

**Datasheet**

# Embedded USB DOM 2.0

Version 1.6

Aug 2013

## Document Version

Version	Description	Date	Editor	Approved by
1.0	New Issue	Dec 2006	Sky lee	Sky lee
1.1	Modify Product Name	Dec 2006	Greg Liu	Greg Liu
1.4	Added Dimension	Dec 2006	Greg Liu	Greg Liu
1.5	Fix temp	Mar 2009	Matika Wang	Matika Wang
1.6	Modify spec and performance	Aug 2013	Justin Hsu	Richard Wei

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## 1. Introduction

### 1.1 General Description

Pretec Embedded USB DOM 2.0 is the ideal data storage device in any USB-capable system. It offers the speed and ease of the USB interface. It can work with any operating system that supports USB Mass Storage devices, such as Windows XP Embedded, Windows CE, Linux, and others.

Pretec Embedded USB DOM 2.0 provides hardware data protection by switch and based on SLC NAND flash technology. This technology is superior in its data storage characteristics, featuring the industry's highest performance.

Pretec Embedded USB DOM 2.0 is available in capacities ranging from 512MB to 4GB. It fits easily into any platform with an embedded USB connector on board.

### 1.2 Feature

- Compliant to USB1.1, USB2.0 specification
- Mass Storage Class Bulk-Only Transport (BOT)
- USB Attached SCSI Protocol (UASP)
- Write Protect switch control for security
- Compatible with Windows XP / 7 / 8, Mac OS, Linux and related Embedded systems.
- Global/Dynamic/Static Wear Leveling
- Intelligent Flash memory block management
- On-the-fly-ECC: 67 bit per 1K bytes
- Power-On Recovery function
- Power Requirement: DC 5V  $\pm$  10%
- RoHS, CE and FCC compatibility
- Halogen-free
- Shock/Vibration
  - Operating 50G duration 0.5ms half sine wave
  - Vibration 15G peak 10~2000Hz with (15mins/Axis) 3axis
- Humidity:
  - 0°C~55°C / 5~95% RH 10cycles
- Temperature
  - Operating Temperature: - 40°C~85°C
  - Storage Temperature: - 55°C~95°C

**Spec**

Item	Size	Capacity
USB 2.0	37.80 x 26.65 x 7.0mm (HR1) 37.80 x 26.65 x 7.7mm (HR2)	512MB、1GB、2GB、4GB

**Performance**

Item	Max Read	Max Write
USB 2.0	35MB/Sec	Up to 27MB/Sec

**1.3 Application**

Consumer: Desktops, STB, etc.

Industrial: IPC, military devices, thin clients, POS, telecom, etc.

**1.4 Part Number Definition**

Code	Definition	symbol	Description
X <sub>1</sub> X <sub>2</sub>	Interface	U2	USB 2.0
X <sub>3</sub>	Model	D	DOM
X <sub>4</sub> X <sub>5</sub> X <sub>6</sub>	Total Capacity	512	512MB
		01G	1GB
		02G	2GB
		04G	4GB
X <sub>7</sub>		-	-
X <sub>8</sub> X <sub>9</sub>	Orientation	HR	H: Horizontal R: Right
X <sub>10</sub>	Connector	1	2.54 Pitch
		2	2.00 Pitch

**1.5 Ordering Information**

Part Number	Capacity	Description
U2D512-HR1	512MB	USB DOM 2.0 512MB Horizontal, Right Side, 2.54 Pitch
U2D01G-HR1	1 GB	USB DOM 2.0 1GB Horizontal, Right Side, 2.54 Pitch
U2D02G-HR1	2 GB	USB DOM 2.0 2GB Horizontal, Right Side, 2.54 Pitch
U2D04G-HR1	4 GB	USB DOM 2.0 4GB Horizontal, Right Side, 2.54 Pitch
U2D512-HR2	512MB	USB DOM 2.0 512MB Horizontal, Right Side, 2.00 Pitch
U2D01G-HR2	1 GB	USB DOM 2.0 1GB Horizontal, Right Side, 2.00 Pitch

U2D02G-HR2	2 GB	USB DOM 2.0 2GB Horizontal, Right Side, 2.00 Pitch
U2D04G-HR2	4 GB	USB DOM 2.0 4GB Horizontal, Right Side, 2.00 Pitch

## 1.6 System Performance

Test program: ATTO

Capacity	Sequential Read	Sequential Write
512MB	22 MB/s	10 MB/s
1GB	27 MB/s	18 MB/s
2GB	31 MB/s	19 MB/s
4GB	35 MB/s	27 MB/s

