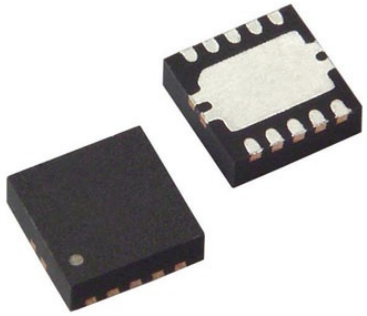
USB7206C-I/KDX

Data Sheet

USB3.1 Gen2 HUB_No PD_No Type C

Manufacturers	Microchip Technology, Inc
Package/Case	VQFN
Product Type	
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for USB7206C-I/KDX or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The Microchip USB7206C SmartHub™ IC is a low-power, OEM configurable, USB 3.2 Gen 2 hub controller with 6 downstream ports and advanced features for embedded USB applications. The USB7206C is fully compliant with the Universal Serial Bus Revision 3.2 Specification and USB 2.0 Link Power Management Addendum. The USB7206C supports 10 Gbps Super-Speed Plus (SS+), 5 Gbps Super-Speed (SS), 480 Mbps Hi-Speed (HS), 12 Mbps Full-Speed (FS), and 1.5 Mbps Low-Speed (LS) USB downstream devices on all enabled downstream ports.

This "C" version contains the latest silicon. All new USB7206 designs should move to this newer "C" version.

A SmartHub IC is defined as a USB hub that integrates system levels functions typically associated with a separate MCU or processor. The USB7206C SmartHub IC enables communication to other peripherals in addition to USB. This I/O Bridging capability allows the host to seamlessly interface to peripherals via I2C, SPI or GPIOs over USB. The USB7206C also enable a downstream device to take control of the host system by swapping roles and becoming the host port. The USB7206C can also switch between two different hosts if required. This role changing technology is called FlexConnect and can be initiated through hardware or software commands.

The USB7206C supports legacy Type-B connectivity on the upstream port and Type-A connectivity on the downstream ports. The hub downstream configuration includes 5 x USB 3.2 Gen 2 ports and an additional USB2.0 port. The USB7206C also supports the legacy USB speeds (HS/FS/LS) through a dedicated USB 2.0 hub controller that is the culmination of six generations of Microchip hub feature controller design and experience with proven reliability, interoperability, and device compatibility. The SuperSpeed Plus hub controller operates in parallel with the USB 2.0 controller, decoupling the 10 Gbps SS data transfers from bottlenecks due to the slower USB 2.0 traffic.

The USB7206C supports downstream battery charging. The USB7206C integrated battery charger detection circuitry supports the USB-IF Battery Charging (BC1.2) detection method and most Apple devices. The USB7206C provides the battery charging handshake and supports the following USB-IF BC1.2 charging profiles: DCP: Dedicated Charging Port (Power brick with no data); CDP: Charging Downstream Port (1.5A with data); SDP: Standard Downstream Port (0.5A with data); Custom profiles loaded via SPI EEPROM or OTP.

MPLAB Connect Configurator, Microchip's proprietary software utility, can be used to program On-chip One Time Programmable (OTP) ROM for the USB7206C which stores required register settings to ensure the desired start up configuration at power on. All LED, GPIOs and port control signal pins are under firmware control, allowing for maximum operational flexibility. However, for even more simplicity, the USB7206C can be configured through a series of external low-cost resistor bootstraps. A handful of bootstap pins are available on the USB7206C to enable standard configurations for GPIOs and downstream ports. No OTP programming required.

*The **USBCheck online design review** service is subject to Microchip's Program Terms and Conditions and requires a myMicrochip account

Features

Six downstream USB3.2 Gen2 / 2.0 ports

Legacy USB type B support on upstream port

6 USB Type A support downstream – 5 x Gen2, 1 x USB2.0

Integrated hub Feature Controller (HFC) enabling I/O Bridging and FlexConnect

I/O Bridging:Host communication to external peripheral USB to I2C/SPI/GPIO bridging endpoint support

FlexConnect:Host port Swapping and Switching to downstream Device Reversible upstream and downstream roles on command

Battery Charging – USB-IF rev1.2 support on downstream ports (DCP, CDP, SDP) including legacy Apple® iOS, Blackberry®, China Charging and many others

Compatible with MSFT Windows 10.8, 7, XP, Apple OS X 10.4+, and Linux hub drivers

Available in 100-pin (12mm x 12mm) VQFN RoHS compliant package

Industrial grade temperature support (−40°C to +85°C)

Related Products

USB3740T-I/ML-V01

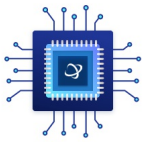
Microchip Technology, Inc

UQFN

TCHIP-USB-MX250F128B

Microchip Technology, Inc

SPDIP



PD-3501G/AC-US

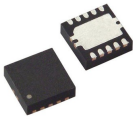
Microchip Technology, Inc

N/A

USB2251I-NU-06-CAG

Microchip Technology, Inc

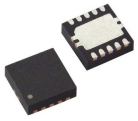
TQFP-128



USX5044T/2G

Microchip Technology, Inc

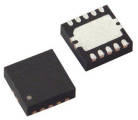
VQFN



USX5044/2G

Microchip Technology, Inc

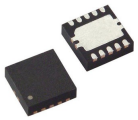
VQFN



USB82512AM-A-V01

Microchip Technology, Inc

VQFN



USB7252CT/KDX

Microchip Technology, Inc

VQFN