CT10580 Controller Board Specification

PCAP Microchip® mxT1664T3 I²C

Sustaining Quality,
Exceeding Expectations

DawarTouch®

DAWAR
THINKING BEYOND THE TOUCH
921 Ridge Ave., Pittsburgh, PA 15212
PH: 800-366-1904 | E-mail: sales@dawar.com
dawar.com

January 29, 2020
Rev B

1. General Description

The CT10580 is a base controller board designed for Dawar's line of standard projected capacitive (PCAP) touch sensors. The board uses the Microchip® mxT1664T3 maXTouch® controller. The communications interface is standard I^2C @ 400kHz. The CT10580 is an unprogrammed board. Programmed versions of this board are assigned custom CT part numbers.

For more information on the mxT1664T3 controller refer to the following Microchip® documentation:

- mxT1664T3 Datasheet
- Interfacing with maXTouch Touchscreen Controllers

Both documents are available on Microchip's website.

2. Functional Description

The CT10580 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

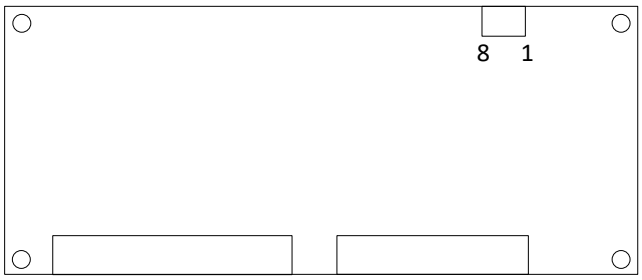
Additional tuning support from Dawar is available for specialized applications.

3. Electrical Specifications

Parameter	Min	Typ	Max	Units	Remarks
Digital Power Supply (VDD)	3.0	3.3	3.4	V	
Active Current	-	33	-	mA	Note 1
Sleep Current	-	3.5	-	mA	
X Electrodes	-	-	32	-	
Y Electrodes	-	-	50	-	

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^2C 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

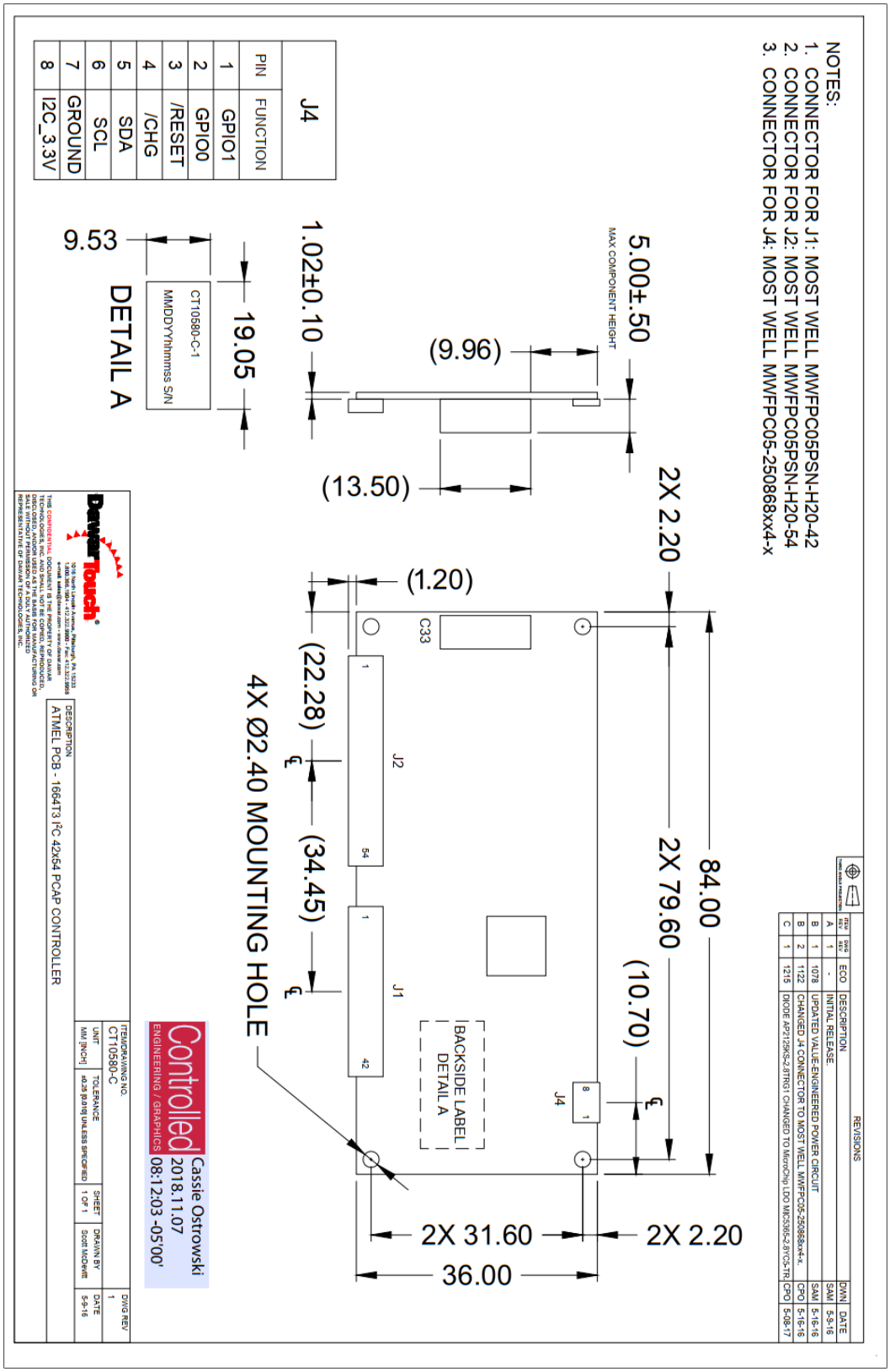
Note 1: Windows HID over I^2C is supported on custom designs.
Note 2: For information on Linux drivers refer to https://github.com/atmel-maxtouch/linux/wiki.

