

USB 2.0 Hi-Speed 2-Port Hub Controller

PRODUCT FEATURES

Data Brief

General Description

The SMSC 2-Port Hub is a low power, OEM configurable, STT (Single transaction translator) hub controller IC with 2 downstream ports for embedded USB solutions. The 2-port hub is fully compliant with the USB 2.0 Specification and will attach to an upstream port as a Full-Speed Hub or as a Full-/Hi-Speed Hub. The 2-Port Hub supports Low-Speed, Full-Speed, and Hi-Speed (if operating as a Hi-Speed Hub) downstream devices on all of the enabled downstream ports.

General Features

- Hub Controller IC with 2 downstream ports
- Enhanced OEM configuration options available through either a single serial I²C EEPROM, or SMBus Slave Port
- 36-pin (6x6mm) QFN lead-free, RoHS compliant package

Hardware Features

- Low power operation
- Full Power Management with individual or ganged power control of each downstream port
- On-chip Power On Reset (POR)
- Internal 1.8V Voltage Regulator
- Fully integrated USB termination and Pull-up/Pull-down resistors
- On Board 24MHz Crystal Driver, Resonator or External 24MHz clock input
- Enhanced EMI rejection and ESD protection performance

OEM Selectable Features

- Customizable Vendor ID, Product ID, and Device ID
- Select whether the hub is part of a compound device (When any downstream port is permanently hardwired to a USB peripheral device, the hub is part of a compound device)
- Flexible port mapping and disable sequence. Ports can be disabled/reordered in any order to support multiple product SKUs. Hub will automatically reorder the remaining ports to match the Host controller's numbering scheme.
- Programmable USB differential-pair pin location. Ease PCB layout by aligning USB signal lines directly to connectors
- Programmable USB signal drive strength. Recover USB signal integrity due to compromised system environment using 2-level driving strength resolution

- Select the presence of a permanently hardwired USB peripheral device on a port by port basis
- Configure the delay time for filtering the over-current sense inputs
- Configure the delay time for turning on downstream port power
- Indicate the maximum current that the 2-port hub consumes from the USB upstream port
- Indicate the maximum current required for the hub controller
- Pin Selectable Options for Default Configuration
 - Select Downstream Ports as Non-Removable Ports

Applications

- LCD monitors and TVs
- Multi-function USB peripherals
- PC mother boards
- Set-top boxes, DVD players, DVR/PVR
- Printers and scanners
- PC media drive bay
- Portable hub boxes
- Mobile PC docking
- Embedded systems

ORDER NUMBER:**USB2512A-AEZG FOR 36 PIN, QFN LEAD-FREE ROHS COMPLIANT PACKAGE**

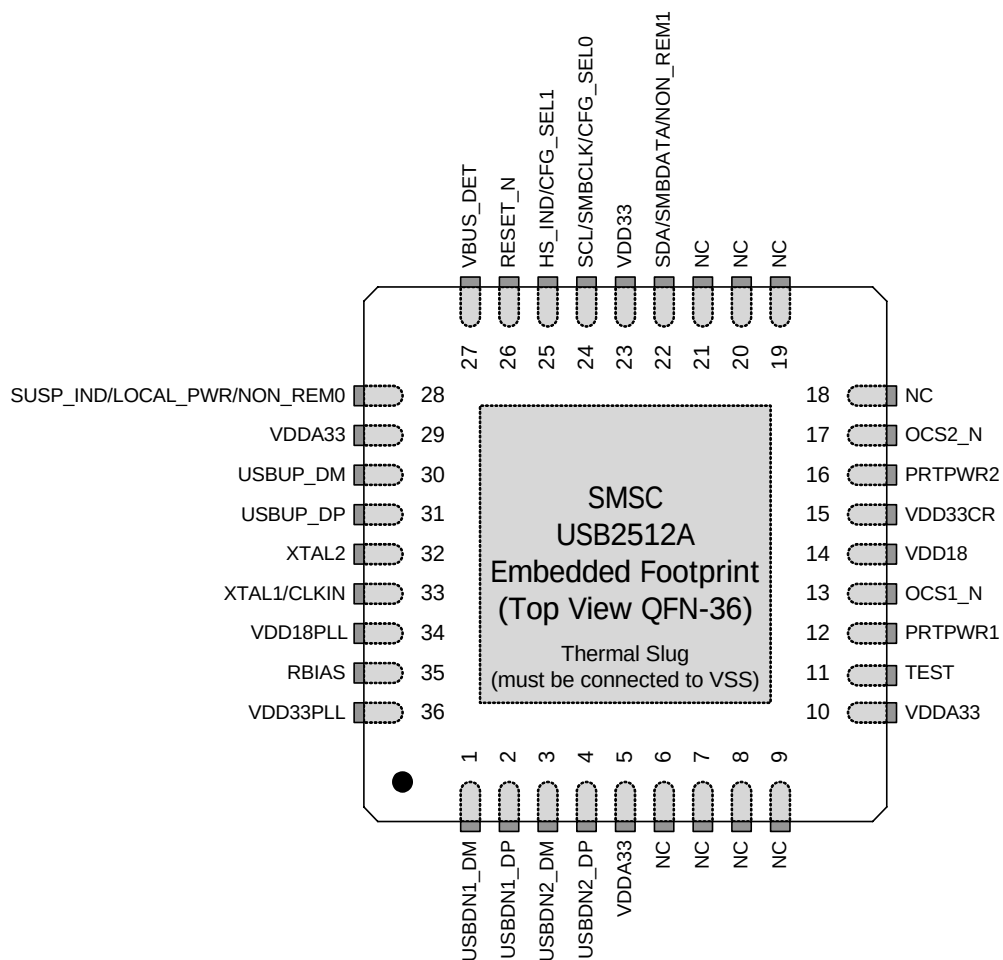
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Pin Configuration



