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Product Selection Guide

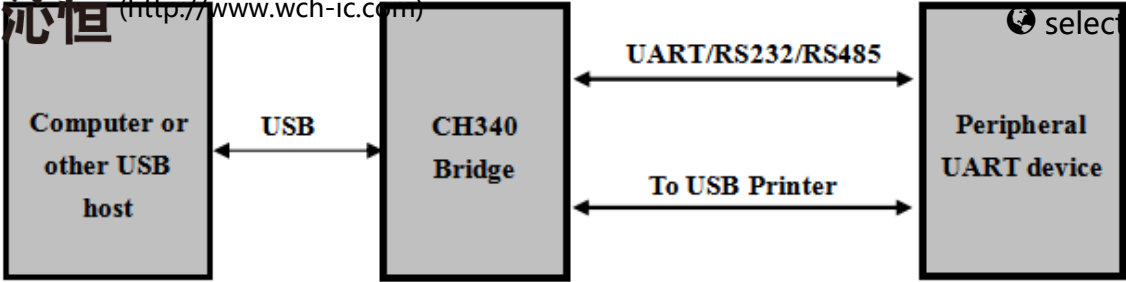
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USB to UART Bridge Controller CH340

Introduction

CH340 is a USB converter chip, which converts USB to serial UART interface or to printer interface. In UART mode, CH340 provides common MODEM interface signals, to expand UART interface of computer or upgrade common serial communication devices to USB directly. For more information about converting USB to printer interface, please refer to the datasheet CH340DS2.



Features

- Full speed USB device interface, USB 2.0 compatible.
- Emulate standard UART interface, used to upgrade the original serial devices or expand additional UART via USB.
- Original UART applications are totally compatible without any modification.
- Hardware full duplex serial UART interface, integrated transmit-receive buffer, supports communication baudrates varies from 50bps to 2Mbps.
- Supports common MODEM interface signals RTS, DTR, DCD, RI, DSR and CTS.
- Provides further RS232, RS485, RS422 interface, etc. through external voltage conversion chip.
- CH340R supports IrDA specification SIR infrared communication, supports baudrates varies from 2400bps to 115200bps.
- Software compatible with CH341, customers can use driver of CH341 directly.
- Supports 5V and 3.3V power supply even supports as low as 3V.
- CH340C/N/K/E and CH340B integrate 12MHz clock, no external crystal required, CH340B also integrates EEPROM used to configure the serial number, etc.
- RoHS compliant SOP-16, SOP-8, SSOP-20 and ESSOP-10, MSOP-10 lead-free package.

Packages

CH340G

1	GND	VCC	16
2	TXD	R232	15
3	RXD	RTS#	14
4	V3	DTR#	13
5	UD+	DCD#	12
6	UD-	RI#	11
7	XI	DSR#	10
8	XO	CTS#	9

CH340C

1	GND	VCC	16
2	TXD	R232	15
3	RXD	RTS#	14
4	V3	DTR#	13
5	UD+	DCD#	12
6	UD-	RI#	11
7	NC.	DSR#	10
8	OUT#	CTS#	9

CH340N

1	UD+	V3	8
2	UD-	RXD	7
3	GND	TXD	6
4	RTS#	VCC	5

CH340B

1	GND	VCC	16
2	TXD	TNOW	15
3	RXD	RTS#	14
4	V3	DTR#	13
5	UD+	DCD#	12
6	UD-	RI#	11
7	RST#	DSR#	10
8	NC.	CTS#	9

CH340T

1	CKO	NOS#	20
2	ACT#	VCC	19
3	TXD	R232	18
4	RXD	TNOW	17
5	V3	RTS#	16
6	UD+	DTR#	15
7	UD-	DCD#	14
8	GND	RI#	13
9	XI	DSR#	12
10	XO	CTS#	11

CH340K

0	GND		
1	UD+	V3	10
2	UD-	RXD	9
3	GND	TXD	8
4	DTR#	VCC	7
5	CTS#	RTS#	6

CH340E

1	UD+	V3	10
2	UD-	RXD	9
3	GND	TXD	8
4	RTS#	VCC	7
5	CTS#	TNOW	6



(http://www.wch-ic.com)		Width Of Plastic		Pitch Of Pin		Instruction Of Package	Ordering Information
SOP-16		3.9mm	150mil	1.27mm	50mil	Small outline 16-pin patch	CH340G
SOP-16		3.9mm	150mil	1.27mm	50mil	Small outline 16-pin patch	CH340C
SOP-8		3.9mm	150mil	1.27mm	50mil	Small outline 8-pin patch	CH340N
ESSOP-10		3.9mm	150mil	1.00mm	39mil	Shrink Small outline 10-pin patch with backplane	CH340K
SOP-16		3.9mm	150mil	1.27mm	50mil	Small outline 16-pin patch	CH340B
MSOP-10		3.0mm	118mil	0.50mm	19.7mil	Miniature Small outline 10-pin patch	CH340E
SSOP-20		5.30mm	209mil	0.65mm	25mil	Shrink Small outline 20-pin patch	CH340T
SSOP-20		5.30mm	209mil	0.65mm	25mil	Shrink Small outline 20-pin patch	CH340R

Model differences: CH340C, CH340N, CH340K, CH340E and CH340B integrate 12MHz clock, no external crystal required. CH340B integrates EEPROM used to configure the serial number, etc. Some functions can be customized. The CH340K has three diodes built in to reduce current flow backwards between the I/O pins of the MCU. The backplane of the CH340K is 0# pin GND, which is an optional connection; the 3# pin GND is the necessary connection. CH340R provides reverse polarity TXD and MODEM interface signals. (Discontinued).

Development Information Datasheet: CH340DS1.PDF Drivers: 1.CH341SER.EXE(Windows driver, supports WIN10/WIN8/WIN7/XP etc.) 2.CH341SER_ANDROID.ZIP(Android application) 3.CH341SER_LINUX.ZIP(Linux driver) 4.CH341SER_MAC.ZIP(MAC OS driver) Schematic/PCB: CH340PCB.ZIP

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