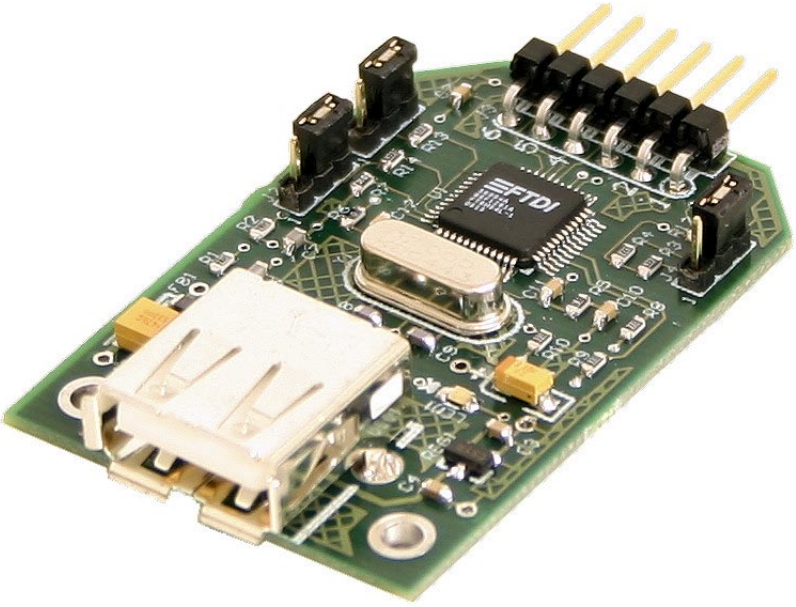
Future Technology
Devices International Ltd.

VINCULUM
BINDING USB TECHNOLOGIES

VDrive1

Vinculum VNC1L-1A Evaluation Module



http://www.vinculum.com

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1. Introduction and Features

1.1 Introduction

The VDrive1 evaluation module provides an easy solution for adding a USB Flash disk interface to an existing product.Only four signal lines plus 5V supply and ground are are required to be connected to it. Using the Vinculum DIFS firmware the VNC1L-1A's I/O interface can be selected between the serial UART or SPI using the on-board jumper pins. Not only is the VDrive1 ideal for evaluation and development of VNC1L-1A designs, but also an attractive quantity discount structure makes this module suitable for incorporation into finished product designs. The VDrive1 is ideal for commercial products such as domestic goods, set top box, etc., as well as industrial products such as data loggers, software upgradable products, etc.

The Vinculum VNC1L-1A is the first of F.T.D.I.'s Vinculum family of Embedded SoC USB host controller integrated circuit devices. Not only is it able to handle the USB Host Interface, and data transfer functions but owing to the inbuilt MCU and embedded Flash memory, Vinculum can encapsulate the USB device classes as well. When interfacing to mass storage devices such as USB Flash drives, Vinculum also transparently handles the FAT File structure communicating via UART, SPI or parallel FIFO interfaces via a simple to implement command set. Vinculum provides a new cost effective solution for providing USB Host capability into products that previously did not have the hardware resources available. The VNC1L-1A is available in Pb-free (RoHS compliant) compact 48-Lead LQFP package.

1.2 Features

- Uses F.T.D.I.'s VNC1L-1A embedded USB host controller I.C. device.
- USB 'A' type socket to connect USB Flash disk.
- Only four signals to connect, excluding power and ground.
- Jumper selectable UART or SPI interfaces.
- Single 5V supply input.
- Power indicator, and USB traffic indicator LED's.
- Uses Vinculum DIFS firmware and command set.
- Program or update firmware via USB Flash disk or via UART or SPI interface.
- VNC1L-1A firmware programming control pins PROG# and RESET# brought out onto jumper interface
- VDIP1 is a Pb-free, RoHS complaint development module.
- Schematics, and firmware files available for download from the Vinculum website.

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2. Dimensions

2.1 VDrive Board Dimensions

The VDrive1 board dimensions are shown below.

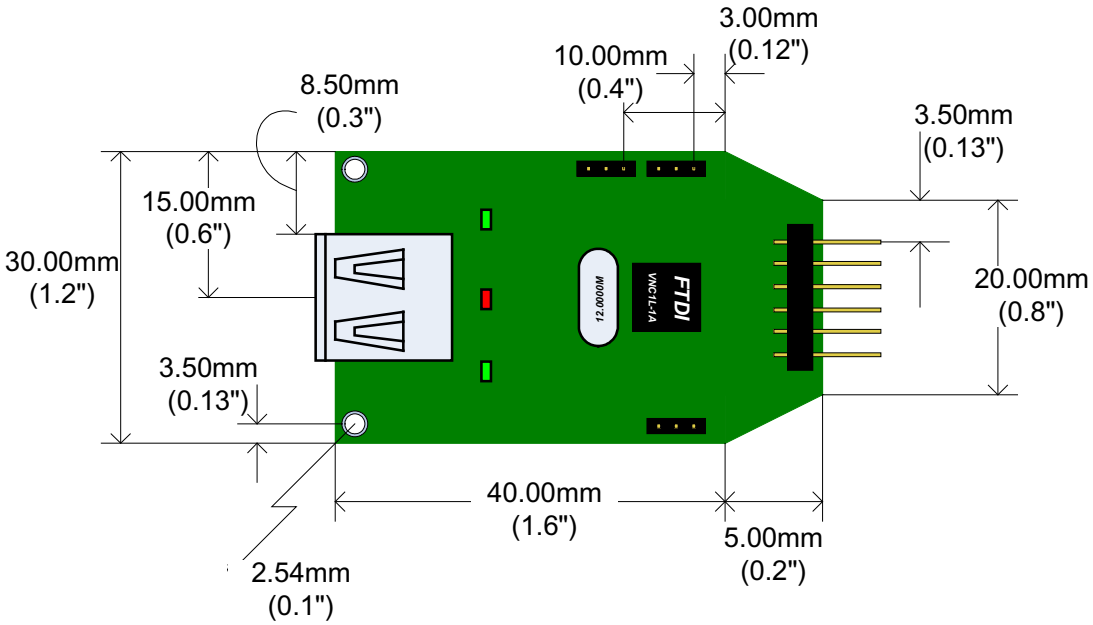

Figure 8 - VDrive1 dimensions, top view.

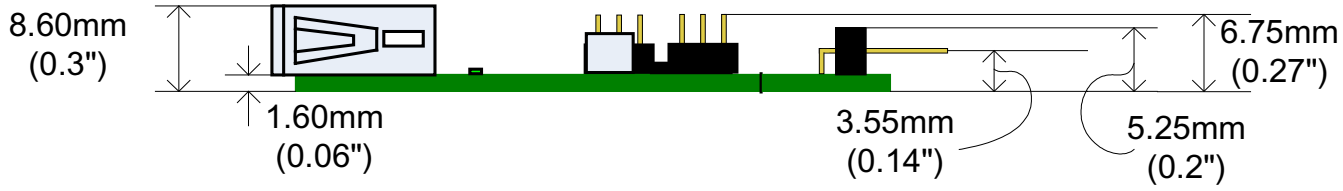

Figure 9 - VDrive1 dimensions , side view.

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Version 0.90 - Initial Datasheet Created August 2006

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