Note: actual performance will depend on user conditions and environment

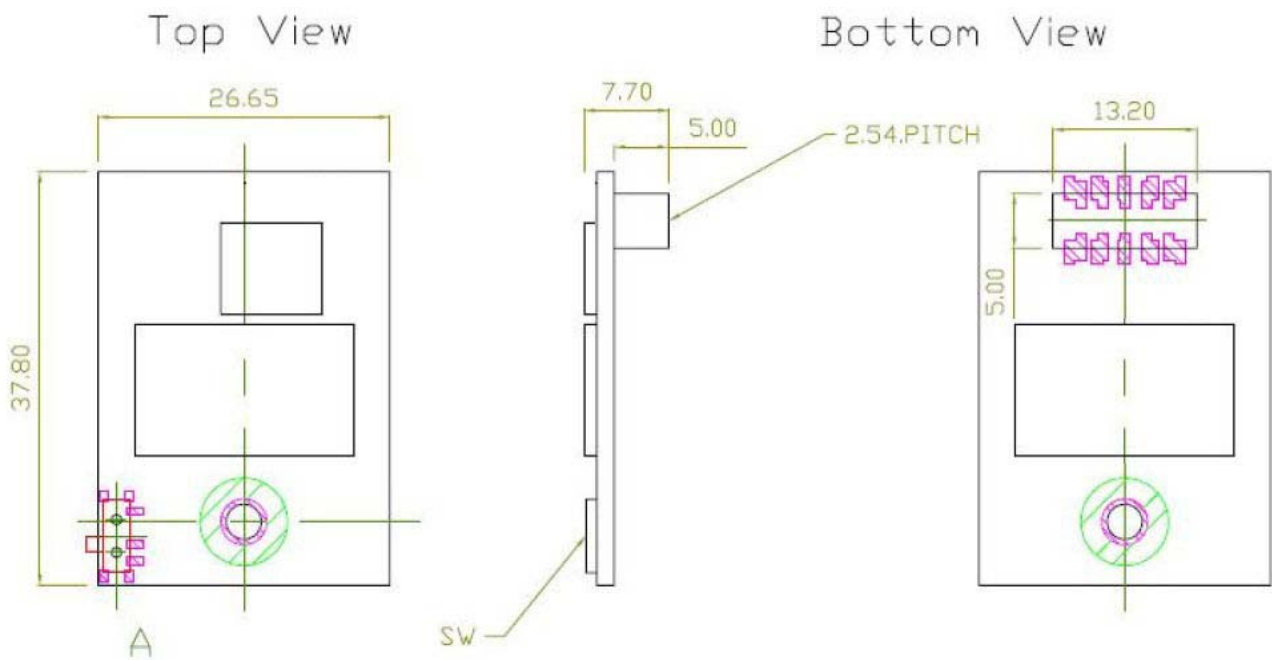
## 2. Product Specification

### 2.1 Dimension

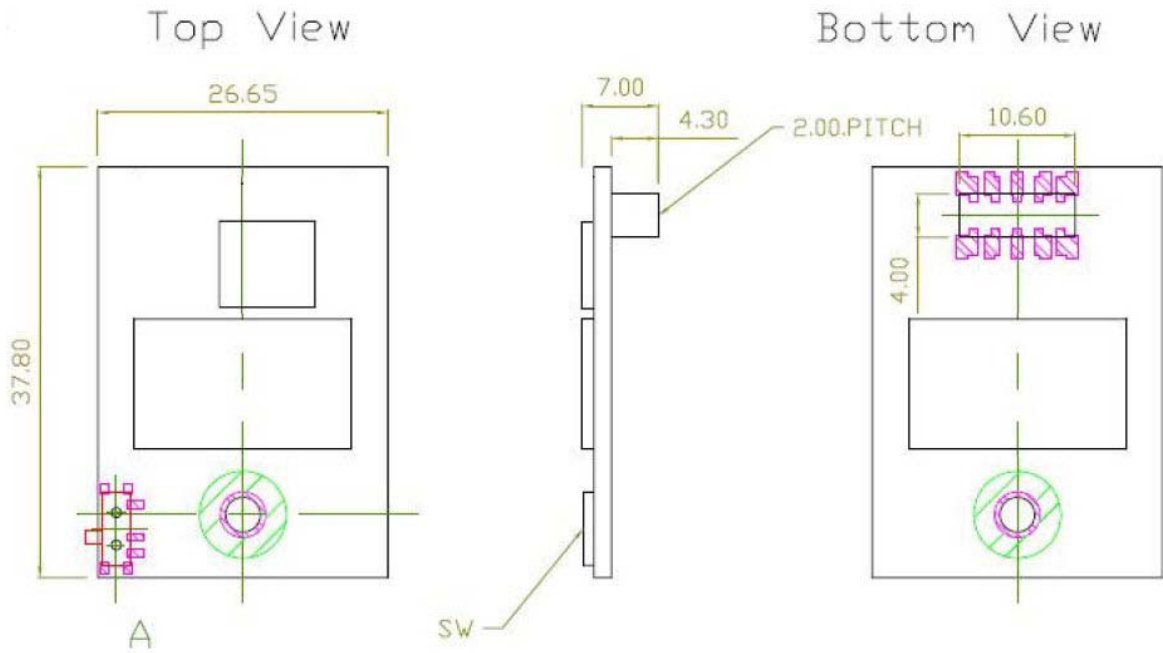
Form Factor	Measures
USB 2.0	37.80 x 26.65 x 7.0mm (HR1)
	37.80 x 26.65 x 7.7mm (HR2)

