目錄

Features

Universal Serial Bus (USB)

- USB 2.0 Full Speed compatible.
- Implements USB protocol composite device:
  - Communication Device Class (CDC) for communications and configuration.
  - Human Interface Device (HID) for config USB VID,PID and Device Description strings.
- Internal 12MHz RC OSC with 0.25% accuracy.
- Support 3.3V LDO and internal UDP 1.5K ohm pull-up resistor .
- 128 byte receive buffer and 128 byte transmit buffer.

USB Driver and Software Support

- Uses standard Windows® drivers for Virtual Com Port (VCP): Windows XP (SP2 or later), Vista, 7 (only an INF file is required).

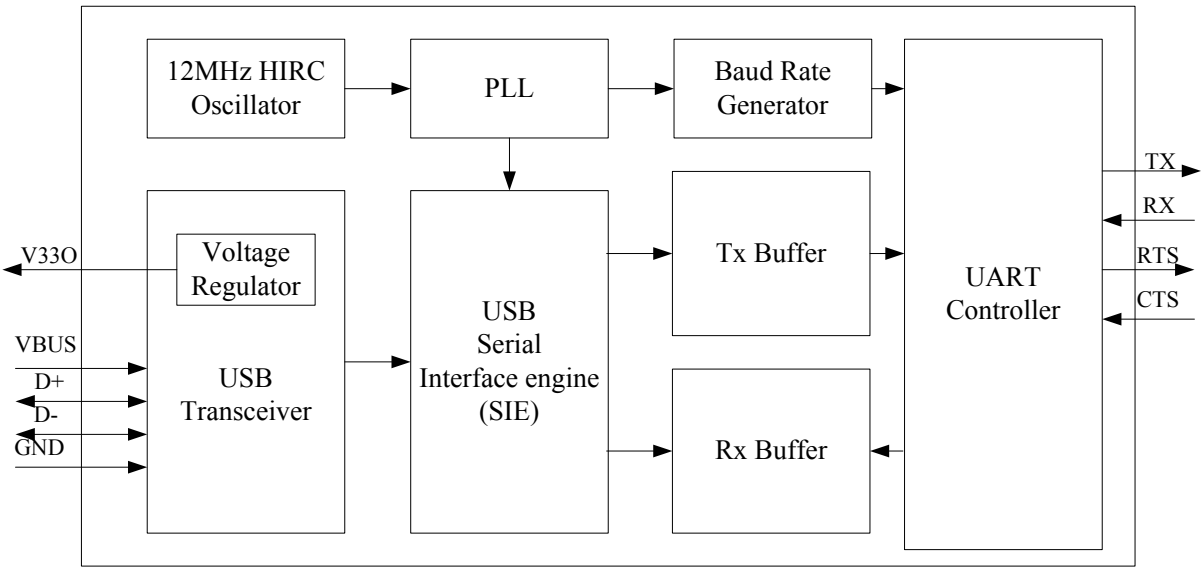
Universal Asynchronous Receiver Transmitter (UART)

- UART with programmable custom baud rates from 2400 bps to 3400000 bps.
- Data format:
  - 8 data bits.
  - 1 or 2 stop bit.
  - No parity, even parity or odd parity.
- Support hardware flow Control.(RTS/CTS).
- Support Resume signal to request a remote wake-up

Others

- 256 bytes internal EEPROM for user

Block Diagram



Pin Assignment

Table 1. 8-pin pinout Description

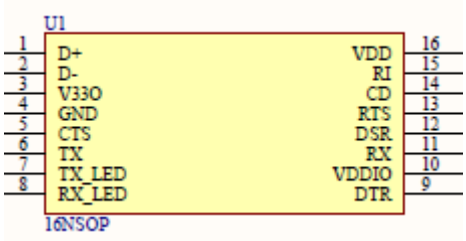
Pin No	Name	I/O	Description
1	GND	PWR	Digital negative power supply.
2	TX	AO	UART Transmit
3	VDDIO	PWR	TX , RX pin power supply
4	RX	AI	UART : Receive
5	UDP	IO	USB D+ line
6	UDN	IO	USB D- line
7	VDD	PWR	Digital positive power supply.
8	V33O	PWR	3.3V regulator output for USB interface.

