Please note that Cypress is an Infineon Technologies Company. The document following this cover page is marked as “Cypress” document as this is the company that originally developed the product. Please note that Infineon will continue to offer the product to new and existing customers as part of the Infineon product portfolio.

**Continuity of document content**
The fact that Infineon offers the following product as part of the Infineon product portfolio does not lead to any changes to this document. Future revisions will occur when appropriate, and any changes will be set out on the document history page.

**Continuity of ordering part numbers**
Infineon continues to support existing part numbers. Please continue to use the ordering part numbers listed in the datasheet for ordering.
Features

Automotive Electronics Council (AEC) Q100 qualified
Multi-touch capacitive touchscreen and touchpad controller
- 32-bit ARM Cortex CPU
- Register configurable
- Noise suppression technologies for display and EMI
  - On-chip 10-V TX supply for higher signal-to-noise ratio (SNR)
  - 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, 4:3 aspect ratio (37 × 28)
- Reports up to 10 fingers
- Small finger support down to 5 mm
- Large finger support up to 22 mm
- Refresh rate up to 80 Hz; other rates configurable
- Fast first-touch response (≤ 37.5 ms for a 10.1-inch panel)

Power (configuration dependent)
- 1.71-V to 5.5-V digital and I/O supply
- 2.60-V to 5.5-V analog supply
- 71-mW average power while sensing
- 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 on cell flexible printed circuit (FPC) routing enabled by flexible TX/RX configurations

I²C and SPI interface options
- I²C slave at all standard bit rates
  - 100 kbps, 400 kbps, 1 Mbps, and 3.4 Mbps
- SPI slave bit rates up to 8 Mbps

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-S: –40 °C to 105 °C
Ordering Information

Table 1 lists the CY8CTMA1036/768/460 TrueTouch touchscreen controllers. For information on other TrueTouch families, visit http://www.cypress.com/truetouch.

Table 1. Device Ordering Information

<table>
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<th>Family</th>
<th>Marketing Part Number</th>
<th>Number of Sense Pins</th>
<th>Number of fingers</th>
<th>Capsense Buttons</th>
<th>Water Rejection</th>
<th>Object Detect and Reject</th>
<th>Glove Support</th>
<th>Gestures</th>
<th>10-V TX</th>
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Ordering Code Definitions

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- **T** = Tape and Reel
- **Number of Fingers (Z):**
  - 0 = Reserved
  - 3 = 10
- **Feature Set (Y):**
  - 0 = Reserved
  - 1 = Low-Cost System
  - 2 = Gestures
  - 3 = Base part (10-V TX + External Display Sync) + Gestures
- **Qualification and Temperature Range:**
  - **X** = A or S
  - **A** = Automotive-qualified: –40 °C < TA < +85 °C
  - **S** = Automotive-qualified: –40 °C < TA < +105 °C
- **Package Type**
  - **A** = 100-pin TQFP
- **Sub-family Code:**
  - 460 = 48 I/Os
  - 768 = 56 I/Os
  - 1036 = 65 I/Os
- **Family Code:**
  - TMA = Multi-Touch All-Points Controller
- **Technology Code:**
  - **C** = CMOS
- **Marketing Code:**
  - 8 = PSoC
- **Company ID:**
  - CY = Cypress
## Document History Page

**Document Title:** CY8CTMA1036/768/460 Automotive TrueTouch® Multi-Touch All-Points Touchscreen Controller  
**Document Number:** 001-94115

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<th>Revision</th>
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<td>KAUL</td>
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<td>Updated <a href="#">Ordering Code Definitions</a>. Updated Sales page and Copyright information.</td>
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SUMMARY

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
- ARM® Cortex® Microcontrollers: cypress.com/arm
- Automotive: cypress.com/automotive
- Clocks & Buffers: cypress.com/clocks
- Interface: cypress.com/interface
- Internet of Things: cypress.com/iot
- Memory: cypress.com/memory
- Microcontrollers: cypress.com/mcu
- PSoC: cypress.com/psoc
- Power Management ICs: cypress.com/pmic
- Touch Sensing: cypress.com/touch
- USB Controllers: cypress.com/usb
- Wireless Connectivity: cypress.com/wireless

PSOC® Solutions
- PSoC 1
- PSoC 3
- PSoC 4
- PSoC 5LP
- PSoC 6

Cypress Developer Community
- Forums
- WICED IOT Forums
- Projects
- Video
- Blogs
- Training
- Components

Technical Support
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