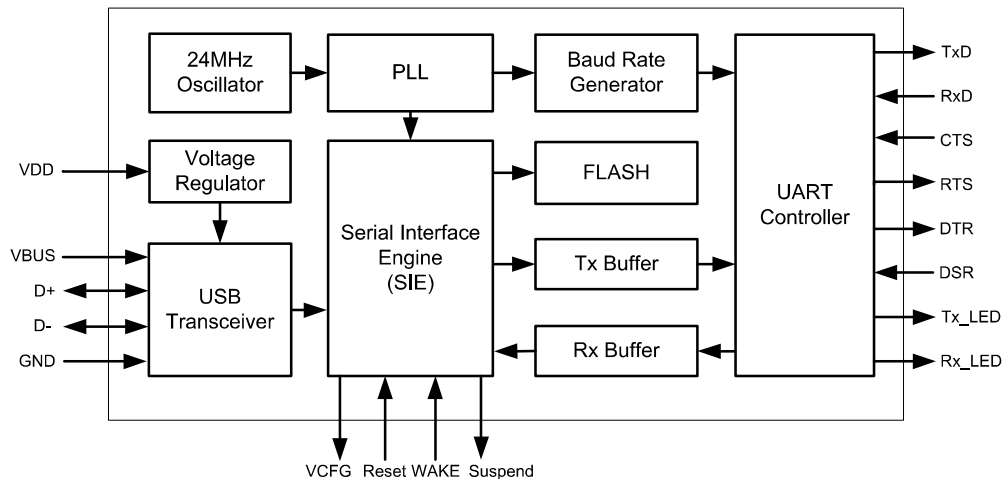


USB-to-UART Bridge Controller

Features

- Universal Serial Bus (USB) Integration
 - Full-Speed USB peripheral compliant with USB2.0 specification
 - USB-IF certified with TID 40001425
 - Support for bus-powered and self-powered configurations
 - 3 endpoints (1 Interrupt IN, 1 Bulk OUT and 1 Bulk IN)
 - Integrated USB transceiver, 1.5 kΩ pull-up resistor on D+ line
- Universal Asynchronous Receiver Transmitter (UART)
 - Baud rate generation (300 to 230400)
 - Data format:
 - 8 data bits
 - 1 stop bit
 - No parity, even parity or odd parity
 - Support for Parity, Overrun and Framing errors
 - Supports flow control using CTS, RTS, DTR, DSR
 - LED signals to indicate activity on Tx/D and Rx/D lines
- Full device operation from a single voltage supply of 3.3 V or 5 V
- Low power consumption in suspend mode
 - 225 μA at 5 V operating voltage
 - 207 μA at 3.3 V operating voltage
- Integrated 24 MHz oscillator
- Integrated 3.3 V regulator
- Integrated flash to store device configuration
- Software support for ease of development
 - Configuration utility to program device parameters such as VID, PID and string descriptors.
 - Certified Cypress VCP driver for Windows (8 / 7 / Vista / XP)
 - Support for device drivers for Android, Mac, Linux, Window CE 4.2, 5.0, 6.0
- 28-pin SSOP 10 mm × 7.5 mm, RoHS compliant package
- Temperature grade
 - Commercial operating temperature range of 0 °C to +70 °C

Figure 1. CY7C64225 Block Diagram



Pin Configuration

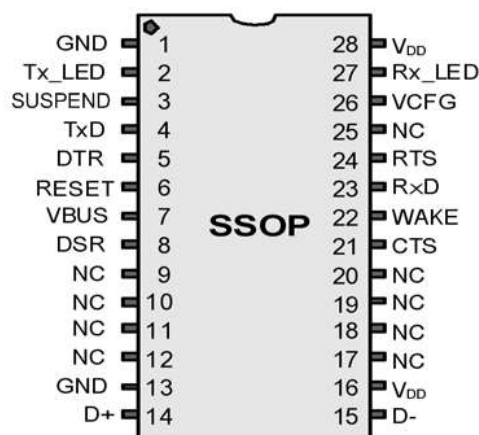
28-pin part pinout Description

The CY7C64225 USB-to-UART Bridge device is available in a 28-pin package as shown in Figure 2. The pin description is listed in Table 2.

Table 2. 28-pin part pinout (SSOP)

