

PSoC™ Automotive Multitouch Generation 6XL Hybrid In-cell

Datasheet Summary

Note that this is a Summary Datasheet. To access the full version of this datasheet, register in [My Infineon Collaboration Platform \(MyICP\)](#).

Features

- In-cell touchscreen controller
- Multitouch capacitive touchscreen controller
 - 32-bit Arm® Cortex® CPU
 - Register-configurable
 - Noise-suppression technologies for display and EMI
 - AutoArmor improves both electromagnetic emissions and immunity
 - Water rejection and wet-finger tracking using DualSense
 - Multitouch glove with automatic mode switching
 - Ten fingers with thin glove (≤ 1 -mm thick)
 - Two fingers with thick glove (≤ 5 -mm thick)
 - Fingernail tracking
 - Large object rejection
 - Automatic baseline tracking to environmental changes
 - Field upgrades via bootloader
 - Manufacturing test kit (MTK)
 - Touchscreen sensor self-test
- System performance (configuration dependent)
 - Screen sizes up to 15-inch diagonal
 - 6.0-mm electrode pitch; 16:10 aspect ratio
 - Up to 54 RX channels, 1836 intersections
 - Reports up to ten fingers
 - Small finger support down to 5 mm
 - Refresh rate up to 250 Hz; other rates configurable
- Power (configuration-dependent)
 - 1.71 to 1.95 V and 3.0 to 5.5 V logic and digital I/Os supply
 - 3.0 to 5.5 V analog supply
 - 30-mW average power
 - 30- μ W typical deep-sleep power
- Sensor and system design (configuration-dependent)
 - Supports In-cell sensors
 - TX/VCOM share the same layer
 - RX ITO layer on/above the color filter
- Communication interface
 - I²C slave at 100 and 400 kbps
- Package
 - 100-pin TQFP 14 × 14 × 1.4 mm (0.5-mm pitch)

Features

- Ambient temperature range
 - Automotive-A: -40°C to 85°C
 - Automotive-S: -40°C to 85°C

Ordering information

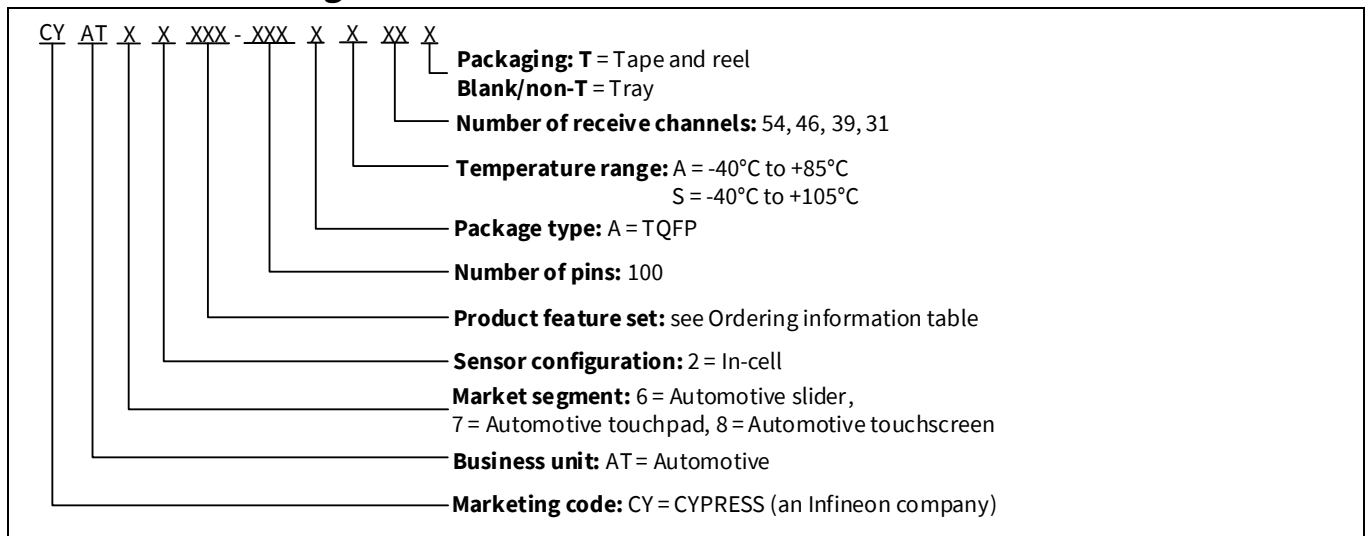
1 Ordering information

Table 1 lists the CYAT8268X touchscreen controllers.

Table 1 Ordering information ^[1]

| MPN | Number of receive channels | Number of fingers | Water rejection | Gesture | Thick overlay/thick glove support |
|-------------------|----------------------------|-------------------|-----------------|---------|-----------------------------------|
| CYAT82687-100AA31 | 31 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AS31 | 31 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AA39 | 39 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AS39 | 39 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AA46 | 46 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AS46 | 46 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AA54 | 54 | 10 | ✓ | ✓ | ✓ |
| CYAT82687-100AS54 | 54 | 10 | ✓ | ✓ | ✓ |

1.1 Ordering code definitions



Note

- All devices have the following base features: Water rejection, DisplayArmor, AutoArmor, DualSense, CAPSENSE™ buttons, and large object detection and rejection.

Revision history

Revision history

| Document revision | Date | Description of changes |
|-------------------|------------|--|
| ** | 2017-01-24 | New summary datasheet. |
| *A | 2020-10-29 | Obsolete document. |
| *B | 2021-03-29 | Reactivated document. Updated Automotive-S: -40°C to 85°C. spec 51-85048 – Changed revision from *J to *K. Updated to new template. Completing Sunset Review. |
| *C | 2021-04-21 | Updated Ordering code definitions. |
| *D | 2022-05-19 | Updated to the PSoC™ Automotive Multitouch branding guidelines. |
| *E | 2022-07-26 | Updated to IFX template. Added MyICP link. Removed package diagram. |