Table 2. 10-pin pinout Description

Pin No	Name	I/O	Description
1	VDD	PWR	Digital positive power supply.
2	V33O	PWR	3.3V regulator output for USB interface.
3	GND	PWR	Digital negative power supply.
4	CTSB	I	UART : Clear to Send to prevent data overrun to the remote RX FIFO
5	TX	AO	UART Transmit
6	VDDIO	PWR	TX , RX pin power supply
7	RX	AI	UART : Receive
8	RTSB	O	UART : Request to Send to prevent data overrun errors in local RX FIFO
9	UDN	IO	USB D- line
10	UDP	IO	USB D+ line

Table 3. 16-pin pinout Description

Pin No	Name	I/O	Description
1	UDP	IO	USB D+ line.
2	UDN	IO	USB D- line.
3	V33O	PWR	3.3V regulator output for USB interface.
4	GND	PWR	Digital negative power supply.
5	CTSB	I	UART : Clear to Send to prevent data overrun to the remote RX FIFO.
6	TX	AO	UART Transmit
7	TX LED	IO	Transmitter indicator LED.
8	RX LED	IO	Receiver indicator LED.
9	DTR	IO	GPIO.
10	VDDIO	PWR	SCL,SDA,A0,A1,GPIO1~4 power supply.
11	RX	AI	UART : Receive
12	DSR	IO	GPIO.
13	RTSB	O	UART : Request to Send to prevent data overrun errors in local RX FIFO.
14	CD	I	Ring Indicator.
15	RI	I	Carrier Detect.l
16	VDD	PWR	Digital positive power supply.



D.C. Characteristics

Ta=25oC

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		VDD	Conditions				
V_{DD}	Operating Voltage (HIRC)	—	$f_{sys}=f_{HIRC}$=12MHz	3.3	—	5.5	V
f_{SYS}	System clock (HIRC)	3.3V~5V	$f_{sys}=f_{HIRC}$=12MHz $f_{sys}=f_{HIRC}$=12MHz	—	12	—	MHz
I_{SB}	Standby Current	5V	No load, system HALT			500	μA
I_{OP}	Operating Current	5V	No load, f_{sys}=12MHz	11		16	mA
V_{V330}	3.3V Regulator Output	5V	I_{V33O}=-70mA	3	3.3	3.6	V
R_{ph}	Internal Pull-high Resistance	5V 3V		10 20	30 60	50 10	kΩ
V_{IL}	Input Low Voltage for I/O Ports	5V		0		1.5	V
V_{IH}	Input High Voltage for I/O Ports	5V		3.5		5	V
I_{OL}	Sink Current	5V	V_{OL}=0.1 V_{DD}	10	20		mA
		3V	V_{OL}=0.1 V_{DD}	4	8		mA
I_{OH}	Source Current	5V	V_{OH}=0.9 V_{DD}	-5	-10		mA
		3V	V_{OH}=0.9 V_{DD}	-2	-4		mA

A.C. Characteristics

Ta=25oC

Symbol	**Parameter**	**Test Conditions**		**Min.**	**Typ.**	**Max.**	**Unit**
		VDD	**Conditions**				
f_{wdt}	Built-in 32kHz RC OSC for Watchdog Timer				32		kHz

Asynchronous Serial Data Bus(UART) Interface

Table 4. Data Formats and Baud Rates

Data Bits	8
Stop Bits	1 ,2
Parity Type	None, Even, Odd
Baud Rates	2400,4800,9600,19200,38400, 57600, 115200, 230400, 460800, 1700000, 2300000,

Table 5. Baud Rate and Miss Rate

Baud Rate	Real Rate	Miss Rate%
2400	2403.846154	0.16
4800	4807.692308	0.16
9600	9603.841537	0.04
19200	19207.68307	0.04
38400	38461.53846	0.16
57600	57692.30769	0.16
115200	115384.6154	0.16
230400	230769.2308	0.16
460800	457142.8571	0.79
1700000	1714285.714	0.84
2300000	2285714.286	0.62
3400000	3428571.429	0.84

