

Si17012/Si17013/Si17014 USB Type-C Port Controllers

Port Controllers Compliant with USB Type-C 1.1 with Flexible Alt Mode and Unstructured VDM Support

The Si17012 and Si17013 port controllers offer a single integrated solution that can detect and decode configuration channel (CC) and biphase mark code (BMC) messaging over USB Type-C connectors without the need for discrete components. These ICs work in conjunction with existing Application Processors (AP) and Embedded Controllers (EC) to provide cost-optimized USB Type-C port controllers. These solutions are compliant with the latest PD and CC requirements defined in the USB specifications and capable of DisplayPort Alt mode and MHL Alt mode support. The Si17012 comes in a small CSP package suitable for smartphones, whereas the Si17013's QFN package is ideal for notebooks and accessories. The Si17014 IC supports the auxiliary channel (AUX) and Hot Plug Detect (HPD) signal required to implement DisplayPort over USB Type-C. In addition, both the Si17013 and Si17014 support multiple Type-C ports that are required for notebooks.

Applications

- Mobile phones
- Laptops
- Dongles
- Docks
- Monitors

Key Features

- Role and power swap
- DP Alt mode and MHL Alt mode capable
- Dead battery support
- A complete power profile
- Flexible Vendor Defined Message (VDM)
- 1.8V logic support for control pins
- AUX/HPD support (Si17014)

Benefits Summary

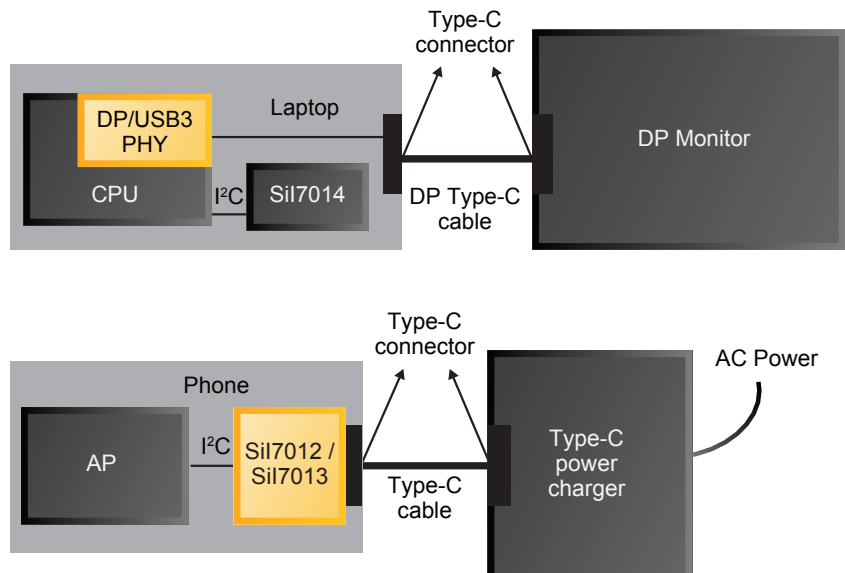
- Space, cost and power efficient designs provide flexibility and enable rapid market adoption
- CC/PD PHY with different feature sets provides application design flexibility.
- Integrated solution and simple design
- Multiple USB Type-C port support for laptops (Si17013/Si17014)

Supported Standards Compliance

- Type-C 1.1
- PD 2.0

- Channel Configuration**
- Cable detection
 - Establish and manage DFP & UFP connection
- Power Delivery**
- BMC messaging
 - Power swap, role swap
 - Vendor Defined Message (VDM)
 - DP and MHL Alternate mode

- Packaging**
- 2 x 2 mm CSP
 - 3 x 3 mm QFN
- Deliverables**
- C-code for Policy Manager
 - C-code for PD stack
 - Platform layer code
 - Silicon solution for PD/CC only



Applications Support
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