 Indicates pins on the bottom of the device.

Figure 1 USB2512A 36-Pin QFN (Embedded Footprint)

Block Diagram

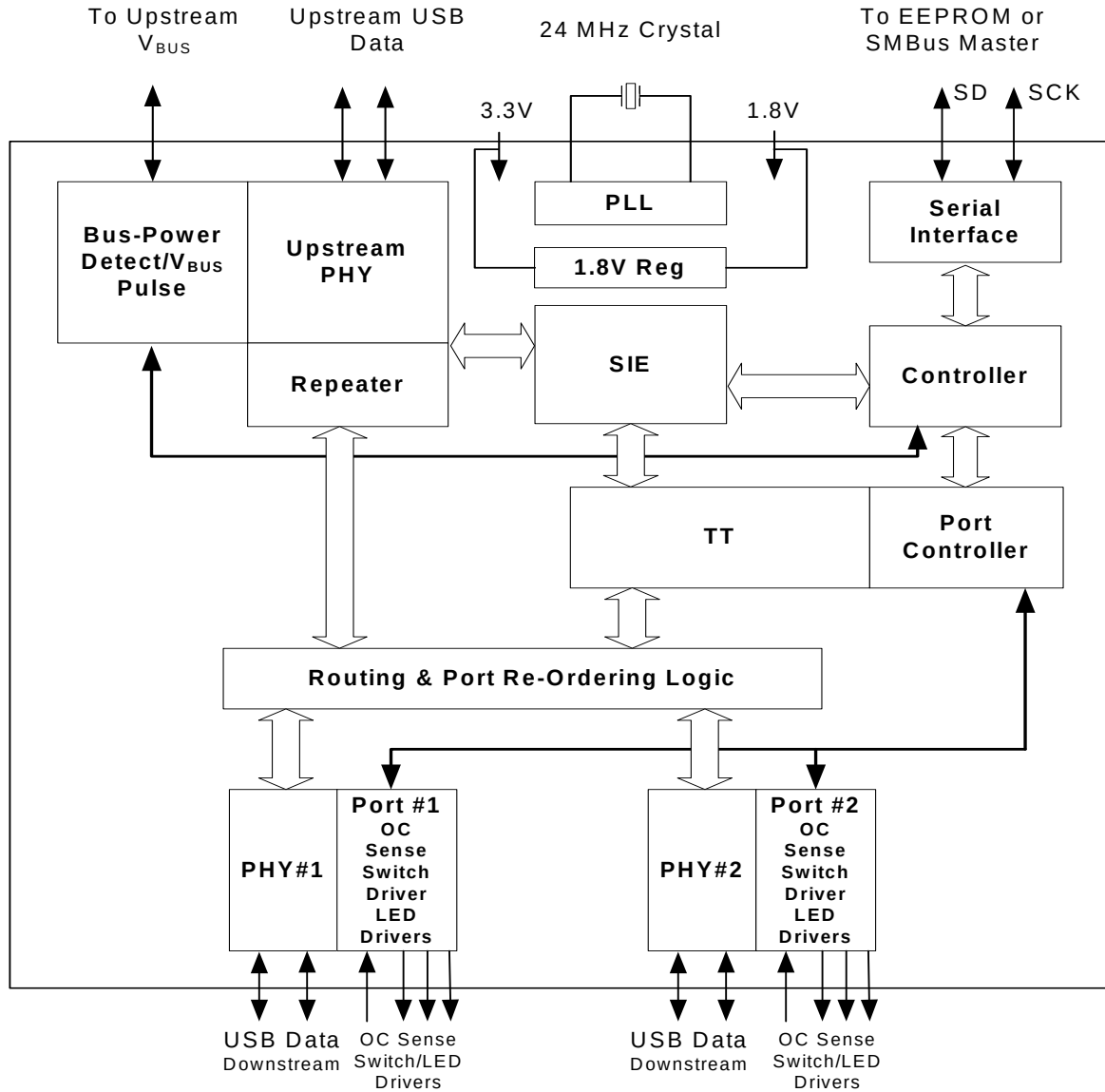


Figure 2 USB2512A Block Diagram