VID and PID Configuration

Table 6. Default USB Configuration Data

Parameter	Value(hex)
USB Vendor ID(VID)	0x04d9
USB Product ID(PID)	0xb534
Power Description(Attributes)	0x80
Power Description(Max. Power)	0x32
Manufacturer Name	HOLTEK
Product Description	USB TO UART BRIDGE
Serial Number	0000

Virtual COM Port Driver Installation Manaul

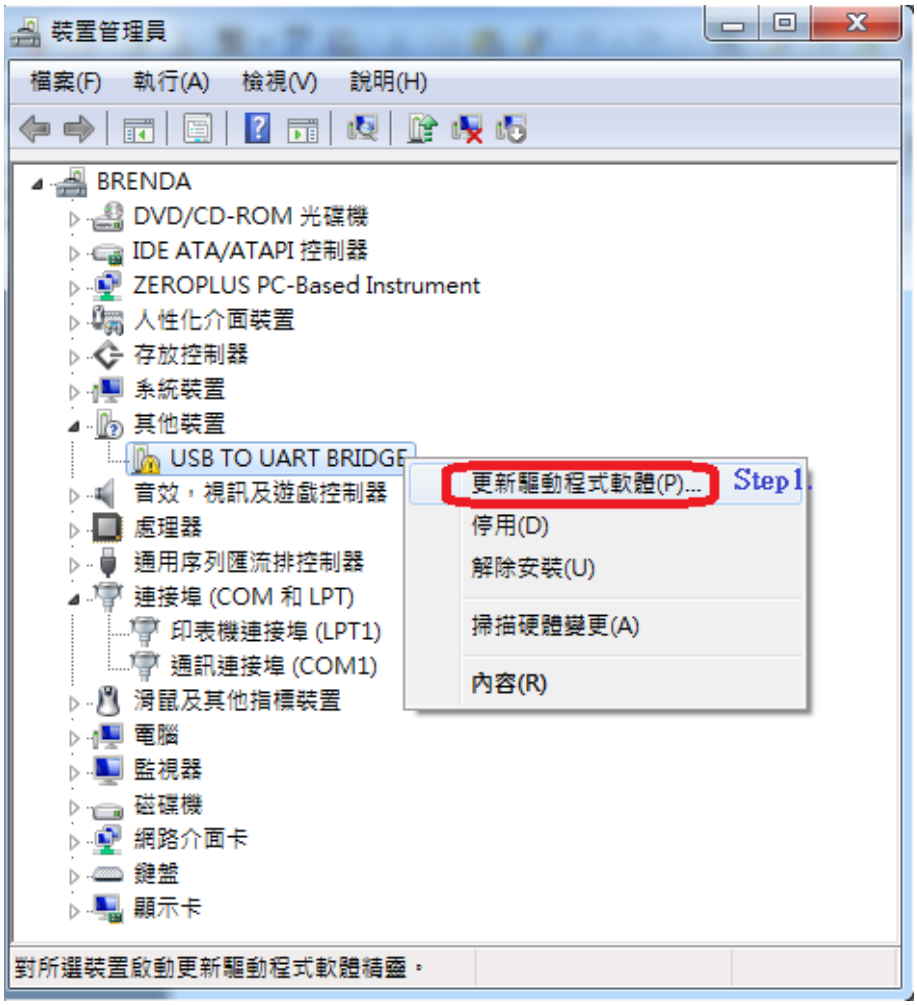
