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Spec No: 001-91025

Spec Title: CY8CTMA140, TRUETOUCH(R) MULTI-TOUCH ALL-POINTS TOUCHSCREEN CONTROLLER (SUMMARY)

Sunset Owner: Rachael Sewell (SWU)

Replaced by: None

SUMMARY

CY8CTMA140

TrueTouch® Multi-Touch All-Points Touchscreen Controller

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Features

- TrueTouch® capacitive touchscreen controller
  - Tracks up to four fingers independently
  - Screen sizes up to 4.5-inch diagonal
    - Can support up to 7-inch diagonal with stretched sensor pitch
  - Up to 32 sense pins; senses up to 252 intersections
  - Large object detection
  - Fat finger detection and tracking
  - Charger Armor™ technology, featuring adaptive frequency hopping, which provides battery charger noise immunity
  - Self-calibrating to environmental changes
  - Smart noise suppression in LCD, battery charger, common-mode, and RF environments
  - Android and Windows Phone Series 7 compliant
  - Supports unregulated dual-rail inputs
    - 1.71 V to 3.6 V digital supply voltage
    - 2.7 V to 3.6 V analog supply voltage
    - Supports single shared supply from 2.7 V to 3.6 V
- Performance
  - Best in class signal-to-noise ratio (SNR)
  - Noise-free resolution: 0.1 mm
  - Accuracy: 0.5 mm
  - Finger separation: 3.5 mm
  - >60 Hz refresh rate with up to four fingers on the touchscreen
  - Low Power state current less than 1.3 mA
  - Deep Sleep state current of 1 µA
- Extended feature set
  - Integrated CapSense® button support
- Sensor and system design
  - Supports chip-on-flex and chip-on-board
  - Configurable to work with plastic film and glass touch sensors
  - Supports a variety of touchscreen sensors and stackups
- Communication interface
  - I^2C slave up to 400 kHz
  - SPI slave with 2 Mbps sustained data throughput
  - Field upgrades through integrated bootloader
- Manufacturing test
  - Integrated test firmware
- Package options
  - 36-pin QFN (5 × 5 × 0.6 mm)
  - 48-pin QFN (6 × 6 × 0.6 mm)

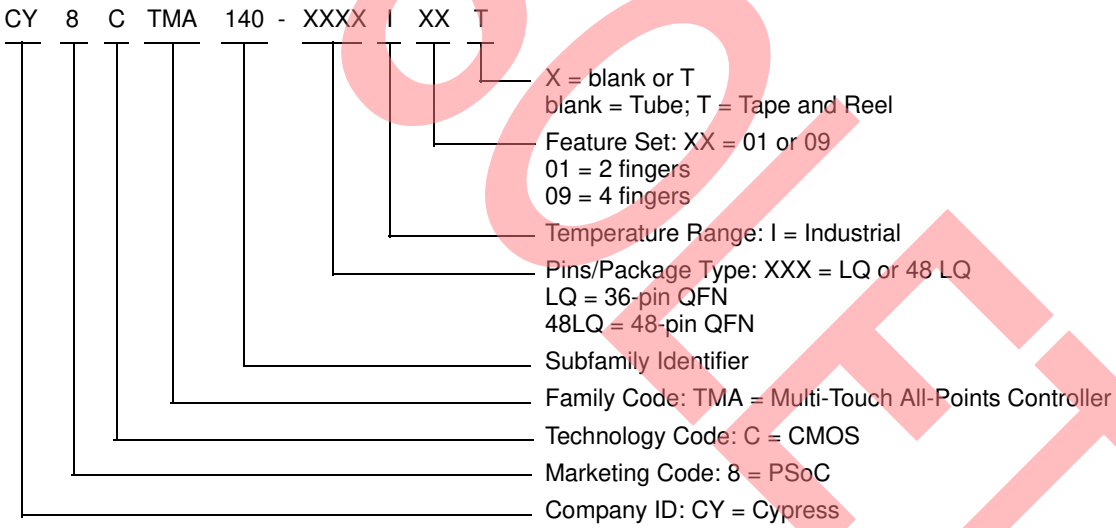
Ordering Information

Table 1 lists the TrueTouch Standard Product Multi-Touch All-PointsTouchscreen Controllers. The table contains only the parts that are currently available. If you do not see what you are looking for, contact your local sales representative. For more information, visit the Cypress website at www.cypress.com and refer to the product summary page at http://www.cypress.com/products.

Table 1. Device Ordering Information

Part Number	TrueTouch							Sensor		Minimum Interface Voltage	Digital Supply Voltage Operating Range	Analog Supply Voltage Operating Range Voltage	Bootloader	I²C	SPI	Package	Unique ID
	Max Screen Size (in.) (4:3 Aspect Ratio)	Maximum Nodes	Maximum Fingers	Ghost-Free Tracking	Charger Armor	On-chip Gesture Decoding	Large Object Detection	Glass	Film								
CY8CTMA140-LQI-01(T)	3.2	132	2	✔	✔	✔	✔	✔	✔	1.8	1.71–3.6	2.7–3.6	✔	✔	✔	36-pin QFN	05C1H
CY8CTMA140-48LQI-01(T)	4.5	252	2	✔	✔	✔	✔	✔	✔	1.8	1.71–3.6	2.7–3.6	✔	✔	✔	48-pin QFN	05C3H
CY8CTMA140-LQI-09(T)	3.2	132	4	✔	✔	✔	✔	✔	✔	1.8	1.71–3.6	2.7–3.6	✔	✔	✔	36-pin QFN	05C4H
CY8CTMA140-48LQI-09(T)	4.5	252	4	✔	✔	✔	✔	✔	✔	1.8	1.71–3.6	2.7–3.6	✔	✔	✔	48-pin QFN	05C5H

Ordering Code Definitions



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Document History Page

Document Title: CY8CTMA140, TrueTouch® Multi-Touch All-Points Touchscreen Controller Document Number: 001-91025				
Rev.	**ECN**	**Orig. of Change**	**Submission Date**	**Description of Change**
**	4278978	SWU	02/12/2014	New summary datasheet.
*A	4788718	SWU	06/08/2015	Obsolete document.

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PSoC 1 | PSoC 3 | PSoC 5

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