

### Single-Chip USB to UART Data Transfer

- Integrated USB transceiver; no external resistors required
- Integrated clock; no external crystal required
- Internal 1024-Byte programmable ROM for vendor ID, product ID, serial number, power descriptor, release number, and product description strings
  - EEPROM (CP2102)
  - EPROM (One-time programmable) (CP2109)
- On-chip power-on reset circuit
- On-chip voltage regulator
  - 3.3 V output (CP2102)
  - 3.45 V output (CP2109)
- 100% pin and software compatible with CP2101

### USB Function Controller

- USB Specification 2.0 compliant; full-speed (12 Mbps)
- USB suspend states supported via SUSPEND pins

### Asynchronous Serial Data BUS (UART)

- All handshaking and modem interface signals
- Data formats supported:
  - Data bits: 5, 6, 7, and 8
  - Stop bits: 1, 1.5, and 2
  - Parity: odd, even, mark, space, no parity
- Baud rates: 300 bps to 1 Mbps
- 576 Byte receive buffer; 640 byte transmit buffer
- Hardware or X-On/X-Off handshaking supported
- Event character support
- Line break transmission

### Virtual COM Port Device Drivers

- Works with existing COM port PC Applications
- Royalty-free distribution license
- Windows 8/7/Vista/Server 2003/XP/2000
- Mac OS-X/OS-9
- Linux

### USBXpress™ Direct Driver Support

- Royalty-Free Distribution License
- Windows 7/Vista/XP/Server 2003/2000
- Windows CE

### Example Applications

- Upgrade of RS-232 legacy devices to USB
- Cellular phone USB interface cable
- USB interface cable
- USB to RS-232 serial adapter

### Supply Voltage

- Self-powered: 3.0 to 3.6 V
- USB bus powered: 4.0 to 5.25 V

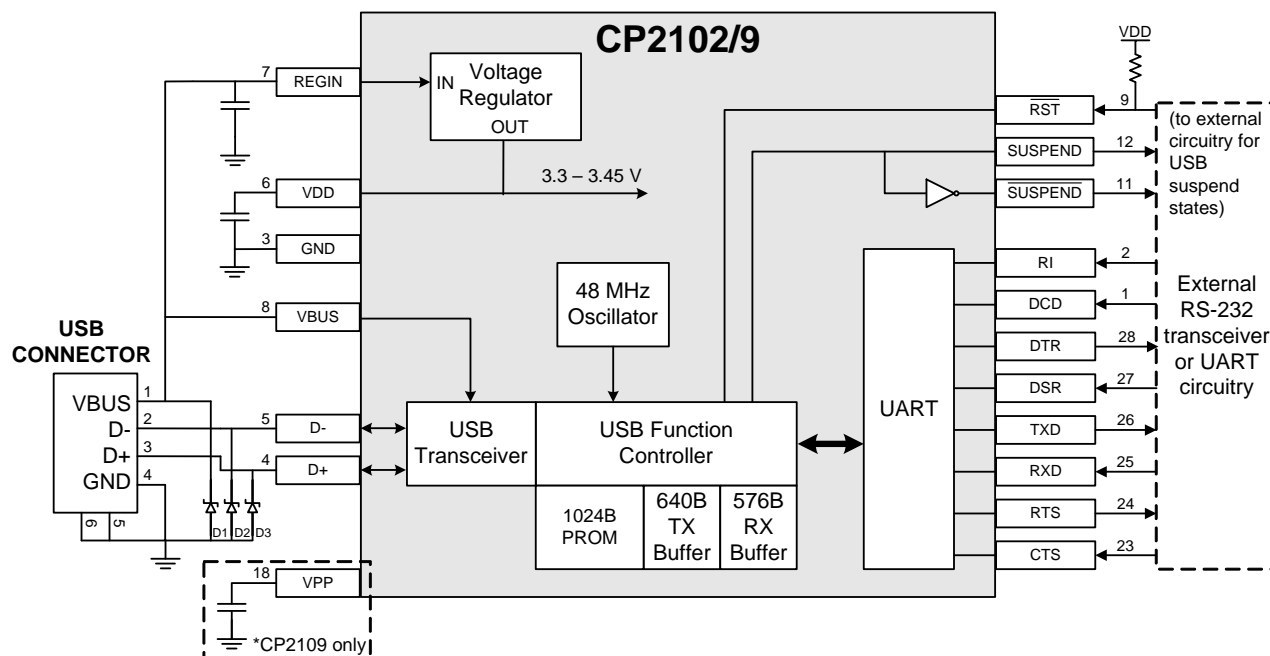
### Package

- RoHS-compliant 28-pin QFN (5x5 mm)

### Ordering Part Numbers

- CP2102-GM
- CP2109-A01-GM

Temperature Range: -40 to +85 °C



### Selected Electrical Specifications

(T<sub>A</sub> = -40 to +85 °C)

Parameter	Conditions	Min	Typ	Max	Units
<b>CP2102</b>					
Regulator Input Voltage (REGIN)		4.0	—	5.25	V
V <sub>DD</sub> (Regulator Output)	Output Current = 1 to 100 mA*	3.0	3.3	3.6	V
Regulator Bias Current		—	90	—	μA
Supply Current (from REGIN)	USB active	—	20	26	mA
	USB suspend mode	—	80	100	μA
<b>CP2109</b>					
Regulator Input Voltage (REGIN)		3.0	—	5.25	V
V <sub>DD</sub> (Regulator Output)	Output Current = 1 to 100 mA*	3.3	3.45	3.6	V
Regulator Bias Current		—	83	99	μA
Supply Current (from REGIN)	USB active	—	17	23	mA
	USB suspend mode	—	90	230	μA
*Note: The maximum regulatory supply current is 100 mA.					

### Product Selection Guide

Ordering Part Number	Internal Programmable ROM (Byte)	EEPROM	EPROM	Calibrated Internal 48 MHz Oscillator	Supply Voltage Regulator	Lead-free (RoHS-Compliant)	Package
CP2102-GM*	1024	Y	N	Y	Y	Y	QFN28
CP2109-A01-GM*	1024	N	Y	Y	Y	Y	QFN28
*Note: Pin compatible with the CP2101-GM.							

### Additional Silicon Labs USB Devices

Part Number	Description	Package	Evaluation/Development Kit
CP2105	USB to Dual UART Bridge	QFN24	CP2105EK
CP2108	USB to Quad UART Bridge	QFN64	CP2108EK
CP2110	HID USB to UART Bridge	QFN24	CP2110EK
CP2112	HID USB to SMBus/I <sup>2</sup> C Bridge	QFN24	CP2112EK
CP2114	USB to I <sup>2</sup> S Digital Audio Bridge	QFN32	CP2114EK