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:
1. CONNECTOR FOR J1: MOST WELL MWFPC05PSN-H20-42
2. CONNECTOR FOR J2: MOST WELL MWFPC05PSN-H20-54
3. CONNECTOR FOR J4: MOST WELL MWFPC05-250868xx4-x
REVISIONS
REV DWG REV ECO DESCRIPTION DWN DATE
A 1 - INITIAL RELEASE SAM 5-9-16
B 1 1078 UPDATED VALUE-ENGINEERED POWER CIRCUIT SAM 5-16-16
B 2 1122 CHANGED J4 CONNECTOR TO MOST WELL MWFPC05-250868xx4-x. CPO 5-16-16
C 1 1215 DIODE AP2128K5-2.8TRG1 CHANGED TO MirrorChip LDO MIC5365-2.8YC5-TR CPO 5-08-17
J4
PIN FUNCTION
1 GPIO1
2 GPIO0
3 /RESET
4 /CHG
5 SDA
6 SCL
7 GROUND
8 I2C_3.3V
5.00±.50
MAX COMPONENT HEIGHT
(9.96)
(13.50)
1.02±0.10
19.05
9.53
DETAIL A
CT10580-C-1
MMDDYYhhmmss S/N
2X 2.20
(1.20)
(22.28)
(34.45)
4X Ø2.40 MOUNTING HOLE
C33
J2
J1
J4
BACKSIDE LABEL
DETAIL A
84.00
2X 79.60
(10.70)
2X 31.60
2X 2.20
36.00
Controlled
ENGINEERING / GRAPHICS
Cassie Ostrowski
2018.11.07
08:12:03 -05'00'
DawarTouch
ITEM/DRAWING NO. CT10580-C
DESCRIPTION ATMEL PCB - 1664T3 I²C 42x54 PCAP CONTROLLER
UNIT MM [INCH]
TOLERANCE ±0.25 [0.010] UNLESS SPECIFIED
SHEET 1 OF 1
DRAWN BY Scott McDevitt
DATE 5-9-16
DWG REV 1
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Revision History

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