



Freescle - KITMPR03XEVm - KITMPR03XEVm Demo Kit

Product Overview:

Mechanical buttons and switches for touch user interfaces are becoming a thing of the past. Proximity capacitive touch sensors in simple linear or rotational sliders offer significant advantages for numerous applications. They are more convenient to use with no moving parts to wear out, more energy efficient and are more easily integrated to create an intelligent system.

The KITMPR03XEVm evaluation kit allows a user to observe the basic functionality of the device through a couple of demo's including a pinball game and a presentation device. In addition, a more detailed evaluation mode teaches a user to configure the part and can allow for quick changes to settings.



Kit Contents:

The KITMPR03XEVm Evaluation Kit contains the hardware essentials you will need to use the Kit. The items in the Evaluation Kit and their use are as follows.

- KITMPR03x motherboard
- MPR031 DIP board
- 2+IRQ electrode daughter card
- 3 electrode daughter card
- 4 MPR031 cut tape samples
- Quick Start Guide

Key Features:

- 1.71V to 2.75V operation
- 8 μ A supply current with two electrodes being monitored with 64 ms response time and IRQ enabled
- 4 μ A maximum shutdown current
- Two electrodes plus IRQ

- Three electrodes and no IRQ
- Continuous independent auto-calibration for each electrode input
- Separate touch and release trip thresholds for each electrode, providing hysteresis and electrode independence
- I2C interface, with optional IRQ output to advise electrode status changes
- 2 x 2 x 0.65 mm 8-lead uDFN package
- -40°C to +85°C operating temperature range

Ordering Information:

Products:

Part Number	Manufacturer	Farnell P/N	Newark P/N
KITMPR03XEVM	Freescale	1692726	26R2784

Associated Products:

Part Number	Manufacturer	Description	Farnell P/N	Newark P/N
KITSTARTER1EVM	Freescale	Sensor Toolbox Starter Kit	NA	26R2788
MPR03EP	Freescale	Proximity Capacitive Touch Sensor Controller	NA	NA
MC9S08QG8CDTER	Freescale	HCS08 Microcontrollers	1535914	14M6124
BSS138LT1G	Onsemi	Power MOSFET 200 mA, 50 V N-Channel SOT-23	1431319RL	83H6430
FT232BL	FTDI	FT232BL USB UART (USB - Serial) I.C.	9519769	38K1551
LM317LD	ST	3-TERMINAL ADJUSTABLE REGULATOR	1087202	26M0373
AD5161BRMZ10	ADI	256-Position Selectable Potentiometer	1438420	59K3554

Similar Products:

Part Number	Manufacturer	Description	Support Device	Farnell P/N	Newark P/N
CY3218-CAPEXP3	Cypress	Cap Sense Express Evaluation Kit	CY8C20142	1601049	11N4462
DM164125	Microchip	PICDEM Touch Sense 1 Development Kit	PIC16F677, PIC16F887	1547488	78M5155

STEVAL-IFP004V1	ST	STEVAL-IFP004V1 Digital input termination PCLT2	PCLT2	1694057	45P5437
CAPTOUCHSENSESK	Silicon Labs	Capacitive Touch Sense Starter Kit	C8051F931	1558938	94M6556
DEMOMPR031	Freescale	Demo board for MPR031	MPR03X	1692725	26R2641

Document List:

Datasheets:

Part Number	Description	Size
MPR03X	Proximity Capacitive Touch Sensor Controller	303KB
MC9S08QG8	HCS08 Microcontrollers	3.04MB
BSS138LT1	Power MOSFET 200 mA, 50 V N-Channel SOT-23	128KB
FT232BL	FT232BL USB UART (USB - Serial) I.C.	539kB
LM317L	3-TERMINAL ADJUSTABLE REGULATOR	488KB
AD5161	256-Position SPI/I2C Selectable Digital Potentiometer	534KB

Application Notes:

File Name	Size
AN3516 E-field Keyboard Designs	213KB
AN3579 Enabling an MCU for Touch Sensing with Proximity Sensor software	670KB
AN3863 Designing Touch Sensing Electrodes Electrical Considerations and Recommended Layout Patterns	818KB

Hardware & Software:

File Name	Size
KITMPR03XEVM Schematic	122KB

Others Resources:

File Name	Size
White Paper - New Possibilities for Freescale Proximity Touch Sensors	207KB
White Paper - Proximity Capacitive Sensor Technology for Touch Sensing Applications	493KB

