

Digital Contact Controller

ATA2508 Brief Datasheet

Introduction

ATLab's second generation touch sensor IC, ATA2508, includes lots of new features. Since it has more than one hundred configuration registers, it can provide you with *programmability* to increase performance, flexibility and stability on wide application areas. ATA2508's AIC™ (Automatic Impedance Calibration) feature may be easily configured to support different sensitivity between channels, or change parameters such as a calibration interval. AIC™ may be temporarily paused and resumed by a host. ATA2508 provides a strong new feature APIS™ (Adjacent Pattern Interference Suppression) to eliminate adjacent key or pattern interference. ATA2508 also supports touch-strength outputs in addition to touch outputs. Furthermore, 12 general purpose DIOs may be configured and programmed to meet customer's specific needs which gives customers greater flexibility and values.

Applications

- Portable devices such as PDA's, cellular phones, MP3 players, remote controllers, and other Integrated input devices
- Home appliances and consumer electronic products.
- Mice for desktop PC's, workstations, and notebook PC's

Environmental Specification

Operating Temp.	-35 °C to 85°C
Storage Temp.	-45 °C to 95°C
ESD.	HBM : 8 kilovolts (Touch Sensor Inputs)

Electrical Specification

Operating Volt.	2.3V ~ 5.5V
Supply Current	Active mode : < 0.15 mA Idle mode : < 0.08 mA Sleep mode : < 0.001mA
Touch Sensitivity	0.06pF

Features

- Patented fully digital architecture
- Twelve channels (40QFN,30SSOP) or nine channels (32QFN,24SSOP,) or six channels(24QFN,20SSOP) available
- Programmable registers to characterize applications
- I²C for the host interface
- Different sensitivity assignment to each channel for design flexibility
- Configurable AIC™ (Automatic Impedance Calibration)
- Two kinds of interrupts: GINT for general purpose, TINT for touch detection
- Eight bit resolution of touch strength data (256 step)
- APIS™: Mode1, Mode2, Mode3 (Adjacent Pattern Interference Suppression)
- Configurable twelve DIO pins as direct touch outputs, extended GPIOs, or external interrupt inputs.
- Beep generation for tactile feeling
- Idle and Sleep modes for power saving
- De-bounced touch outputs

Package Types (Lead free packages)

Package Type	Product Code	Sensor Inputs	DIO	Size (mm)
40QFN	ATA2508DA-40N	12	12	5 X 5 X 0.85
32QFN	ATA2508DA-32N	9	8	4 X 4 X 0.85
24QFN	ATA2508DA-24N	6	2	4 X 4 X 0.85
30SSOP	ATA2508DA-30S	12	6	12.7X10.3X2.5
24SSOP	ATA2508DA-24S	9	3	8.2 X 7.8 X 2
20SSOP	ATA2508DA-20S	6	2	6.5X6.4X1.85

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