

SUMMARY

CY8CTMA884 CY8CTMA616

Automotive TrueTouch® Multi-Touch All-Points Touchscreen Controller

General Description

CY8CTMA884/CY8CTMA616 is a single-chip solution for touchscreen applications. It delivers up to 884-node, high-performance, mutual-capacitive sensing for screen sizes of 5.5-inch to 11.6-inch designs. It employs TrueTouch[®] Multi-Touch All-Points sensing to track up to 10 fingers simultaneously with no ghosting, and delivers up to 100-Hz refresh rate with 0.5-mm accuracy.

Features

- Automotive Electronics Council (AEC) Q100 qualified
- TrueTouch capacitive touchscreen controller
 - □ High-performance single-chip mutual-capacitance sensing
 - □ Up to 100-Hz single-finger refresh rate
 - □ Scan rate versus signal-to-noise ratio (SNR) trade-off for optimum system performance design
 - □ TrueTouch Multi-Touch All-Points sensing with up to 884 sense nodes
 - □ Screen sizes up to 11.6 inches
 - 10-finger simultaneous multi-touch tracking
 - □ 0.5-mm accuracy
 - ☐ 12-mm finger separation with 9-mm fingers
 - □ Supports up to 26 capacitive buttons
- Number of channels
 - □ Supports up to 60/50 sensor-driving I/Os: flexible configuration of column sensors, row sensors, and capacitive buttons
 - □ Supports typical sensor grid configuration
 - Up to 36 columns and up to 26 rows (max of 884 sense nodes with 34 columns and 26 rows) for TMA884
 - Up to 34 columns and up to 22 rows (max of 616 sense nodes with 28 columns and 22 rows) for TMA616

- Advanced capabilities
 - □ In-system configuration updates through I²C
 - Programmable power modes: Active (91 mW), Low Power (52 mW), and Deep Sleep (58 μW)
 - □ On-chip gesture support
- □ Water rejection
- Signal processing
 - ☐ Advanced analog and digital filtering
 - □ Self-calibration
 - □ Large object rejection and suppression
 - □ EMI immunity
- Communication interface

 - Dedicated bidirectional interrupt line
- Package options
 - □ 100-pin TQFP, 14 × 14 × 1.4 mm, 0.5-mm pin-pitch
- Temperature ranges
 - □ Automotive A: –40 °C to 85 °C
 - ☐ Automotive E: -40 °C to 125 °C

Cypress Semiconductor Corporation
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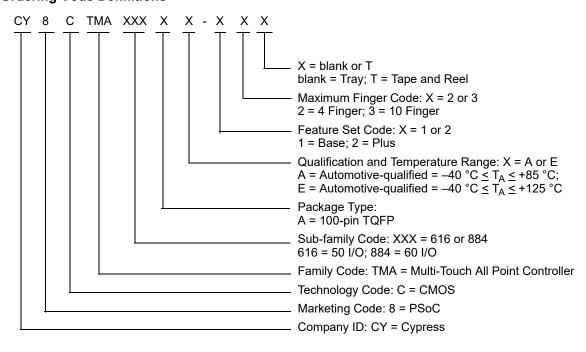
Revised September 22, 2017



Ordering Information

Part Number	Max Sensing I/O	Maximum Fingers	Boot- loader	Water Rejection	I ² C	Capacitive Buttons	Gestures	Description
CY8CTMA616AA-12 (T)	50	4	~	~	~	×	×	100-pin TQFP
CY8CTMA616AA-13 (T)	50	10	~	~	~	×	×	100-pin TQFP
CY8CTMA616AE-12 (T)	50	4	~	~	~	×	×	100-pin TQFP
CY8CTMA616AE-13 (T)	50	10	~	~	~	×	×	100-pin TQFP
CY8CTMA884AA-12 (T)	60	4	~	~	~	×	×	100-pin TQFP
CY8CTMA884AA-13 (T)	60	10	~	~	~	×	×	100-pin TQFP
CY8CTMA884AE-12 (T)	60	4	~	~	~	×	×	100-pin TQFP
CY8CTMA884AE-13 (T)	60	10	~	~	~	×	×	100-pin TQFP
CY8CTMA616AA-22 (T)	50	4	~	~	~	✓	~	100-pin TQFP
CY8CTMA616AA-23 (T)	50	10	~	~	~	'	~	100-pin TQFP
CY8CTMA616AE-22 (T)	50	4	~	~	~	'	~	100-pin TQFP
CY8CTMA616AE-23 (T)	50	10	~	~	~	~	~	100-pin TQFP
CY8CTMA884AA-22 (T)	60	4	~	~	~	'	~	100-pin TQFP
CY8CTMA884AA-23 (T)	60	10	~	~	~	'	~	100-pin TQFP
CY8CTMA884AE-22 (T)	60	4	~	~	~	~	~	100-pin TQFP
CY8CTMA884AE-23 (T)	60	10	'	~	~	~	/	100-pin TQFP

Ordering Code Definitions





Document History Page

Document Title: CY8CTMA884/CY8CTMA616, Automotive TrueTouch [®] Multi-Touch All-Points Touchscreen Controller Document Number: 001-94114							
Revision	ECN	Orig. of Change	Submission Date	Description of Change			
**	4495966	KAUL	09/09/2014	New summary datasheet.			
*A	5892454	ANEE		Updated to new template. Completing Sunset Review.			

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