

TrueTouch[®] Multi-Touch All-Points Touchscreen Controller Datasheet

Features

- Multi-touch capacitive touchscreen controller
 - 32-bit ARM[®] Cortex[™] CPU
 - Register-configurable
 - Noise-suppression technologies for battery charger and display
 - Effective 24-V drive for higher signal-to-noise ratio (SNR)
 - ChargerArmor[™] for charger noise immunity
 - External display synchronization
 - Water rejection and wet-finger tracking using DualSense[™]
 - Multi-touch glove with automatic mode switching
 - Fingernail tracking
 - Large object rejection
 - Automatic baseline tracking to environmental changes
 - Low-power look-for-touch mode
 - Field upgrades via bootloader
 - Android[™] and Windows[®] Phone 8 driver support
 - Cypress Manufacturing Test Kit (MTK)
 - Touchscreen sensor self-test and Panel ID reporting
- System performance (configuration-dependent)
 - Screen sizes up to 3.0-inch diagonal
 - Up to 24 sense pins
 - 140 intersections (14 × 10)
 - Reports up to four fingers
 - Small finger support down to 4 mm
 - Large finger support up to 30 mm
 - Refresh rate up to 300 Hz; other rates configurable
 - TX frequency up to 500 kHz
 - Best-in-class charger noise immunity
 - Immunity up to 35-V peak-to-peak (V_{PP})
 - Immunity to AT&T[®] Zero charger
- Power (configuration-dependent)
 - 1.71-V to 1.95-V or 2.0-V to 5.5-V digital and I/O supply
 - 2.65-V to 4.7-V analog supply
 - 4-mW average power
 - 5.7- μ W typical deep-sleep power
- Sensor and system design (configuration-dependent)
 - Supports a variety of touchscreen sensors and stackups
 - Manhattan, diamond, Single-Layer Independent Multi-touch (SLIM[®]), and Totem-pole patterns
 - Sensor-on-Lens (SOL)
 - On-cell/hybrid in-cell touch-integrated display modules
 - Plastic (PET) and glass-sensor substrates
 - LCD, AMOLED, and IPS displays
 - Metal mesh
 - Single-layer flexible printed circuit (FPC) routing enabled by flexible transmit/receive (TX/RX) configurations
- Communication interface
 - I²C slave at 100 kbps and 400 kbps
- Package options
 - 34-ball 2.495-mm × 2.44-mm × 0.55-mm WLCSP (0.4-mm ball pitch)
 - 28-pin 4-mm × 4-mm × 0.4-mm QFN (0.4-mm lead pitch)

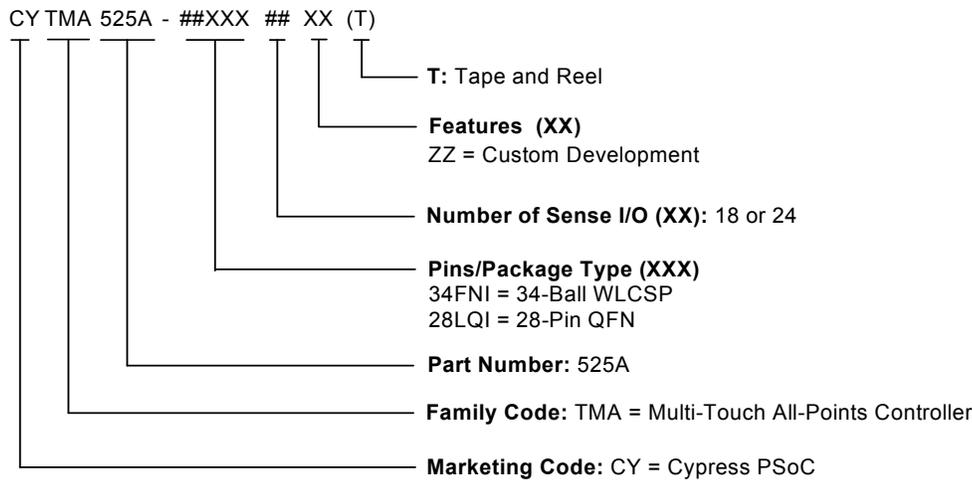
Ordering Information

Table 1 lists the CYTMA525A TrueTouch touchscreen controllers. For information on other TrueTouch families, visit <http://www.cypress.com/truetouch>.

Table 1. Device Ordering Information^[1]

Device Part Number		TrueTouch				Package
Segmentation	Part Number	Sense I/O	35-V _{pp} Charger Armor	DualSense	Glove	Type
Custom	CYTMA525A-34FNI24ZZ(T)	24	✓	✓	✓	34-Ball WLCSP
	CYTMA525A-28LQI18ZZ(T)	18	✓	✓	✓	28-Pin QFN

Ordering Code Definitions



Note

1. All devices have the following base features: ChargerArmor, CapSense buttons, Large Object Detection and Rejection, and Grip Suppression.

Document History Page

Document Title: CYTMA525A TrueTouch® Multi-Touch All-Points Touchscreen Controller Datasheet				
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Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	4670224	SWU	02/25/2015	New datasheet.

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