Package Outline

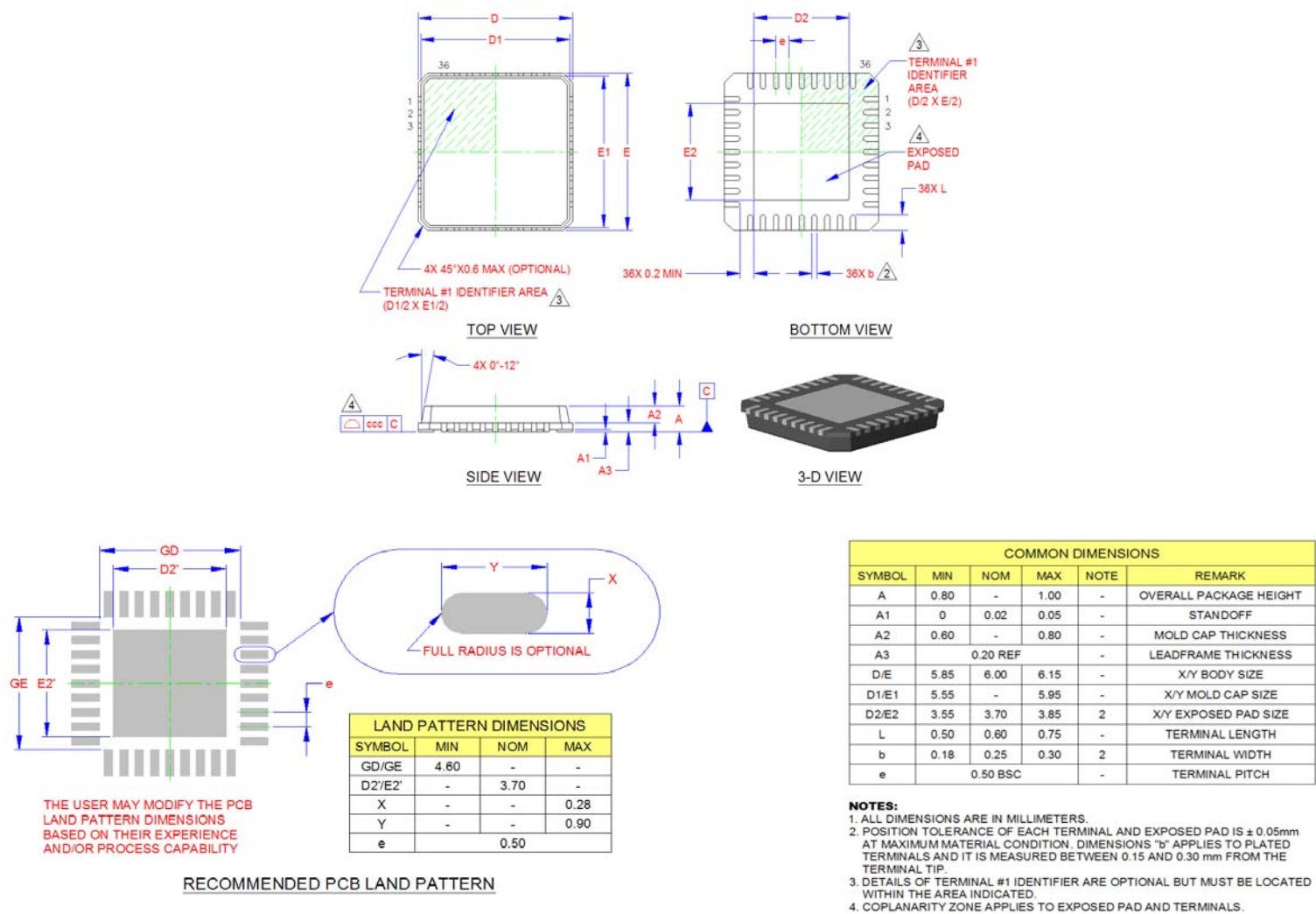


Figure 3 36-Pin QFN, 6x6mm Body, 0.5mm Pitch

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