

CT10455 Chip-On-Flex Specification

PCAP Microchip® mxT640T I²C

**Sustaining Quality,
Exceeding Expectations**

DawarTouch®

1. General Description

The CT10455 is a base chip-on-flex (COF) circuit designed for Dawar’s line of standard projected capacitive (PCAP) touch sensors. The COF uses the Microchip® mxT640T maXTouch® controller. The communications interface is standard I²C @ 400kHz. The CT10455 is an unprogrammed COF. Programmed versions of this COF are assigned custom CT part numbers.

For more information on the mxT640T controller refer to the following Microchip® documentation:

- ▶ mxT640T Datasheet
- ▶ Interfacing with maXTouch Touchscreen Controllers

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

2. Functional Description

The CT10455 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

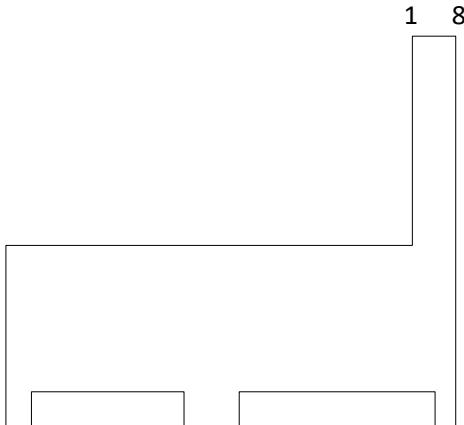
Additional tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	3.0	3.3	3.4	V	
Active Current	-	18	-	mA	Note 1
Sleep Current	-	186	-	µA	
X Electrodes	-	-	30	-	
Y Electrodes	-	-	20	-	

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

4. Connector



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

Mating connector is Molex 503480-0800.

I²C 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 I²C is supported on custom designs.

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

7. Product Life

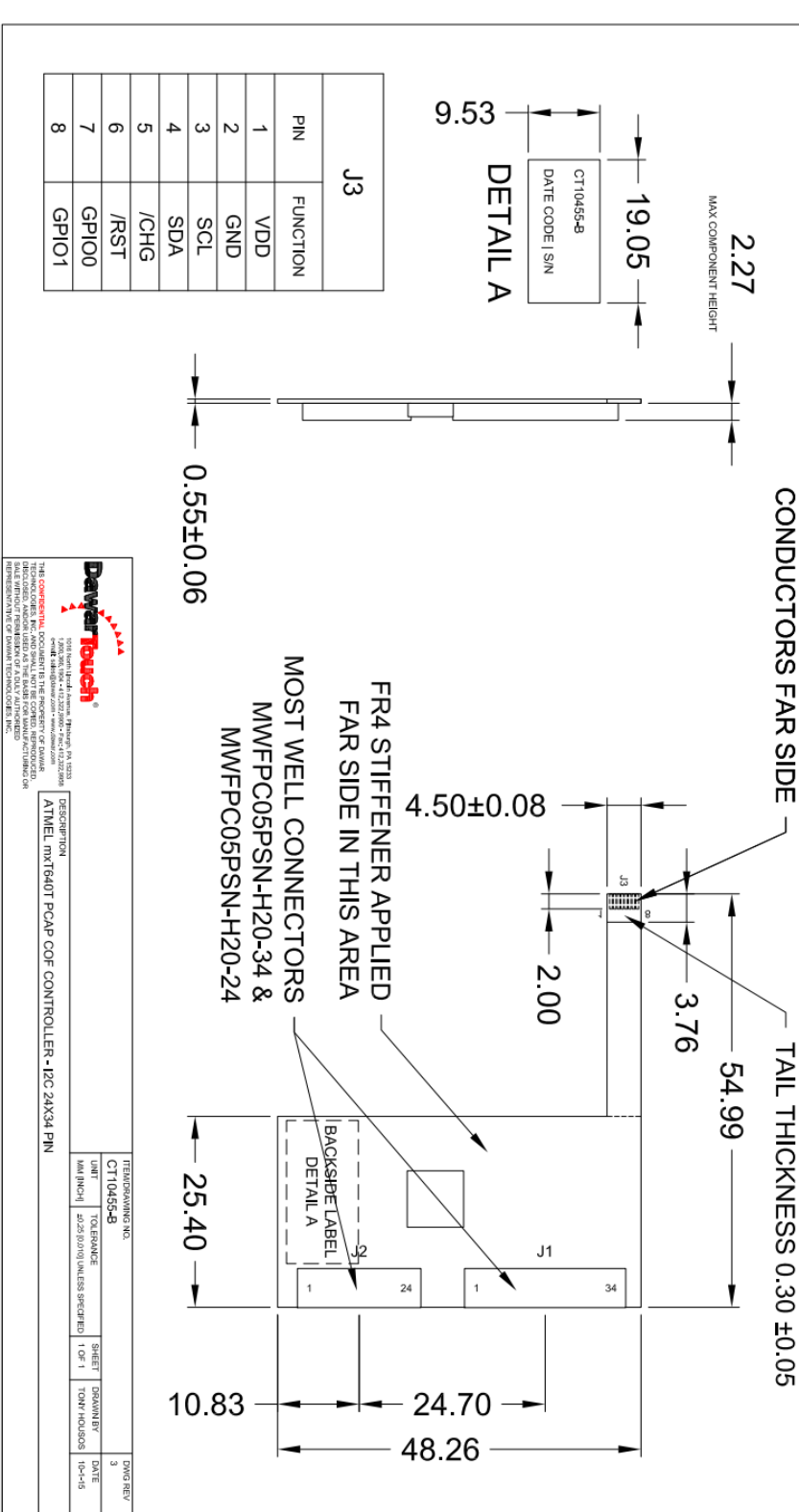
Dawar Technologies is committed to providing products stability and support to our valued customers throughout the life of the product. All Dawar Touch products meet the following minimum requirements:

- ▶ 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 J1: MOST WELL MWFP05PPSN-H20-34
 - CONNECTOR J2: MOST WELL MWFP05PPSN-H20-24
 - MATING CONNECTOR FOR J3: MOLEX 503480-0800 OR EQUIV.
 - J3: TRACE PITCH - 0.50±0.05 TRACE WIDTH - 0.35±0.03

Controlled
 2019.06.06
 ENGINEERING / GRAPHS 09:38:47 -0400'
 Cassie Ostrowski

REV	BY	DATE	DESCRIPTION	APPROVED
A	1	-	INITIAL RELEASE	AMH 10-21-15
A	2	-	CORRECTED BOARD THICKNESS	AMH 11-20-15
A	3	10/29	CORRECTED CONN HEIGHT & THICKNESS SPECIFICATION	AMH 02-10-16
B	1	12/15	CHANGED INTERNALS ISL5000AEZ1 TO MICROB MICRO5K-28VCS TR	AMH 05-16-17
B	2	-	ADDED NOTES 1, 2 & 4.	HYC 11-28-18
B	3	10/9	ADDED LABEL & LABEL DETAIL	EMK 02-06-19



J3	
PIN	FUNCTION
1	VDD
2	GND
3	SCL
4	SDA
5	/CHG
6	/RST
7	GPIO0
8	GPIO1

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DESCRIPTION: ATINEL MIX TQ40T PCAP COP CONTROLLER - I2C 24X34 PIN

TEMPORARY NO.	CT10455-8
DATE	10-21-15
DESIGNED BY	AMH
CHECKED BY	AMH
DATE	10-21-15
APPROVED BY	AMH
DATE	10-21-15

Revision History

Revision	Date	Content	Author
A	9-6-2019	Initial Release	Tony Gray
B	1-29-2020	Updated drawing	Tony Gray