Operating Environment

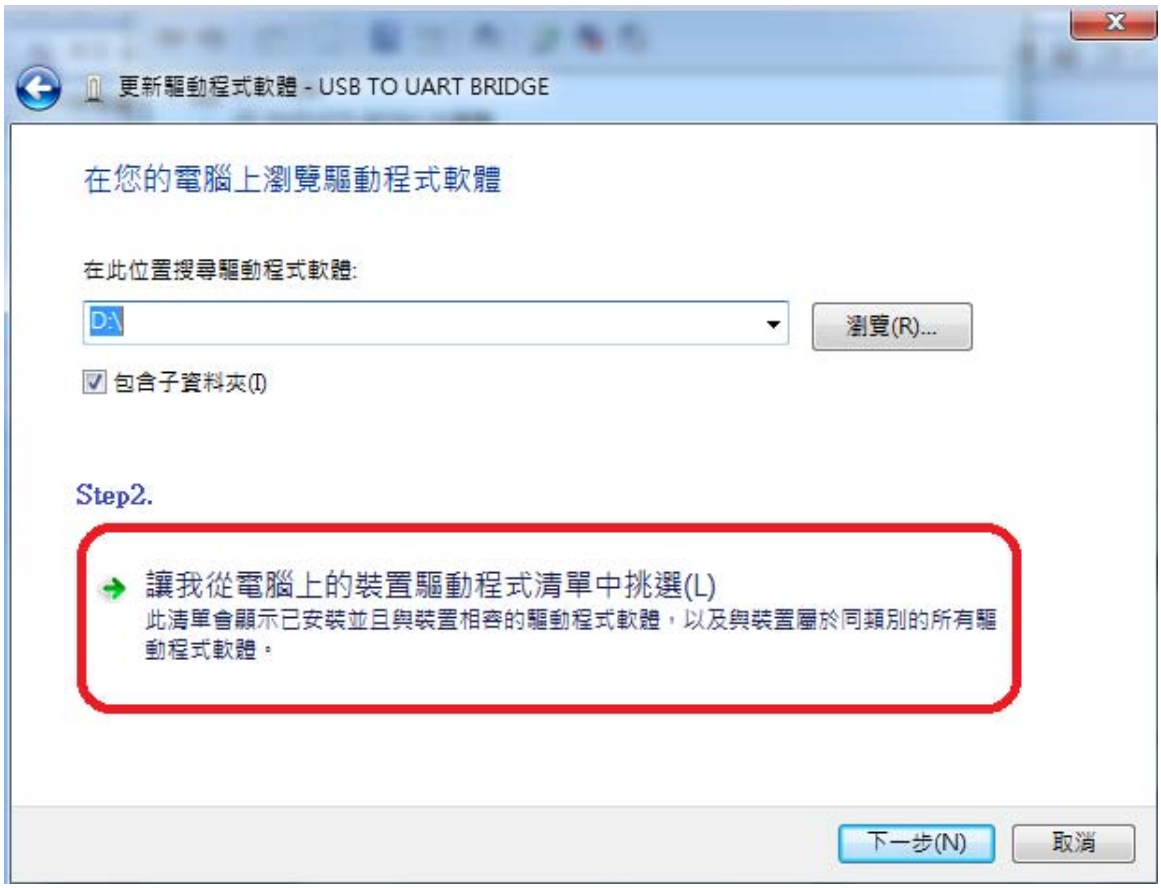
Microsoft Windows® 7

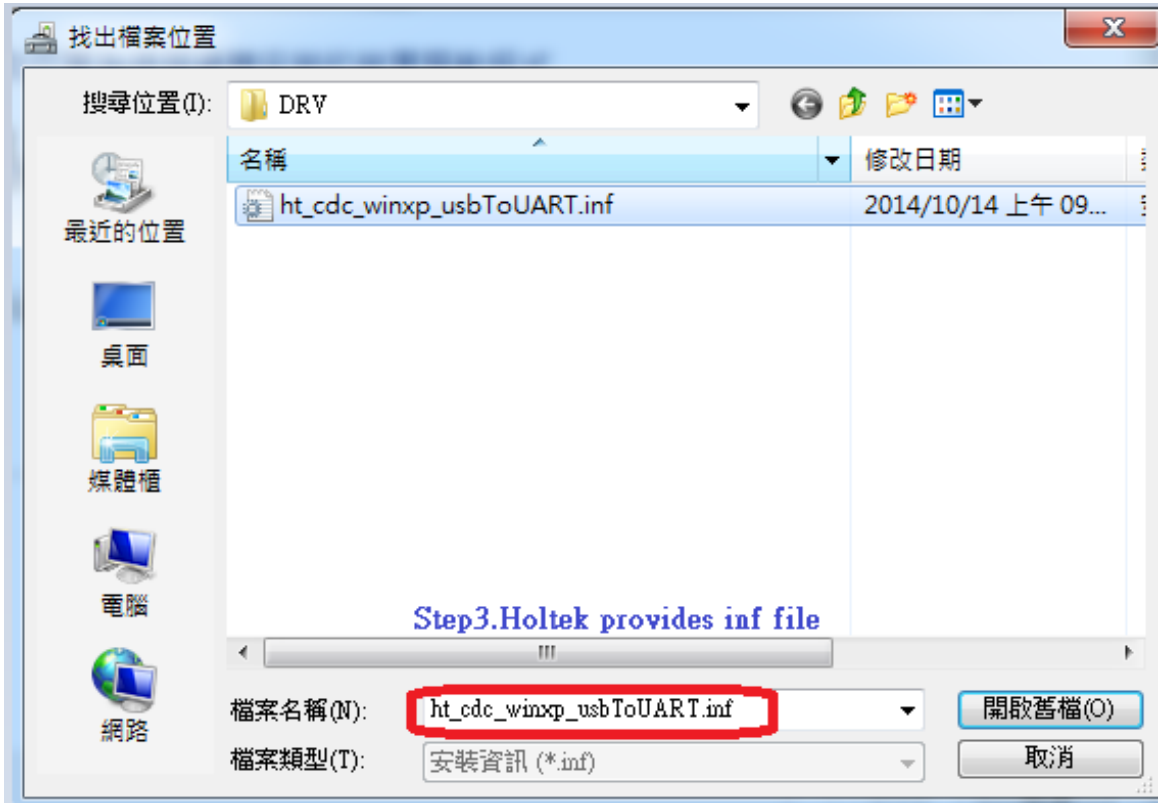
Microsoft Windows® Vista

Microsoft Windows XP (SP2 or later)

