



TMA525A 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 24V TX 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[®] 8 driver support
 - Parade Technologies[™] TrueTouch[®] Manufacturing Test Kit (MTK)
 - Touchscreen sensor self-test and Panel ID reporting
- System performance (configuration dependent)
 - Screen sizes up to 3.0-in. diagonal
 - Up to 24 sense I/O
 - 140 intersections (14 × 10)
 - Reports up to four fingers
 - Small finger support down to 4mm
 - Large finger support up to 30mm
 - Refresh rate up to 300Hz; other rates configurable
 - TX frequency up to 500kHz
 - Best-in-class charger noise immunity
 - Immunity up to 35V peak-to-peak (V_{PP})
 - Immunity to AT&T[®] Zero charger
- Power (configuration dependent)
 - 1.71 to 1.95V or 2.0 to 5.5V digital and I/O supply
 - 2.65 to 4.7V analog supply
 - 4mW 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 and 400kbps
- Package options
 - 34-ball 2.495 × 2.44 × 0.55mm WLCSP (0.4mm ball pitch)
 - 28-pin 4 × 4 × 0.4mm QFN (0.4mm lead pitch)

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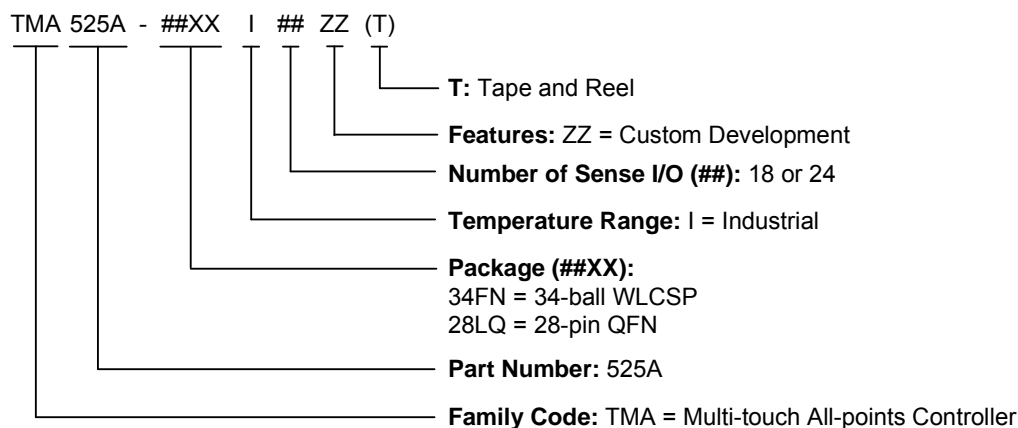
Ordering Information

The following table lists the TMA525A TrueTouch Multi-touch all-points touchscreen controller ordering information. For information on other TrueTouch families, visit <http://www.paradetech.com/products/products-overview/>.

Device Ordering Information^[1]

Device Part Number		Features				Package
Segmentation	Part Number	# of Sense I/O	35V _{PP} ChargerArmor	DualSense	Glove	
Custom	TMA525A-34FNI24ZZ(T)	24	✓	✓	✓	34-Ball WLCSP
	TMA525A-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.