



THIS SPEC IS OBSOLETE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

- I²C 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)

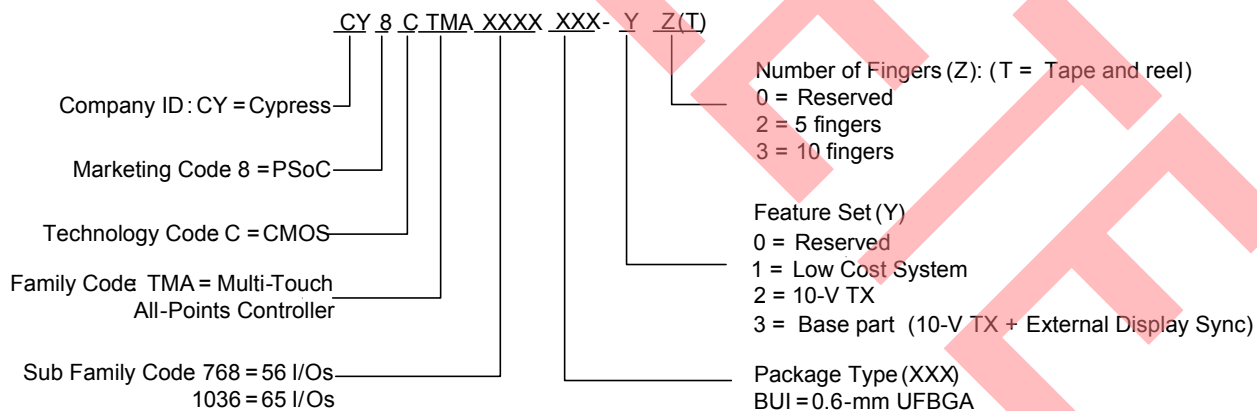
Ordering Information

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.

Sales, Solutions, and Legal Information

Worldwide Sales and Design Support

Cypress maintains a worldwide network of offices, solution centers, manufacturer's representatives, and distributors. To find the office closest to you, visit us at [Cypress Locations](#).

Products

Automotive	cypress.com/go/automotive
Clocks & Buffers	cypress.com/go/clocks
Interface	cypress.com/go/interface
Lighting & Power Control	cypress.com/go/powerpsoc
	cypress.com/go/plc
Memory	cypress.com/go/memory
PSoC	cypress.com/go/psoc
Touch Sensing	cypress.com/go/touch
USB Controllers	cypress.com/go/USB
Wireless/RF	cypress.com/go/wireless

PSoC Solutions

psoc.cypress.com/solutions
 PSoC 1 | PSoC 3 | PSoC 5

© Cypress Semiconductor Corporation, 2014-2015. The information contained herein is subject to change without notice. Cypress Semiconductor Corporation assumes no responsibility for the use of any circuitry other than circuitry embodied in a Cypress product. Nor does it convey or imply any license under patent or other rights. Cypress products are not warranted nor intended to be used for medical, life support, life saving, critical control, or safety applications, unless pursuant to an express written agreement with Cypress. Furthermore, Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress products in life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Any Source Code (software and/or firmware) is owned by Cypress Semiconductor Corporation (Cypress) and is protected by and subject to worldwide patent protection (United States and foreign), United States copyright laws and international treaty provisions. Cypress hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use, modify, create derivative works of, and compile the Cypress Source Code and derivative works for the sole purpose of creating custom software and or firmware in support of licensee product to be used only in conjunction with a Cypress integrated circuit as specified in the applicable agreement. Any reproduction, modification, translation, compilation, or representation of this Source Code except as specified above is prohibited without the express written permission of Cypress.

Disclaimer: CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Cypress reserves the right to make changes without further notice to the materials described herein. Cypress does not assume any liability arising out of the application or use of any product or circuit described herein. Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress' product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Use may be limited by and subject to the applicable Cypress software license agreement.