially focused on usability. It has 16 channels capacitance-sensor input. This makes it ideal for use in the products that need many switches. Since the calibration function and the judgment of ON/OFF are automatically performed in LSI internal, it can make development time more short. A detection result (ON/OFF) for each input can be read out by the serial interface (I2C compatible bus or SPI). Also, measurement value of each input can be read out as 8-bit digital data. Moreover, gain and other parameters can be adjusted using serial interface.

Features

- Detection system: Differential capacitance detection (Mutual capacitance type)
- Input capacitance resolution: Can detect capacitance changes in the femto Farad order
- Measurement interval (16 differential inputs): 30ms (Typ) (at initial configuration), 6ms (Typ) (at minimum interval configuration)
- External components for measurement: Not required
- Interface: I2C compatible bus or SPI selectable.
- Current consumption: 570 μ A (Typ) ($V_{DD} = 2.8$ V), 1.3 mA (Typ) ($V_{DD} = 5.5$ V)
- Supply voltage: 2.6 V to 5.5 V
- Detection operations: Switch

Applications

- White goods
- Black goods
- PC peripherals
- Office Automation

Benefits

- High sensitivity performance - even wearing multiple layers of gloves, air gap, or thick materials
- Design friendly - can be connected directly to a familiar MCU and execute stand alone operation
- Automated built-in noise and environmental change compensation function technology

End Products

- Washing machine
- Refrigerator
- Cooking appliances
- TV
- Printer

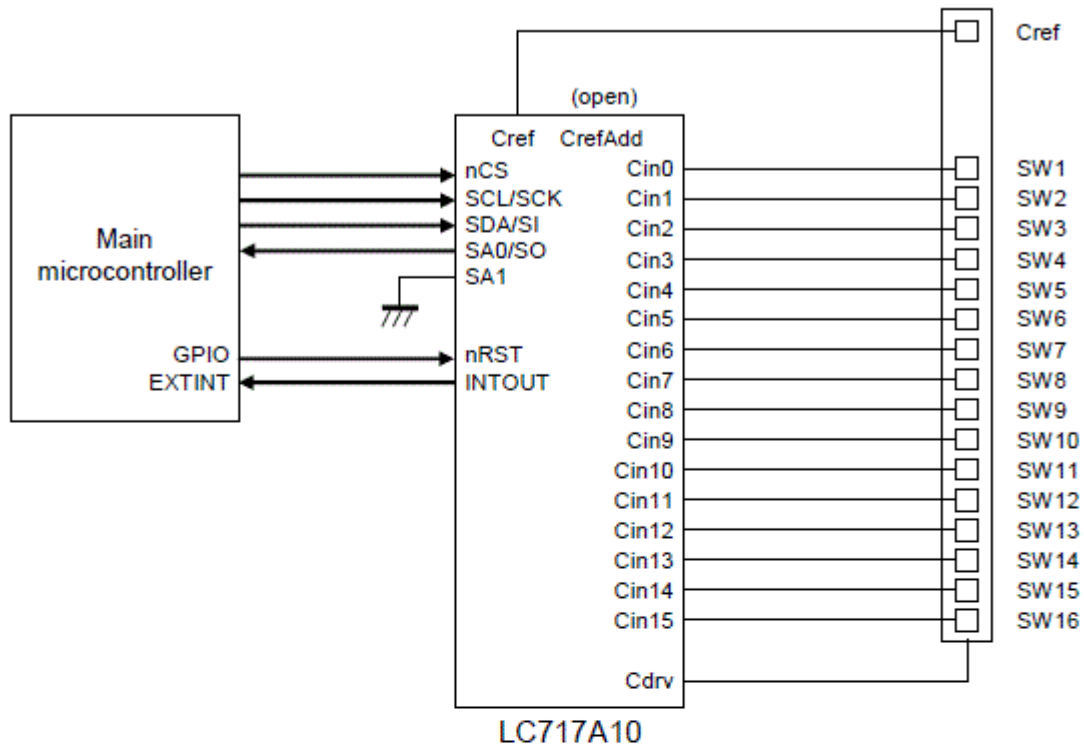
Part Electrical Specifications

Product	Compliance	Status	Number of Sensing Inputs	Number of Sensing Outputs	Interface Control	Proximity Sensing	V_{DD} Min (V)	V_{DD} Max (V)	I_{DD} Typ (μ A)	Package Type
LC717A10AR-NH	Pb-free	Active	16	0	SPI	Yes	2.6	5.5	570	VCT-28
	Halide free				I2C				1300	

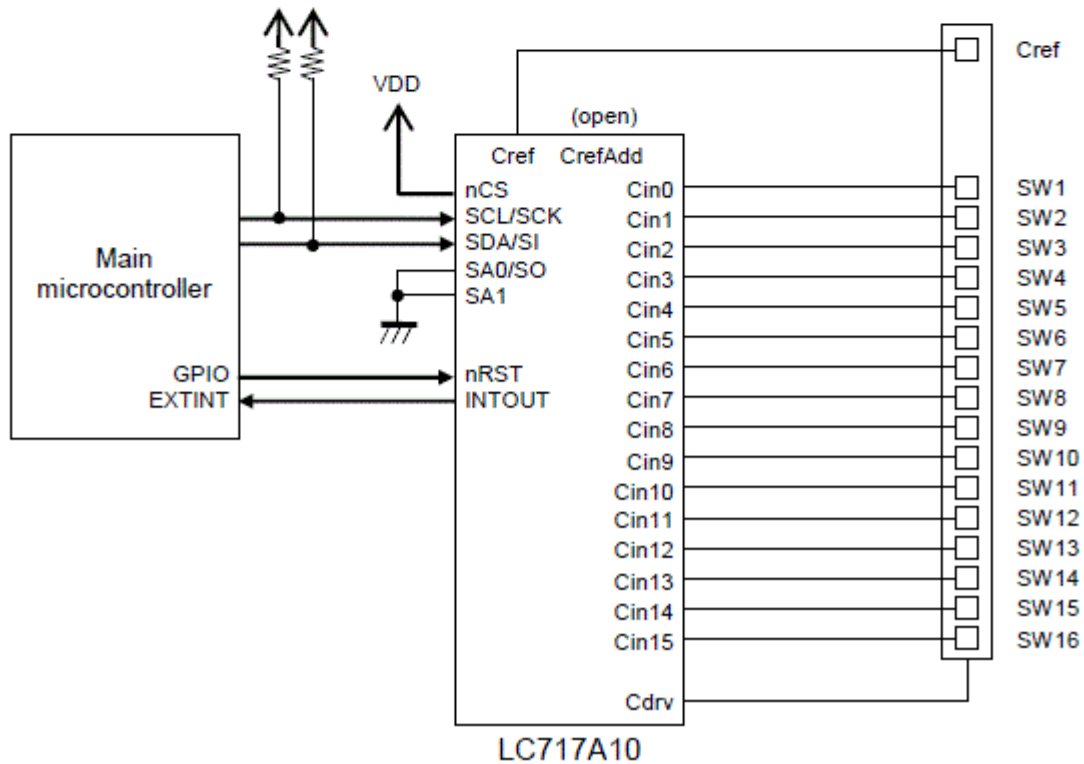
Application Diagram

Application Schematic

- 16 capacitance sensor switches and 4-wire SPI interface.



- 16 capacitance sensor switches and I²C interface.



For more information please contact your local sales support at www.onsemi.com.

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