



Proximity Capacitive Touch Sensor Controllers

MPR083

8-position rotary touch wheel controller

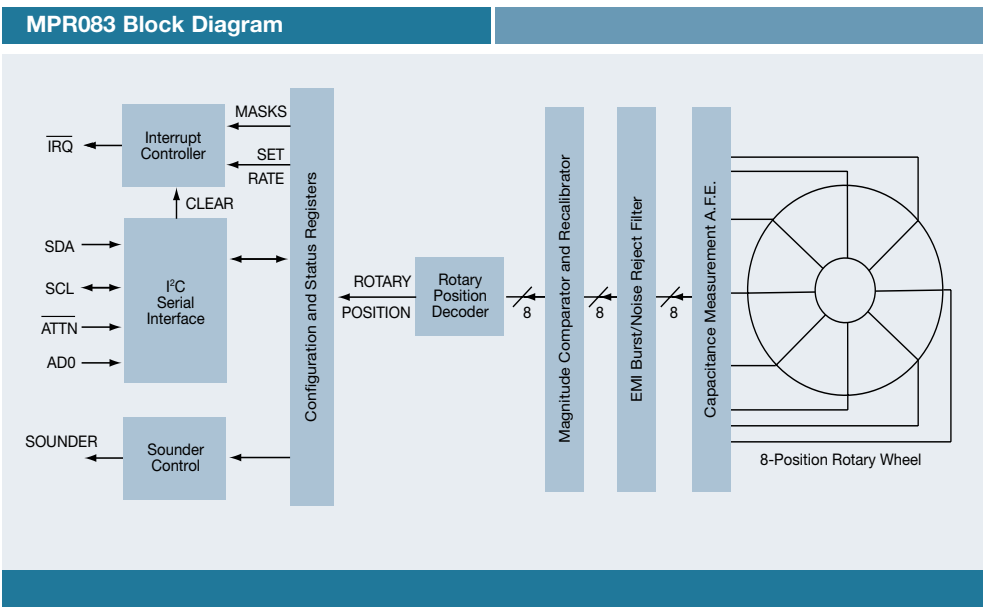
Overview

Freescale Semiconductor's MPR083 proximity capacitive touch sensor controller is one of a family of products designed to detect the state of capacitive touch pads. The MPR083 offers designers a cost-efficient alternative to mechanical rotary switches for control panel applications.

The MPR083 uses an I²C interface to communicate with the host which configures the operation and an interrupt to advise the host of status changes. The MPR083 includes a piezo sounder drive which provides audible feedback to simulate mechanical key clicks. The MPR08X family has several implementations to use in your design

including control panels and switch replacements. The MPR083 controls rotary and linear sliders. Other members of the MPR08X family are well suited for other application interface situations such as individual touch pads or rotary/touch pad combinations.

Freescale offers a broad portfolio of proximity sensors for products ranging from appliance control panels to portable electronics. Target markets include consumer, appliance, industrial, medical and computer peripherals.



Implementations

- Control panels
- Switch replacements
- Rotary and linear sliders

Typical Applications

- Appliances
- PC peripherals
- Access controls
- MP3 players
- Remote controls
- Mobile phones

Development Tools

Part Number	Description	Pricing
KITMPR083EVM	Evaluation board to demonstrate key proximity sensor features	\$99

Selector Guide

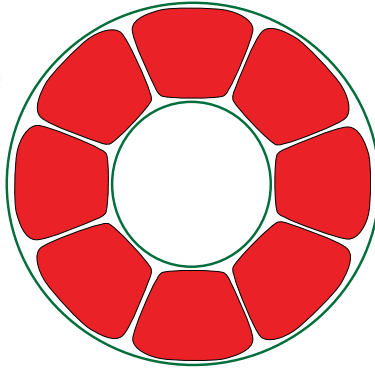
Part Number	Bus	Sounder	Rotary Slider	Touch Pad Array	Main Attribute
MPR083	I ² C with $\overline{\text{IRQ}}$	Yes	8 positions	—	Highest resolution rotary
MPR084	I ² C with $\overline{\text{IRQ}}$	Yes	—	8 pads	Eight independent touch pads

Documentation

Part Number	Document Title	Summary
MPR083	MPR083 Data Sheet	This data sheet presents the specifications for this product.



Evaluation Board



8-Position Rotary Wheel

Features

- 1.8–3.6V operation
- 150 μA average supply current (all touch pads being monitored)
- 10 μA standby current
- Supports an 8-position rotary
- Proprietary false touch rejection technology
- Ongoing pad analysis and detection not reset by EMI events
- IRQ output advises when FIFO has data
- System can set interrupt behavior as immediate after event or program a minimum time between successive interrupts
- Sounder drive provides audible feedback to simulate mechanical key clicks
- Digital output (I²C with custom addressing)
- 16-pin QFN and TSSOP packages
- -40°C to +85°C operating temperature range

Learn More:

For current information about Freescale products and documentation, please visit www.freescale.com/proximity.