

# CT10743 Controller Board Specification

PCAP Microchip® mxT2952T2 I<sup>2</sup>C

**Sustaining Quality,  
Exceeding Expectations**

**DawarTouch®**

## 1. General Description

The CT10743 is a base controller board custom designed for Dawar's line of standard projected capacitive (PCAP) touch sensors. The board uses the Microchip® mxT2952T2 maXTouch® controller. The communications interface is standard I<sup>2</sup>C @ 400kHz. The CT10743 is an unprogrammed board. Programmed versions of this board are assigned custom CT part numbers.

For more information on the mxT2952T2 controller refer to the following Microchip® documentation:

- ▶ mxT2952T2 Datasheet
- ▶ Interfacing with maXTouch Touchscreen Controllers

Both documents are available on [Microchip's website](#).

## 2. Functional Description

The CT10743 controller supports the following features:

- ▶ Up to 16 finger touches
- ▶ Stylus touches (stylus diameter depends on sensor design)
- ▶ Glove touches
- ▶ Thick cover lenses (up to 4mm glass, 2mm plastic)
- ▶ Greater than 100Hz report rate
- ▶ Low latency (<10ms for first touch report from idle mode)
- ▶ Automatic self-calibration
- ▶ Aggressive noise avoidance and noise cancellation features
- ▶ Maximum resolution of 4095 x 4095

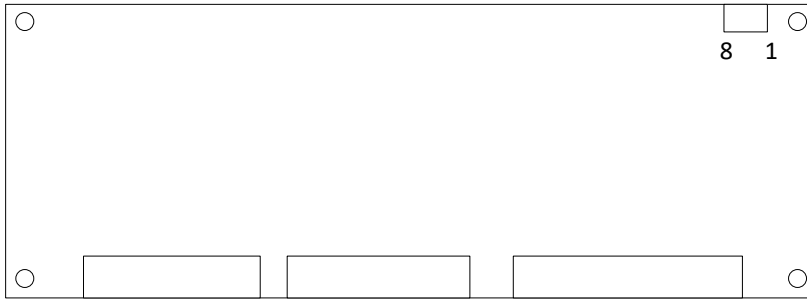
Additional tuning support from Dawar is available for specialized applications.

## 3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	3.0	3.3	3.4	V	
Active Current	-	40	-	mA	Note 1
Sleep Current	-	720	-	µA	
X Electrodes	-	41	-	-	
Y Electrodes	-	71	-	-	

*Note 1: Active power depends on configuration settings and number of touches.*

## 4. Connector



Pin	Description	Note
1	GPIO1	GPIO – contact Dawar for information
2	GPIO2	GPIO – contact Dawar for information
3	/RESET	Active low reset with 10k pull-up to 3.3V
4	/CHG	Active low interrupt indicating data is available with 3.3k pull-up to 3.3 V
5	SDA	I2C data with 3.3k pull-up to 3.3 V
6	SCL	I2C clock with 3.3k pull-up to 3.3 V
7	GND	
8	3.3V	

Mating connector is Molex 503480-0800.

I<sup>2</sup>C address is 0x4B.

## 5. Environmental Specifications

Parameter	Min	Typ	Max	Units	Remarks
Operating Temperature	-40	-	85	°C	
Storage Temperature	-40	-	90	°C	
Relative Humidity	0	-	95	%RH	Note 1

Note 1: RH is defined at 60°C, non-condensing.

## 6. Operating System Support

Operating System	Supported	Remarks
Microsoft Windows XP	No	
Microsoft Windows 7	No	
Microsoft Windows 8	No	Note 1
Microsoft Windows 10	No	Note 1
Linux	Yes	Note 2

Note 1: Windows HID over I<sup>2</sup>C is supported on custom designs.

Note 2: For information on Linux drivers refer to <https://github.com/atmel-maxtouch/linux/wiki>.

