

## Touch Sensor Flex Connector J3

Connector J3 connects to the touch sensor flex and carries signals used by the maXTouch controller to detect input on the touch sensor.

Pin	Type	Description
1	P	GND
2	I/O	X13
3	I/O	X12
4	I/O	X11
5	I/O	X10
6	I/O	X9
7	I/O	X8
8	I/O	X7
9	I/O	X6
10	I/O	X5
11	I/O	X4
12	I/O	X3
13	I/O	X2

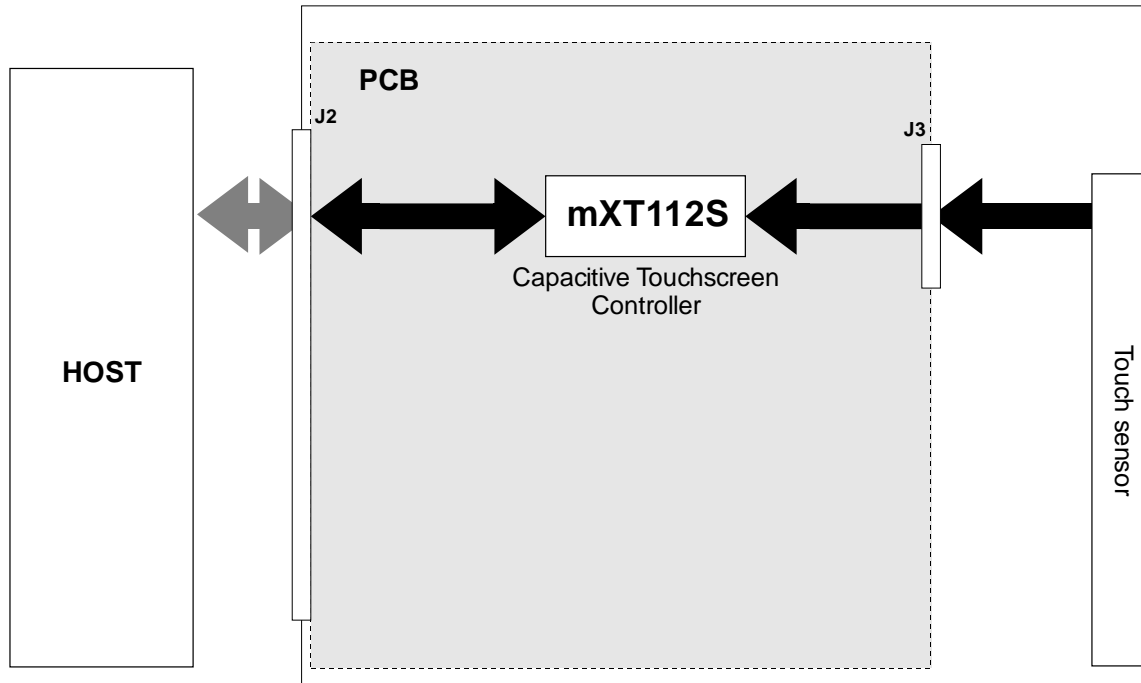
Pin	Type	Description
14	I/O	X1
15	I/O	X0
16	P	GND
17	P	GND
18	I/O	Y0
19	I/O	Y1
20	I/O	Y2
21	I/O	Y3
22	I/O	Y4
23	I/O	Y5
24	I/O	Y6
25	I/O	Y7
26	P	GND

## Debug Connector J4

Connector J4 carries signals used to debug the maXTouch Touch Controller.

Pin	Type	Description	MXT
1	-	N/C	
2	-	N/C	
3	O	~MXT_CHG	•
4	-	N/C	
5	I	I <sup>2</sup> C SDA	•

Pin	Type	Description	MXT
6	I/O	I <sup>2</sup> C SCL	•
7	P	3.3V	
8	P	GND	
9	O	DBG DATA	•
10	O	DBG CLK	•



## maXTouch Capacitive Touchscreen Controller

The module touch screen interface is based on the Atmel maXTouch mXT112S Touch Controller and operates on the touch sensor at [Connector J3](#).

The touch controller scans the touch sensor and will signal the host with an active low interrupt signal ( $\sim$ MXT\_CHG on [J2](#)) when new touch data is available. Data communication with the maXTouch controller is performed over the I<sup>2</sup>C interface (on [J2](#)). The I<sup>2</sup>C address of the touch controller is fixed at **0x4A** is not configurable.

**NOTE: pull-up resistors on the I<sup>2</sup>C SCL (R32) and SDA (R31) lines. A pull-up resistor for the maXTouch  $\sim$ CHG interrupt signal is located at R33.**

### maXTouch Controller Interface

Details of the maXTouch communication protocol are beyond the scope of this document. However information is provided below to facilitate evaluation and initial development.

**This module is pre-loaded with a configuration already optimized for this touch sensor and panel, so the developer need only focus on interfacing with the device. When developing the maXTouch controller interface during evaluation and host development, care should be taken to avoid changing the maXTouch configuration or committing changes to NV storage on the maXTouch controller.**

### I2C-compatible Bus Specifications

Parameter	Operation
Touchscreen Controller Address	0x4A
Maximum bus speed (SCL)	400 kHz
I2C Specification	Version 2.1
Bus Voltage	2.8V (Adjustable down to 1.8V)

3.3Vdc

mXT112S in Free Run