

Single-Chip USB Audio to I2S Digital Audio Bridge

- USB HID to I2C to communicate with DAC/codec
- Supports USB HID Consumer Controls for Volume and Mute Synchronization
- Integrated USB transceiver; no external resistors required
- Integrated clock; no external crystal required
- Integrated One-Time Programmable ROM for product customization
- On-chip voltage regulator: 3.45 V output

Supports a Wide Range of codecs/DACs

- Out-of-box support for three major codecs/DACs
- Internal programmable memory supports additional codec/DAC configurations

USB Audio Class v1.0 Support

- I2S Master mode, I2S and left justified PCM outputs
- Supports 48 kHz, 16-bit stereo digital audio
- No custom driver required
- Supports Windows 7, Vista, XP, Mac OS-X, Linux
- Supports iPad/iOS (with USB camera kit connector)
- Open access to interface specification

USB Peripheral Function Controller

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

USB HID to UART Auxiliary Communication Interface

- APIs for quick application development
- Supports Windows 7, Vista, XP, Server 2003, 2000
- Supports Mac OS-X

12 Configurable GPIO Pins with Alternate Functions

- Usable as inputs, open-drain or push-pull outputs
- UART signals, audio playback controls, DAC select pins
- Configurable clock output
- Toggle LEDs upon UART transmission or reception

Supply Voltage

- Self-powered: 3.0 to 3.6 V
- USB bus powered: 4.0 to 5.25 V
- I/O voltage: 1.8 V to V_{DD}

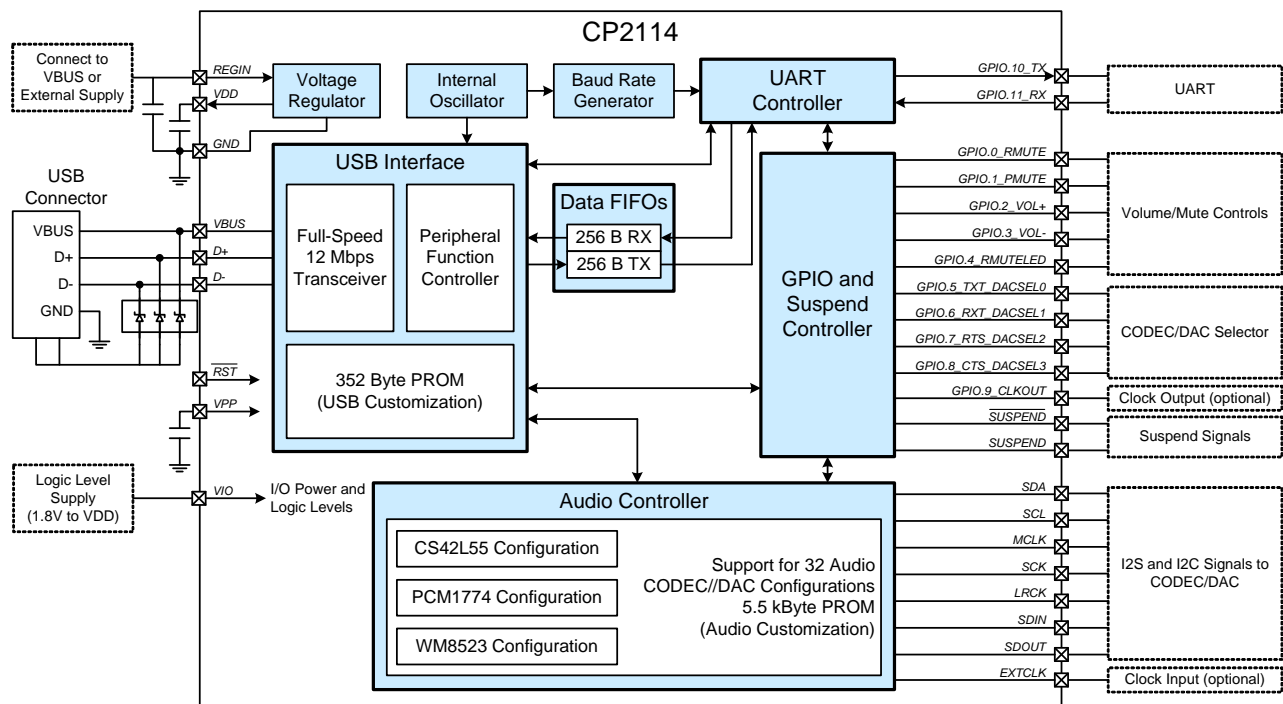
Package

- RoHS-compliant 32-pin QFN (5 x 5mm)





Ordering Part Number

- CP2114-F01-GM

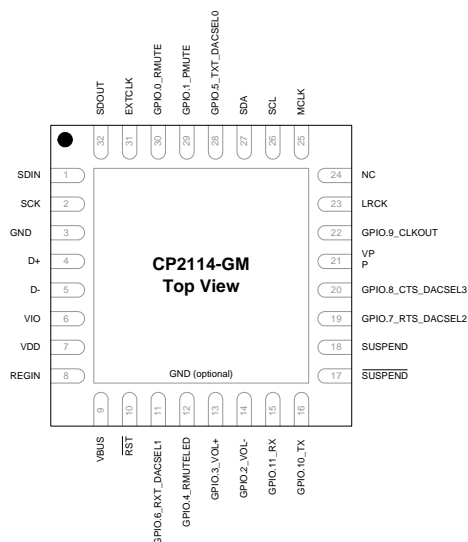
Temperature Range: -40 to +85 °C



CP2114 Evaluation Boards

Part Number	Description	Contents	Board Image
CP2114EK	CP2114 Evaluation Tool (to be used with a wide range of external CODEC/DACs)	CP2114EB board, USB cable	
CP2114-CS42L55EK	CP2114 Evaluation Tool with C24L55 Cirrus logic CODEC	CP2114EB board, C242L55EB board, Headphone, USB cable	
CP2114-PCM1774EK	CP2114 Evaluation Tool with PCM1774 Texas Instrument DAC	CP2114EB board, PCM1774EB board, Headphone, USB cable	
CP2114-WM8523EK	CP2114 Evaluation Tool with WM8523 Wolfson DAC	CP2114EB board, WM8523EB board, Headphone, USB cable	

Pinout Information QFN-32



Global DC Electrical Characteristics

Parameter	Condition	Min	Typ	Max	Unit
Digital Supply Voltage (V_{DD})		3.0	—	3.6	V
Digital Port I/O Supply Voltage (V_{IO})		1.8	—	V_{DD}	V
Supply Current ¹	Normal Operation; V_{REG} Enabled	—	TBD	TBD	mA
Supply Current ¹	Suspended; V_{REG} Enabled	—	TBD	TBD	μ A
Supply Current - USB Pull-up ²		—	200	228	μ A
Specified Operating Temperature Range		-40	—	+85	$^{\circ}$ C

Notes:

- If the device is connected to the USB bus, the USB Pull-up Current should be added to the supply current for total supply current.
- The USB Pull-up supply current values are calculated values based on USB specifications.