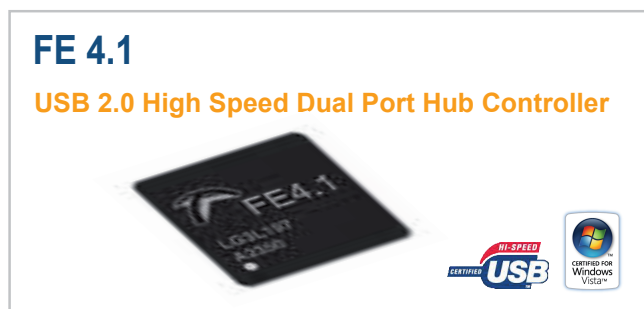


FE4.1 USB 2.0 High Speed Dual-Port Hub Controller

Introduction

The Terminus FE4.1 is an USB 2.0 High-Speed Dual-Port hub with special features to support USB dongle type of applications - which are compound devices with either two embedded devices, or one embedded device plus one open downstream port. It is fully compliant to USB-IF „Universal Serial Bus Specification Rev. 2.0“.

To fit into such a tight and closed environment as the USB dongle type of applications, the FE4.1 features tiny footprint and extreme low power consumption. And to further reduce the component count, the FE4.1 provides TWO clock outputs - one of 12 MHz and one of 24 MHz for its downstream devices as clock source.



As all other hub controller series products from Terminus, the high quality of FE 4.1 is guaranteed by Design-For-Testing with comprehensive scan chains and Built-In-Self-Test modes which could exercise all High-, Full- and Low-Speed Analog Front End (AFE) components during the packaging and testing stages.

Package

20-Pin WQFN

- Body Size: 4mm x 4mm
- Packing unit: 3k

Features

- Fully compliant with Universal Serial Bus Specification Revision 2.0 (USB 2.0);
 - Upstream Facing Port supports High-Speed (480MHz) and Full-Speed (12MHz) modes;
 - 2 Downstream Facing Ports support High-Speed (480MHz), Full-Speed (12MHz), and Low-Speed (1.5MHz) modes;
- Integrated USB 2.0 Transceivers;
- Integrated upstream 1.5KΩ pull-up, downstream 15KΩ pull-down, and serial resistors;
- Integrated 5V to 3.3V and 1.8V regulators
- Integrated Power-On-Reset power failure detection circuit
- Integrated 12MHz Oscillator with feedback resistor, and crystal load capacitor
- Integrated 12MHz-to-480MHz Phase LockLoop (PLL)
- Single Transaction Translator (STT)
 - One TT for all downstream ports
 - The TT could handle 64 periodic Start-Split transactions, 32 periodic Complete-Split transactions, and 6 none-periodic transactions;
- Supports Ganged Power Control mode
- Provides two clock output: one 12MHz and one 24MHz; and Remote-Wake-Up Alert input.