

Storage Controller XMC

Quadruple USB 3.0 Controller XMC

The Technobox 7235 USB Controller XMC provides four USB 3.0 compliant ports, with access via Type A latching-style USB connectors located on the front panel.

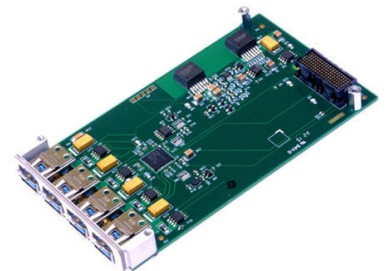
Compliant with the USB 3.0 standard, each USB connector supplies one differential pair plus 5V/GND, affording USB 1.0 and 2.0 backward compatibility, operating at 1.5 Mb/s, 12 Mb/s, and 480 Mb/s. Two additional differential pairs (TXD/RXD) operate at 5 Gb/s expressly for USB 3.0 support. Common Mode EMI chokes are provided on the USB 2.0 and USB 3.0 differential pairs to reduce EMI.

At the heart of the design is a Texas Instruments TUSB7340 host controller that provides a 1X Gen 2 upstream PCI Express connection (5Gb/s) and four USB 3.0 downstream ports. It is xHCI compliant and is recognized by mainstream operating systems such as Microsoft Windows.

USB power (5V) is derived from the VPWR rail on the XMC P15 connector. Note that the board will operate properly with either 5V or 12V supplied on VPWR. An FET switch circuit will either pass 5V power through or convert 12V to 5V using an on-board DC to DC switching supply.

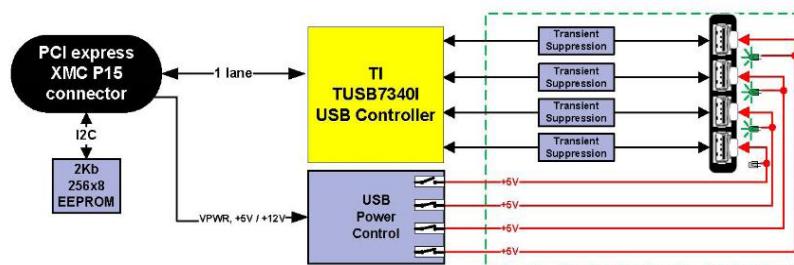
Port power is current limited to 2 amps, with hardware fault detection reported back to the TUSB7340 controller. A total of 4 amps at 5V is available across all four USB ports. A power status indicator LED is provided for each port. Visible from the front panel, these LEDs show that power is available for the corresponding port.

Each USB connector has a thumb-actuated latching feature that secures the USB cable in the connector, preventing accidental disconnection. To accomplish this, the connector has spring-loaded projections that engage the openings in a standard USB cable/device

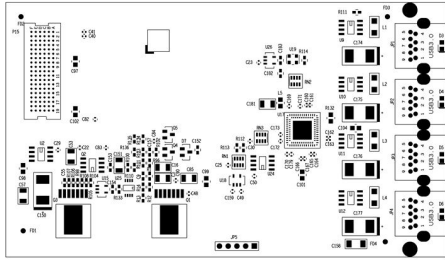


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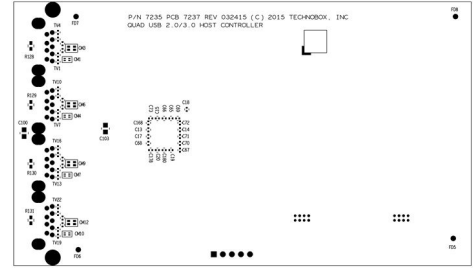
- TI TUSB7340 xHCI Controller
- Four USB 3.0 Port
- Type A Latching Connectors on Front-Panel
- 1x GEN 2 PCI Express Lane
- Air-cooled XMC
- Supports VPWR of Either +5 or +12V
- Current Limited 5V Power to Each USB
- Maximum 4 Amps 5V USB Power (Total For All Ports)
- Common Mode EMI Chokes
- ED Power Indicator for Each USB Port
- Industrial Temperature Design
- RoHS-compatible
- Lead-free



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COMPONENT PLACEMENT VIEW - SIDE #1



COMPONENT PLACEMENT VIEW - SIDE #2

connector that are normally used for detent attachment. When the locking feature is depressed with the user's thumb, the cable/device connector can be disengaged.

To accommodate many USB cables and devices, such as thumb drives, the center-to-center distance between USB port connectors is 0.640

inch (16.25 mm). Users will be able to find devices and cables that fit in this space. However, some USB cables and devices are wider than this limit and can only work by plugging into non-adjacent ports.

The USB adapter is built with industrial temperature range parts (-40 to +85 C) and is RoHS compliant.

SPECIFICATIONS

Temperature (Operating): -40 to +85 degrees C

Temperature (Storage): -55 to +105 degrees C

Altitude: Not Specified or Characterized. Typical similar equipment is at 15,000 ft.

Humidity (Operating/Storage): 5% to 95% non-condensing.

Vibration: Not specified or characterized

Shock: Not specified or characterized

MTBF: Available on request

PCI Express: GEN-2 (5.0 Gb/s)

Voltages Required: +3.3V, VPWR (+5V or +12V)

Power: +5V VPWR @ 4.0A, +3.3V @ 0.619A

USB Current: 4 Amps max. total for all USB devices.

Size: 74 mm x 129 mm

Weight: 63 grams

ORDERING INFORMATION

7235: Quadruple USB 3.0 Controller XMC

