

## 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

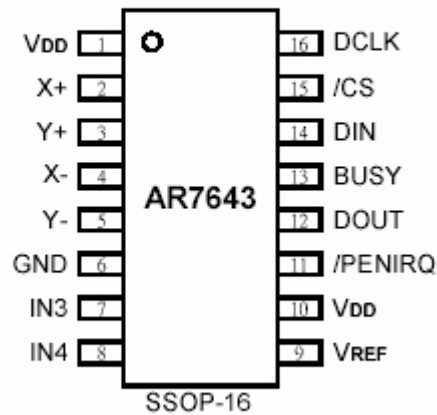
The AR7643 Touch Panel Controller IC is a 12-bit SAR analog-to-digital (ADC) converter with SPI serial interface and low on-resistance drivers for 4-wire resistive touch panels.

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 <sub>DD</sub>	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 <sub>REF</sub>	Reference Voltage Input.
10	V <sub>DD</sub>	Power Supply, 2.2V to 5.5V.
11	/PENIRQ	Pen Interrupt. Requires 10K $\Omega$ to 100K $\Omega$ 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