## 7. Product Life

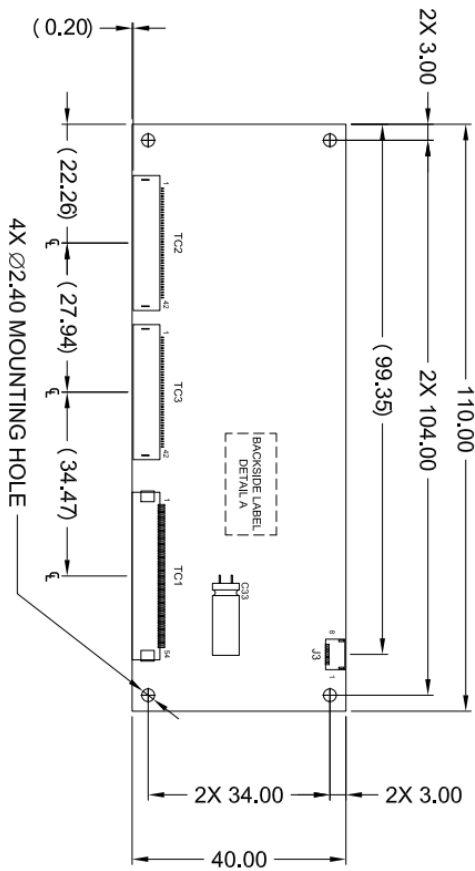
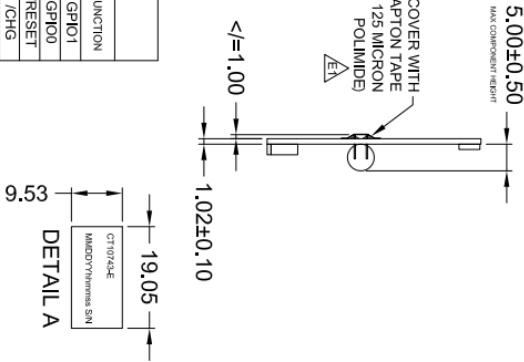
Dawar Technologies is committed to providing products stability and support to our valued customers throughout the life of the product. All Dawar Touch products meet the following minimum requirements:

- ▶ 5 year minimum product lifecycle
- ▶ 12 month end of life (EOL) notification
- ▶ Last time buy option with EOL notification
- ▶ 60 day change notification for any change that affects form, fit, or function



- NOTES:
- CONNECTOR FOR TC1: MOST WELL MWFP005PSN-54-X-X-L
  - CONNECTOR FOR TC2: MOST WELL MWFP005PSN-42-X-X-L
  - CONNECTOR FOR TC3: MOST WELL MWFP005PSN-42-X-X-L
  - CONNECTOR FOR J3: MOLEX 503480-0800
  - DIMENSIONS IN PARENTHESIS ARE FOR REFERENCE ONLY

J3	
PIN	FUNCTION
1	GPIO1
2	GPIO0
3	/RESET
4	/CHG
5	SDA
6	SCL
7	GROUND
8	I2C_3.3V



**Controlled**  
 ENGINEERING / GRAPHICS  
 Tony Houos  
 2019.01.31  
 14:23:55  
 -07'00'

REV		DESCRIPTION		DATE	
NO	BY	DATE	DESCRIPTION	NO	DATE
A	1	-	INITIAL RELEASE	AMH	06-29-17
B	1	-	-	-	-
C	1	1289	CORRECTED TRACE ROUTING	AMH	06-21-17
D	1	1280	CHANGED CHIP FROM RM10355 TO RM10431	AMH	06-13-17
E	1	1411	IMPLEMENTED VENDOR STOCKING 330 STRUCTURE. CHGD SOLDER HEIGHT FOR CAP AND ADDED PROTECTIVE TAPE.	AMH	12-01-19

**Dawar Touch**  
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DESCRIPTION	DESCRIPTION NO.	DESIGNER	DATE
ATMEL 295273 PCA9 CONTROLLER - I2C 5A170 PIN STANDARD	NONE	TONY/HOUOS	1-28-17

TRANSMISSION NO.	DATE
CT10743E	1

TOLERANCE	SHEET	DESIGNED BY	DATE
10% (UNLESS SPECIFIED)	1 OF 1	TONY/HOUOS	1-28-17



**Revision History**

Revision	Date	Content	Author
A	9-13-2019	Initial Release	Tony Gray
B	1-29-2020	Updated drawing	Tony Gray