



**THIS SPEC IS OBSOLETE**

Spec No: 001-91022

Spec Title: CY8CTMA1036/768 TRUETOUCH(R) MULTI-TOUCH  
ALL-POINTS TOUCHSCREEN CONTROLLER (SUMMARY)

Sunset Owner: Rachael Sewell(SWU)

Replaced by: None

# TrueTouch® Multi-Touch All-Points Touchscreen Controller

## Features

### ■ Multi-touch capacitive touchscreen controller

- 32-bit ARM Cortex CPU
- Register configurable
- Noise suppression technologies for battery charger and display
  - Effective 28-V drive for higher signal-to-noise ratio (SNR)
  - ChargerArmor™ for charger noise immunity
  - External display synchronization
- Water rejection and wet finger tracking
- Large object rejection
- Automatic baseline tracking to environmental changes
- Low-power look-for-touch mode
- Field upgrades via bootloader
- Android™ driver support
- Cypress manufacturing test kit (MTK)
- Touchscreen sensor self-test and ID reporting

### ■ System performance

- Screen sizes up to 10.1-inch diagonal
  - 5.5-mm sensor pitch, 4:3 aspect ratio
- Up to 65 sense pins
  - 1036 intersections, (37 × 28)
- Reports up to 10 fingers
- Small finger support down to 4 mm
- Large finger support up to 22 mm
- Refresh rate up to 80 Hz; other rates configurable
- Fast first-touch response (≤25 ms)

### ■ Charger noise immunity

- Immunity up to 5 peak-to-peak voltage ( $V_{PP}$ )

### ■ Power (configuration dependent)

- 1.71- to 5.5-V digital and I/O supply
- 2.60- to 5.5-V analog supply
- 9.25-mW average power
- 45-μW typical deep-sleep power

### ■ Sensor and system design (configuration dependent)

- Supports a variety of touchscreen sensors and stackups
  - Manhattan and diamond patterns
  - Sensor-on-lens (SOL)
  - Plastic (PET) and glass sensor substrates
  - LCD and AMOLED displays
- Single-layer flexible printed circuit (FPC) routing enabled by flexible TX/RX configurations

### ■ Communication interface

- I<sup>2</sup>C slave at all standard bit rates
  - 100 kbps, 400 kbps, 1 Mbps, and 3.4 Mbps
- SPI slave bit rates up to 10 Mbps

### ■ Package

- 84-ball 6 × 6 × 0.6 UFBGA (0.5-mm ball pitch)

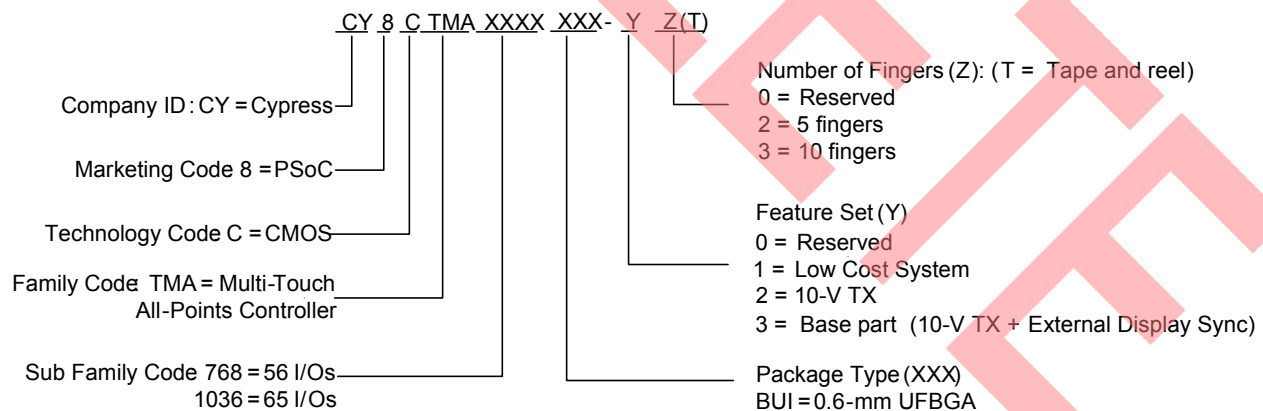
## Ordering Information

Table 1 lists the CY8CTMA1036/768 (Gen4\_L) TrueTouch touchscreen controllers. For information on other TrueTouch families, visit <http://www.cypress.com/truetouch>.

**Table 1. Device Ordering Information**

Family	Part Number	TrueTouch									Package	
		Number of Sense Pins	Typ Screen Size " (4.7mm pitch, 4:3 aspect ratio)	Maximum Fingers	ChargerArmor	CapSense Buttons	Water rejection	Large Object detect & Reject	10-V TX	External Display Sync	Package	Package Size (mm)
Low Cost System	CY8CTMA768BUI-12 (T)	56	7.5	5	4	4	4	4	—	—	84 BGA	6 x 6 x 0.6
	CY8CTMA768BUI-13 (T)	56	7.5	10	4	4	4	4	—	—	84 BGA	6 x 6 x 0.6
	CY8CTMA1036BUI-12 (T)	65	8.6	5	4	4	4	4	—	—	84 BGA	6 x 6 x 0.6
	CY8CTMA1036BUI-13 (T)	65	8.6	10	4	4	4	4	—	—	84 BGA	6 x 6 x 0.6
10-V TX	CY8CTMA768BUI-23 (T)	56	7.5	10	4	4	4	4	4	—	84 BGA	6 x 6 x 0.6
	CY8CTMA1036BUI-23 (T)	65	8.6	10	4	4	4	4	4	—	84 BGA	6 x 6 x 0.6
Base	CY8CTMA768BUI-33 (T)	56	7.5	10	4	4	4	4	4	4	84 BGA	6 x 6 x 0.6
	CY8CTMA1036BUI-33 (T)	65	8.6	10	4	4	4	4	4	4	84 BGA	6 x 6 x 0.6
Custom: Reserved for Kits	CY8CTMA768BUI-00	56	7.5	10	4	4	4	4	4	4	84 BGA	6 x 6 x 0.6
	CY8CTMA1036BUI-00	65	8.6	10	4	4	4	4	4	4	84 BGA	6 x 6 x 0.6

## Ordering Code Definitions



## Document History

Document Title: CY8CTMA1036/768 TrueTouch® Multi-Touch All-Points Touchscreen Controller Document Number: 001-91022				
Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	4274818	SWU	02/11/2014	New datasheet.
*A	4788718	SWU	06/08/2015	Obsolete document.

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