

12-bit Touch Panel Controller IC

AR7643

FEATURES

- Serial interface
- 4-wire touch panel interface
- Embedded touch panel drivers
- 2.2 V to 5.5 V supply voltage
- 12-bit analog to digital converter
- Programmable 8 or 12 bit resolution
- Up to 125 KHZ conversion rate
- 2 auxiliary analog inputs
- Full power down control
- SSOP-16 package

APPLICATIONS

- Personal digital assistants (PDAs)
- Point of sales terminals
- Pagers
- High speed data acquisition
- Portable instruments
- Low power instruments

DESCRIPTION

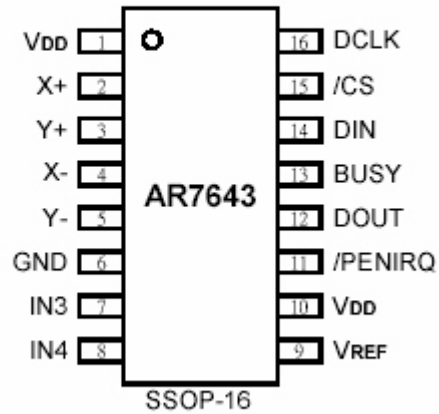
The AR7643 Touch Panel Controller IC is a 12-bit SAR analog-to-digital (ADC) converter with SPI serial interface and low on-resistance drivers for 4-wire resistive touch panels.

The AR7643 is a highly integrated controller suitable for portable applications which use 4-wire resistive touch panels such as, PDA, portable instruments, cellular phone, etc. The AR7643 contains all the analog and digital circuitry necessary to complete a pen request.

The AR7643 consumes only 648 mW at a 125 KHZ sample rate and a 2.7 V supply and consumes only 2.7 mW in shutdown mode. The AR7643 is guaranteed to operate down to 2.2 V supply.

The AR7643 is provided in a very small 16-lead SSOP package and is guaranteed over the temperature range from 40 to +85°C.

Pin Configuration



Ordering Information

| PART | TEMP. RANGE | PACKAGE |
|--------|----------------|---------|
| AR7643 | -40°C to +85°C | SSOP-16 |

Pin Description

| Pin | Name | Description |
|-----|------------------|--|
| 1 | V _{DD} | Power Supply, 2.2V to 5.5V. |
| 2 | X+ | X+ Input; ADC Input Channel 1. |
| 3 | Y+ | Y+ Input; ADC Input Channel 2. |
| 4 | X- | X- Input. |
| 5 | Y- | Y- Input. |
| 6 | GND | Ground. |
| 7 | IN3 | Auxiliary Input 1; ADC Input Channel 3. |
| 8 | IN4 | Auxiliary Input 2; ADC Input Channel 4. |
| 9 | V _{REF} | Reference Voltage Input. |
| 10 | V _{DD} | Power Supply, 2.2V to 5.5V. |
| 11 | /PENIRQ | Pen Interrupt. Requires 10K Ω to 100K Ω external pull-up resistor. |
| 12 | DOUT | Serial Data Output. This output pin is high impedance when /CS is high. |
| 13 | BUSY | Busy Output. This output pin is high impedance when /CS is high. |
| 14 | DIN | Serial Data Input. |
| 15 | /CS | Chip Select Input. This input is active low. |
| 16 | DCLK | External Clock Input. |

Block Diagram