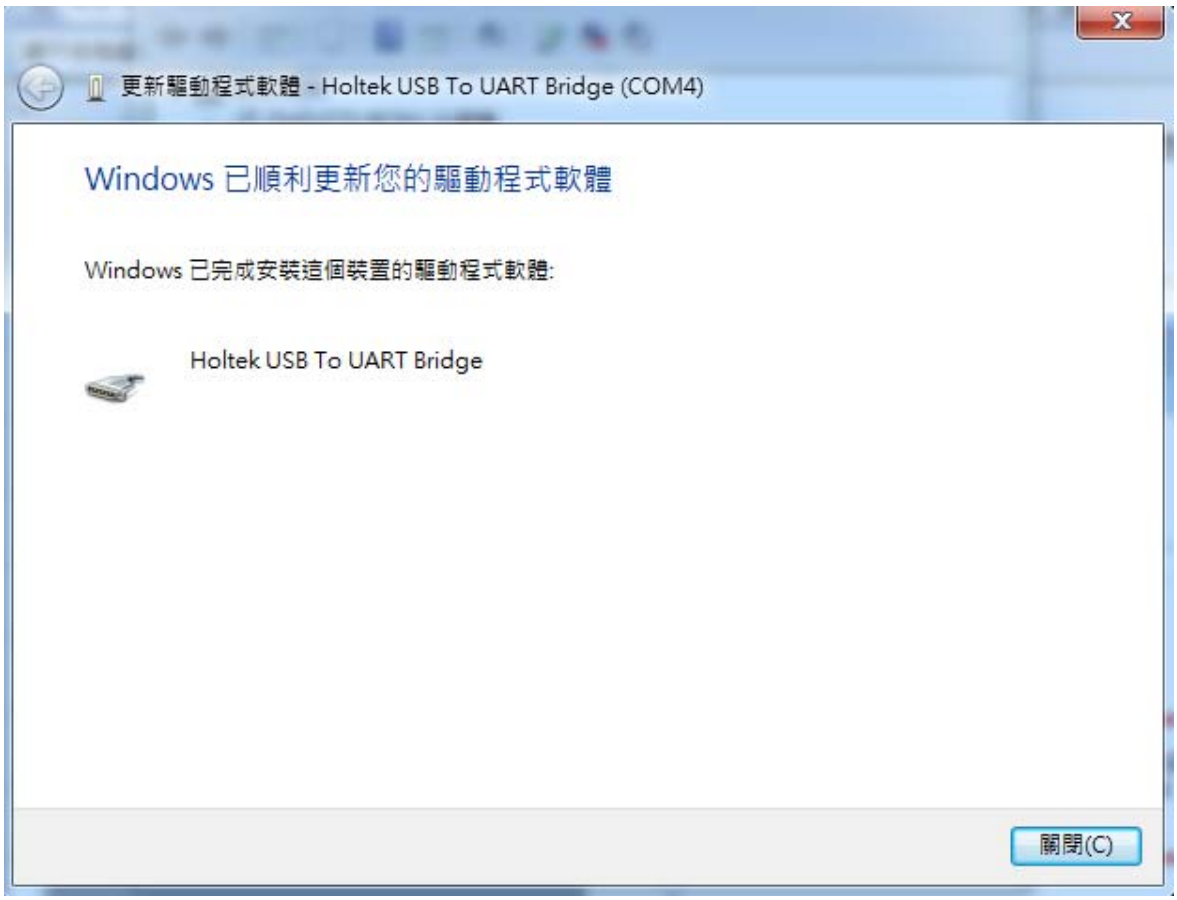
Installing the Virtual COM Port Driver



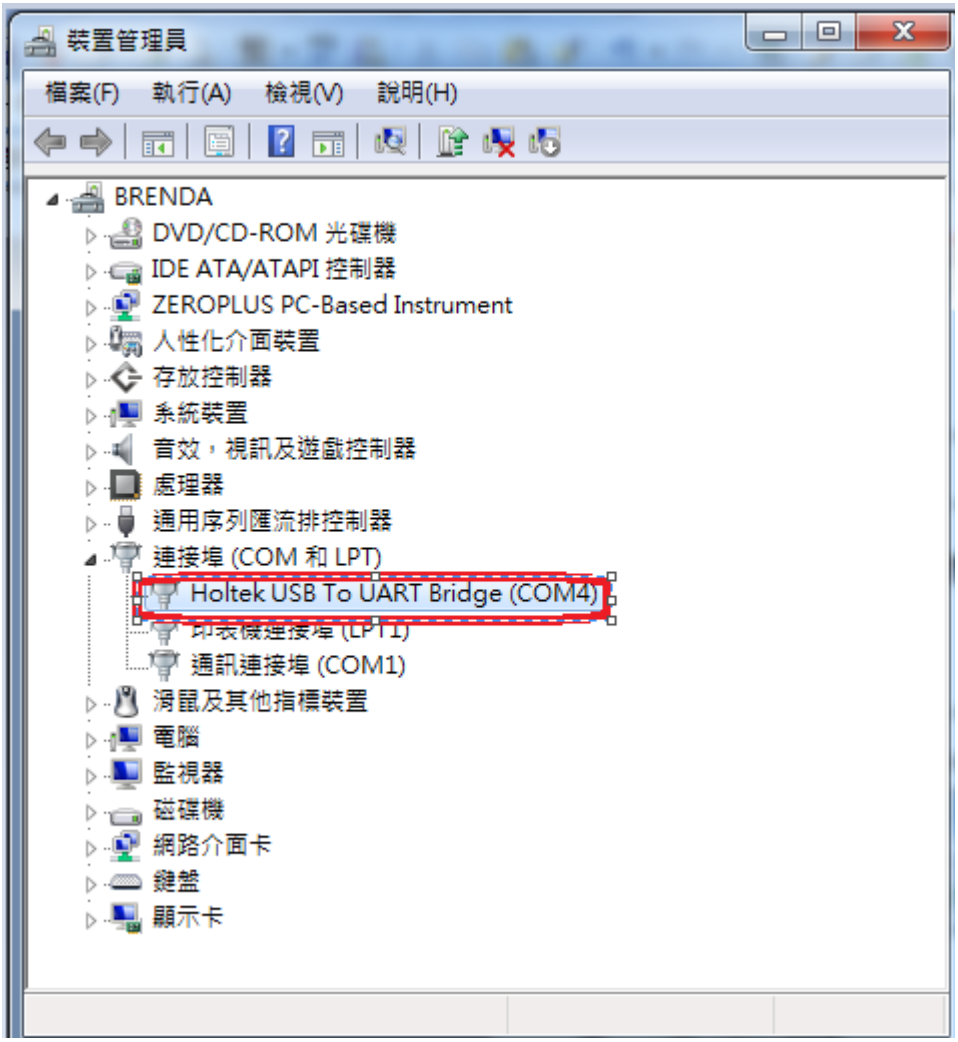

更新驅動程式軟體 - USB TO UART BRIDGE
在您的電腦上瀏覽驅動程式軟體
在此位置搜尋驅動程式軟體:
D:\
瀏覽(R)...
包含子資料夾(I)
Step2.
讓我從電腦上的裝置驅動程式清單中挑選(L)
此清單會顯示已安裝並且與裝置相容的驅動程式軟體，以及與裝置屬於同類別的所有驅動程式軟體。
下一步(N)
取消


找出檔案位置
搜尋位置(I):
DRV
名稱
修改日期
ht_cdc_winxp_usbToUART.inf
2014/10/14 上午 09...
最近的位置
桌面
媒體櫃
電腦
網路
Step3.Holtek provides inf file
檔案名稱(N):
ht_cdc_winxp_usbToUART.inf
開啟舊檔(O)
檔案類型(T):
安裝資訊 (*.inf)
取消


更新驅動程式軟體 - USB TO UART BRIDGE
選取您要為這個硬體安裝的裝置驅動程式
請選擇您的硬體裝置製造商和機型，然後按 [下一步]。如果您想從磁片安裝其他驅動程式，請按 [從磁片安裝]。
機型
Holtek USB To UART Bridge
驅動程式尚未數位簽章!
從磁片安裝(H)...
告訴我為什麼驅動程式簽章很重要
Step4.
下一步(N)
取消

