

# Hi-Speed USB Transceiver with 1.8V-3.3V ULPI Interface - 24MHz Reference Clock

## PRODUCT FEATURES

Data Brief

- USB-IF “Hi-Speed” compliant to the Universal Serial Bus Specification Rev 2.0
- Interface compliant with the ULPI Specification revision 1.1 as a Single Data Rate (SDR) PHY
- 1.8V to 3.3V IO Voltage ( $\pm 10\%$ )
- flexPWR<sup>®</sup> Technology
  - Low current design ideal for battery powered applications
  - “Sleep” mode tri-states all ULPI pins and places the part in a low current state
- Supports FS pre-amble for FS hubs with a LS device attached (UTMI+ Level 3)
- Supports HS SOF and LS keep-alive pulse
- Includes full support for the optional On-The-Go (OTG) protocol detailed in the On-The-Go Supplement Revision 1.0a specification
- Supports the OTG Host Negotiation Protocol (HNP) and Session Request Protocol (SRP)
- Allows host to turn VBUS off to conserve battery power in OTG applications
- Support OTG monitoring of VBUS levels with internal comparators
- “Wrapper-less” design for optimal timing performance and design ease
  - Low Latency Hi-Speed Receiver (43 Hi-Speed clocks Max) allows use of legacy UTMI Links with a ULPI bridge
- Internal 5V cable short-circuit protection of ID, DP and DM lines to VBUS or ground
- 24MHz Reference Clock Operation
  - 0 to 3.6V input drive tolerant
  - Able to accept “noisy” clock sources
- Internal low jitter PLL for 480MHz Hi-Speed USB operation
- Internal detection of the value of resistance to ground on the ID pin
- Integrated battery to 3.3V LDO regulator
  - 2.2uF bypass capacitor
  - 100mV dropout voltage
- Integrated ESD protection circuits
  - Up to  $\pm 15\text{kV}$  without any external devices

- Carkit UART mode for non-USB serial data transfers
- Industrial Operating Temperature  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Packaging Options
  - 24 pin QFN lead-free RoHS compliant package (4 x 4 x 0.90 mm height)

## Applications

The USB3315 is targeted for any application where a Hi-Speed USB connection is desired and when board space, power, and interface pins must be minimized.

The USB3315 is well suited for:

- Cell Phones
- PDAs
- MP3 Players
- GPS Personal Navigation
- Scanners
- External Hard Drives
- Digital Still and Video Cameras
- Portable Media Players
- Entertainment Devices
- Printers
- Set Top Boxes
- Video Record/Playback Systems
- IP and Video Phones
- Gaming Consoles
- POS Terminals

**Order Number(s):****USB3315C-CP-TR FOR 24 PIN, QFN LEAD-FREE ROHS COMPLIANT PACKAGE (TAPE AND REEL)****REEL SIZE IS 4000 PIECES.****This product meets the halogen maximum concentration values per IEC61249-2-21****For RoHS compliance and environmental information, please visit [www.smSC.com/rohs](http://www.smSC.com/rohs)**

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## Package Outline

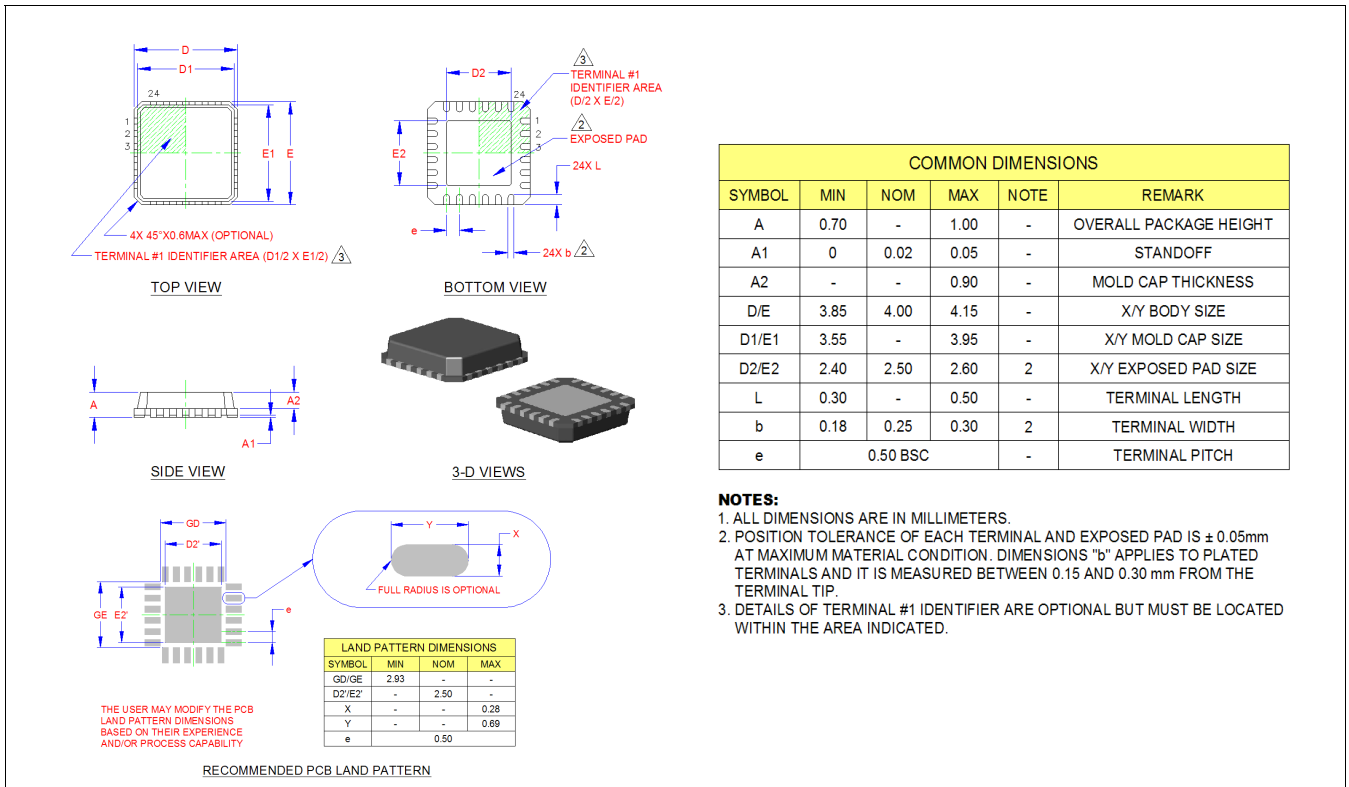


Figure 2 24-Pin QFN, 4x4mm Body, 0.5mm Pitch