Migration Guide of PL2303GC USB-to-Serial Bridge Controller

Introduction

This application note provides important migration guidelines for PL2303GC USB-to-Serial Bridge Controller. Refer to this application note if you are migrating from PL2303HXD or PL2303TA to the PL2303GC.

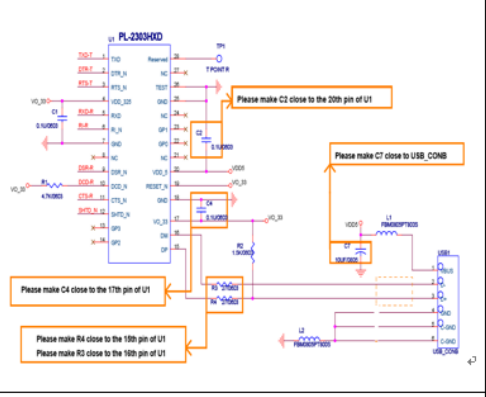
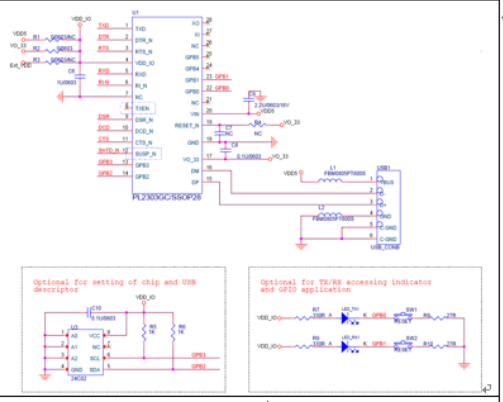
PL2303GC and PL2303HXD, PL2303TA Comparison Table

Following are the difference between PL2303GC and PL2303HXD, PL2303TA chips

	PL2303HXD	PL2303TA	PL2303GC
Operating Voltage(VIN)	6.5V ~ 4.5V	6.5V ~ 4.5V	**5.5V ~** 2.8V
Power Supply for I/O Pins	3.3V ~ 1.8V	3.3V ~ 1.8V	5V(*1) **~ 1.8V**
Baud Rate Range	75 ~ 12M bps	75 ~ 6M bps	1 ~ 12M bps
Clock Source	Internal clock generator	external crystal	Internal clock generator(*2)
Memory for configuration	Internal OTPROM	External EEPROM	Internal OTPROM or External EEPROM
Dedicated GPIO Pins	4 (GP0/1/2/3)	2 (GP0/1)	6 (GPB0/1/2/3/4/5)
Pin Differences	Pin 7→ GND Pin 8→ NC Pin13 → GP3 Pin14 → GP2 Pin21 → NC Pin 24 → NC Pin 25 → GND Pin 26 → TEST Pin 27 → NC Pin 28 → RESERVED	Pin 7→ GND Pin 8→ NC Pin13 → EE_CLK Pin14 → EE_DATA Pin21 → GND Pin 24 → NC Pin 25 → GND Pin 26 →TEST Pin 27 → OSC1(XI) Pin 28 → OSC2(XO)	Pin 7→ NC(*5) Pin 8→ TXEN Pin13 → EE_CLK/GP3(*3) Pin14 → EE_DATA/GP2(*3) Pin21 → NC(*5) Pin 24 → GPB4 Pin 25 → GPB5 Pin 26 → NC(*5) Pin 27 → XI Pin 28 → XO
Android support	Yes	NO	Yes
Circuit Compatibility	Pin-compatible with HXA or XA Version	N/A	Pin-compatible with HXD and TA Versions(*4)
Compatibility of driver and SDK	Its driver and SDK only for PL2303HXD	Its driver and SDK only for PL2303TA	Its driver and SDK only for PL2303GC
Data buffer	512 bytes	512 bytes	1024 bytes
Exclusive feature			- Assigned and fixed COM port on Windows PC -Custom device name on device manager
PKG	SSOP28 / QFN32	SSOP28	SSOP28 / QFN24
Production status	**To be phased out on 12/2019 (EOL)**	**To be phased out on 12/2019 (EOL)**	Available

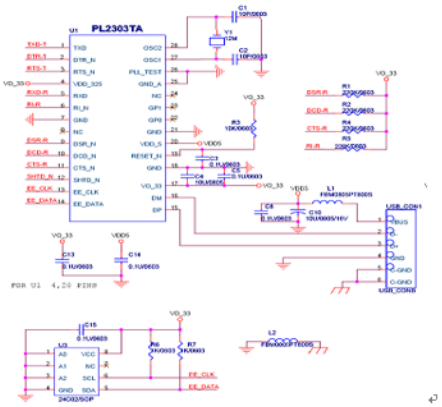
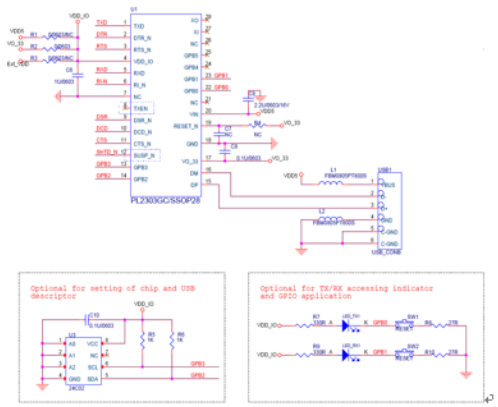
*1. If VDD_IO is 5V, the power pin of Vin also needs to be applied with the power of 5V.
*2. Using the external crystal is also allowable.
*3.EEPROM I/O or GPIO pins is configurable. If you want to use EEPROM to store the configuration of 2303GC, you need to firstly use Prolific configuration tool to enable the I2C pin.
*4. PL2303GC is pin-compatible with PL2303TA and PL2303HXD, but its BOM is different with these two old ICs. For details, you can refer to the reference schematic of 2303GC.
*5. The pin is also no connection with the chip die inside the IC.

Major BOM difference between PL2303HXD and PL2303GC

Chip	PL2303HXD	PL2303GC
Schematic		
Using EEPROM	X	X(*1)
Quantity of large capacitor	10uF x1	2.2uF x1 、1uF x1
Using termination and pull-up resistors on USB pins	V	X

*1: Default is using OTP. Using EEPROM is also allowable.

Major BOM difference between PL2303TA and PL2303GC

Chip	PL2303TA	PL2303GC
Schematic		
Using Crystal	V	X
Using EEPROM	V	X(*1)
Quantity of large capacitor	10uF x1	2.2uF x1 、1uF x1

*1: Default is using OTP. Using EEPROM is also allowable.