Pin No.	Name	I/O	Description
1	GND	Power	Ground
2	Tx_LED	Output	Active low, UART Tx_LED, max current –20 mA
3	SUSPEND	Output	Active low indicates USB is suspended
4	TxD	Output	UART Data Transmit, Output
5	DTR	Output	Data Terminal Ready (DTR) Pin
6	RESET	Input	No Connect (NC)
7	VBUS	Input	Used for VBUS monitoring. This pin requires a series resistor when connected to VBUS. The recommended values are in the range of 1 k Ω –10 k Ω .
8	DSR	Input	Data Set Ready (DSR) pin
13	GND	Power	USB Ground
14	D+	USB	USB D+ Line
15	D–	USB	USB D– Line
16	V _{DD}	Power	Supply Voltage (3.3 V or 5 V)
21	CTS	Input	Clear to Send (CTS) input, handshake signal
22	WAKE	Input	Active high on this pin, generates Remote Wake-Up signal on the Bus
23	RxD	Input	UART Data Receive, Input
24	RTS	Output	Request to Sent (RTS) output, handshake signal
26	VCFG	Output	Active low indicates VBUS is detected and device is configured
27	Rx_LED	Output	Active low, UART Rx_LED, max current –20 mA
28	V _{DD}	Power	Supply Voltage. 3.3 V or 5 V
9	NC	NC	No Connect
10	NC	NC	No Connect
11	NC	NC	No Connect
12	NC	NC	No Connect
17	NC	NC	No Connect
18	NC	NC	No Connect
19	NC	NC	No Connect
20	NC	NC	No Connect
25	NC	NC	No Connect

Figure 2. CY7C64225 USB-UART Bridge Device



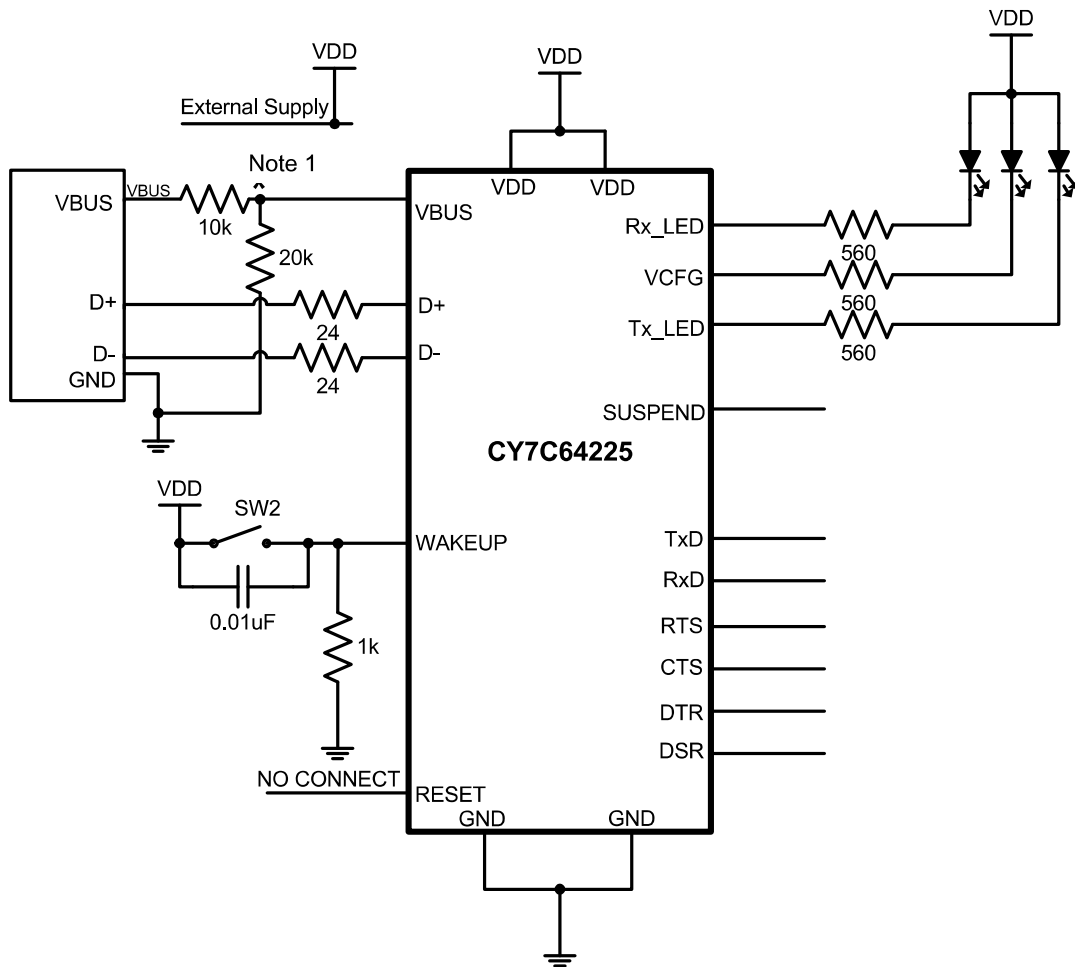
Self Powered Design

Figure 5 illustrates the use of CY7C64225 in self powered mode operating at 3.3 V. VDD is obtained from an external power supply. As shown in Figure 5, a voltage divider circuit is used to

provide 3.3 V from VBUS of USB port to VBUS pin of CY7C64225.

A self powered device can draw more current for its operation from external supply during USB active mode as well as suspend mode as this will not affect the operation of the USB.

Figure 5. Self Powered Design (VDD = 3.3 V)



Note

1. Replace the voltage divider circuit (10K and 20K resistors) with 1K series resistor as shown in Figure 3, if 5 V is applied at VDD in this design.