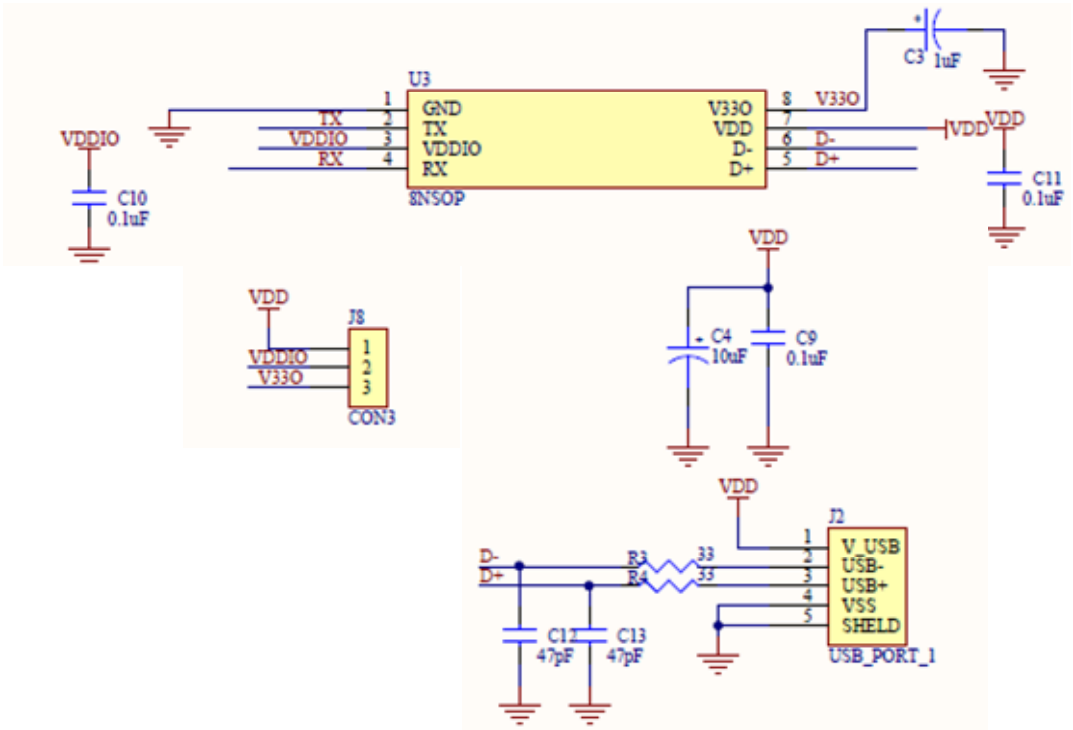

更新驅動程式軟體 - Holtek USB To UART Bridge (COM4)
Windows 已順利更新您的驅動程式軟體
Windows 已完成安裝這個裝置的驅動程式軟體:
Holtek USB To UART Bridge
關閉(C)

Installing the Virtual COM port Driver Finish.

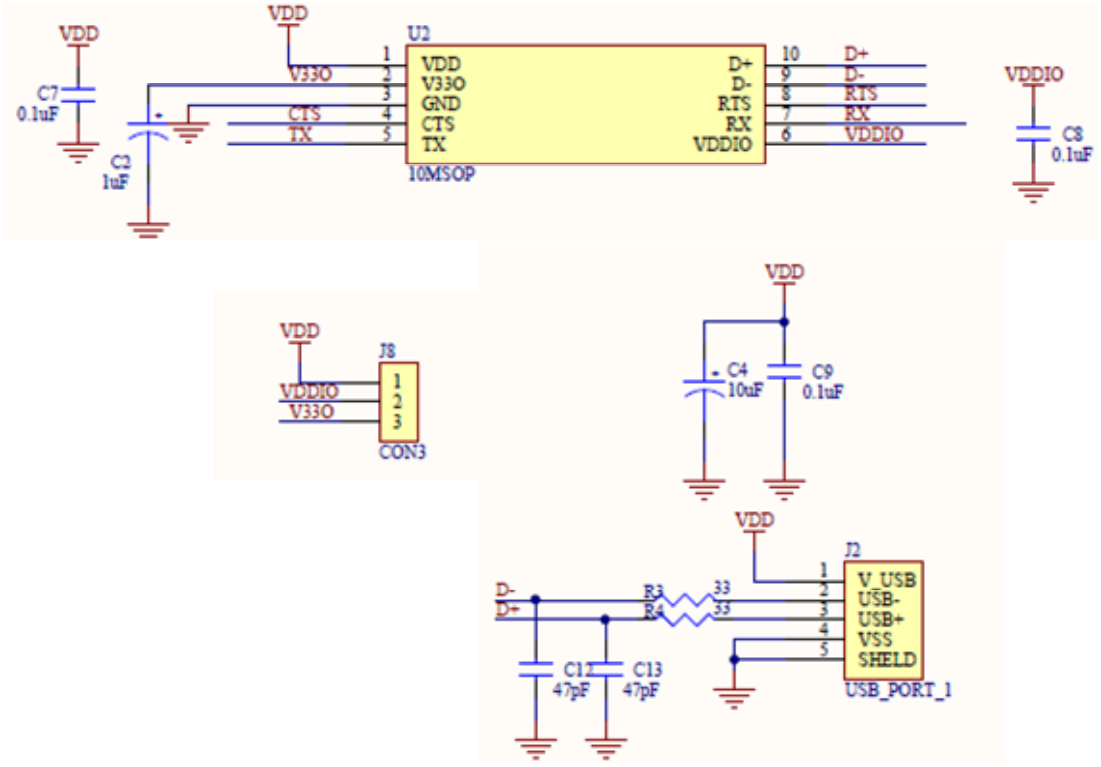


Application Circuit

HT42B534_8NSOP



HT42B534_10MSOP



HT42B534_16NSOP