Advanced Silicon’s CoolPen® CPS333 controller board (CB) detects simultaneously finger touch and active pen inputs on the same projected capacitive touch screen that sizes up to 15”. The controller board can fit numerous touch screen applications and can be customized according to the customer requirements. The CPS333-CB has a maximum sensing resolution of 109 channels \((X+Y = 64+45)\).

The CoolPen™ controller family features advanced performance in terms of high responsiveness and sensitivity. The user can enjoy natural pen writing experience combining with up to 10 finger touches. The excellent accuracy and response time of Pen and touch provide a Cool feeling of multiple fingers interactivity and real time Pen writing in parallel with an efficient processing of the palm rejection.

The CoolPen™ sensing unit operates with a high-sensitivity, high-precision and high-noise rejection to many different type of TP stack and technology like (GFF, GG, ITO, metal mesh and silver nanowire).

The CoolPen™ Processing unit enhances Pen and Touch performance for a better user experience and the windows certification compatibility. After processing, the CoolPen® controller transfers Pen and Touch data to the host through a standard USB HID interface.

The CPS333-CB is fully compatible with the active SmartPen SMP102 of the CoolPEN family without any calibration or user operation.

**KEY BENEFITS**
- Simultaneous Pen and Touch detection
- Support TP sizes up to 15”
- Support all PCT technologies and stacks
- Multi-Touch (up to 10)
- Palm rejection
- High noise rejection capability
- High EMC immunity

**APPLICATIONS**
- IT
- Education
- Medical
- Gaming
- Industrial
### CPS333-CB
Projected Capacitive Touch/Pen Control board

#### SYSTEM FEATURE
- **Sensing resolution:** max 64x45
- **Touch input:** 10 touches
- **Active pen input:** SMP102 Pen
- **Rejection:** Palm
- **Refresh rate:** >125Hz (10T+Pen)
- **Interface:** USB FS HID Digitizer Pen & Touch

#### CONTROLLER BOARD
- **Min Dimensions:** 86x11mm
- **Power:**
  - **Voltage:** USB (5V or 3.3V)
  - **Op. current:** <60mA@125Hz (10T+Pen)
  - **Sleep current:** <0.5mA
- **Connectors:**
  - **FPC:** 0.3/0.5mm ZIF
  - **USB:** 1.0mm Molex with lock

#### ACTIVE PEN (SMP102)
- **Tip force:** 256 level (0-400g)
- **Barrel Button:** Power ON, Eraser
- **Hovering:** <10mm
- **Accuracy:** <0.5mm
- **Linearity:** <0.5mm
- **Latency:** <15ms

#### OS COMPATIBILITY
- **Windows:** 10, 8.x,
  - Win10/HLK certified Pen & Touch device
- **API support:** FAE, testing, customers

#### FINGER TOUCH
- **Accuracy:** <1mm
- **Linearity:** <1mm
- **Latency:** <15ms

#### MISC
- **Operating Temp:** 0°C to +85°C
- **Humidity:** 20% to 90%
- **RoHS compliant**
- **UL94 certification**

#### Ordering Codes

<table>
<thead>
<tr>
<th>Controller Board (CB)</th>
<th>Resolution</th>
<th>CB size</th>
<th>Ordering code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDK333001V10</td>
<td>64x40</td>
<td>11 x 86.5mm</td>
<td>RDK33301V10_U5_mmmmm(1) (USB 5V input)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RDK33301V10_U3_mmmmm(1) (USB 3.3V input)</td>
</tr>
</tbody>
</table>

**Note:** 1) mmmmm defines parameters specific to a tuned product. For Generic setting board remove the extension.

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**INNOVATION IN SMART ICs**

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