THIS SPEC IS OBSOLETE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

SUMMARY

CY8CTMA1036/768

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^2C 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)

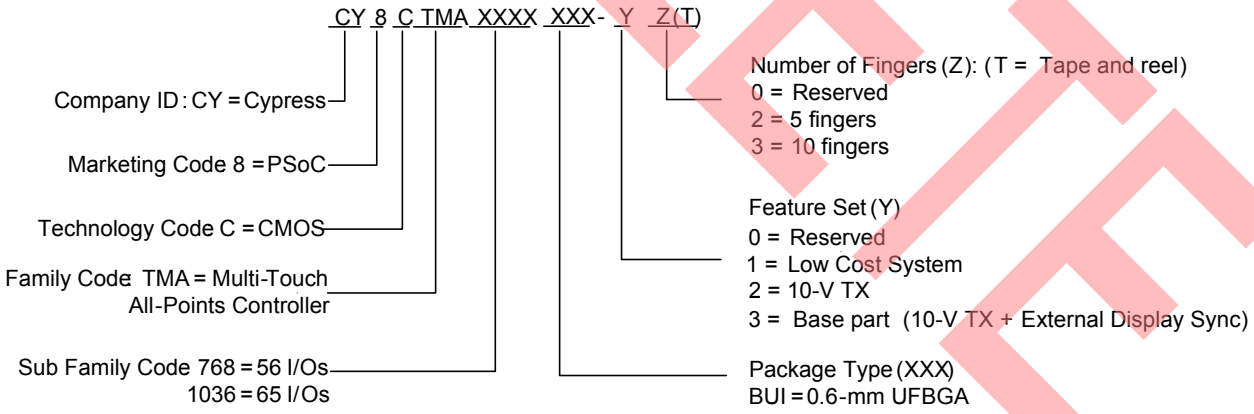
Ordering Information

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

		TrueTouch									Package	
Family	Part Number	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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