### 2.2 Product Outline

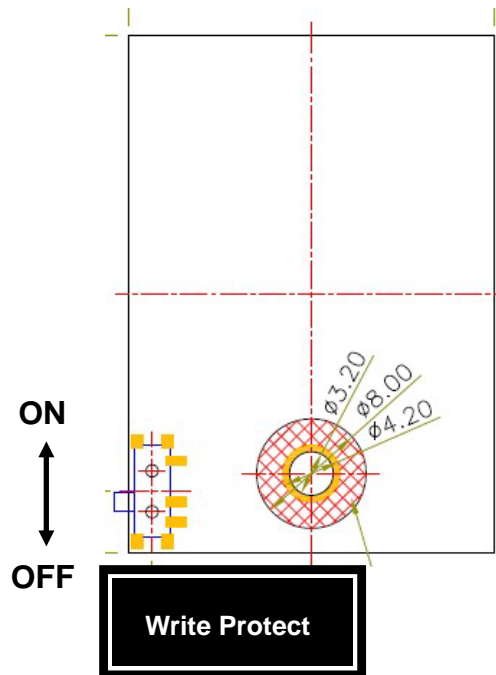
HR1: 2.54 Pitch Connector



HR2: 2.00 Pitch Connector

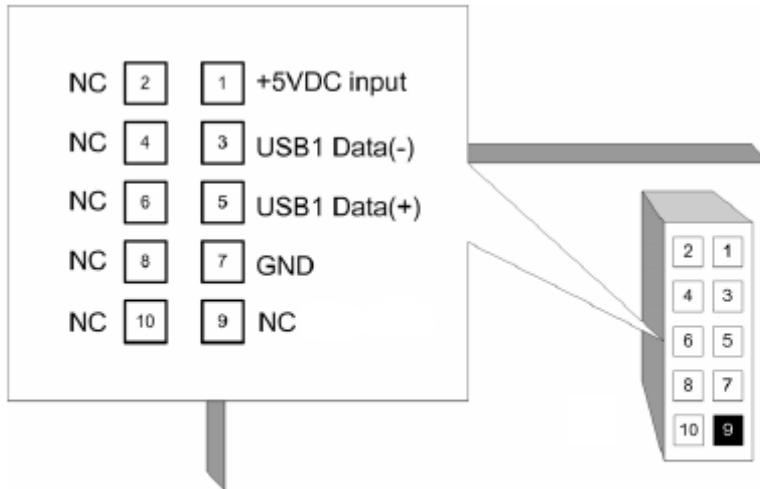


**2.3 Write protect switch**





## 2.4 Pin Configuration



## 2.5 Pin Assignment and Description

Pin No	Description
1	+5VDC
3	USB1 Data (-)
5	USB1 Data (+)
7	GND
9	NC
2	NC
4	NC
6	NC
8	NC
10	NC

Note: 10-pin USB 2.0 connector

### 3. DC Characteristics

#### 3.1 DC Parameters

Symbol	Parameter	Min	Max	Units
V <sub>IL</sub>	Input LOW Voltage	-0.3	+0.8	V
V <sub>IH</sub>	Input HIGH Voltage	2.0	V <sub>CC</sub> +0.3	V
V <sub>OL</sub>	Output LOW Voltage		0.45	V
V <sub>OH</sub>	Output HIGH Voltage	2.4		V
I <sub>LI</sub>	Input Leakage Current		±10	uA
I <sub>LO</sub>	Output Leakage Current		±10	uA
C <sub>I/O</sub>	Input/output Capacitance		10	pF

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