

## Low Speed/Full Speed/High Speed 7 Port Hub Controller USB 2.0 3.3V T/R 48-Pin LQFP

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>	<input type="text" value="TUSB2077APTR Image"/>
<b>Package/Case:</b>	LQFP48	Images are for reference only
<b>Product Type:</b>	Interface ICs	<input type="button" value="Inquiry"/>
<b>RoHS:</b>	RoHS Compliant/Lead free 	
<b>Lifecycle:</b>	Active	

### General Description

The TUSB2077A hub is a 3.3-V CMOS device that provides up to seven downstream ports in compliance with the USB 2.0 specification. Because this device is implemented with a digital state machine instead of a microcontroller, no software programming is required. Fully compliant USB transceivers are integrated into the ASIC for all upstream and downstream ports. The downstream ports support full-speed and low-speed devices by automatically setting the slew rate according to the speed of the device attached to the ports. The configuration of the BUSPWR terminal selects either the bus-powered or self-powered mode. The introduction of the DP0 pull-up resistor disable terminal, DP0PUR, makes it much easier to implement an onboard bus/self-power dynamic-switching circuitry. The three-LED indicator control output pins also enable the implementation of visualized status monitoring of the hub and its downstream ports. With these new function pins, the end equipment vendor can considerably reduce the total board cost while adding additional product value.

The EXTMEM pin (pin 47) enables or disables the optional EEPROM interface. When EXTMEM is high, the vendor and product IDs (VID and PID) use defaults, such that the message displayed during enumeration is General Purpose USB Hub.

The TUSB2077A supports bus-powered and self-powered modes. External power-management devices, such as the TPS2044, are required to control the 5-V power source switching (on/off) to the downstream ports and to detect an overcurrent condition from the downstream ports individually or ganged. An individually port power controlled hub switches power on or off to each downstream port as requested by the USB host. Also when an individually port power controlled hub senses an overcurrent event, only power to the affected downstream port will be switched off. A ganged hub switches on power to all its downstream ports when power must be on for any port. The power to the downstream ports is not switched off unless all ports are in a state that allows power to be removed. Also, when a ganged hub senses an overcurrent event, power to all downstream ports will be switched off.

## Key Features

Fully Compliant With the USB Specification as a Full-Speed Hub: TID #20240226

Integrated USB Transceivers

3.3-V Low-Power ASIC Logic

Two Power Source Modes

Self-Powered Mode Supporting Seven Downstream Ports

Bus-Powered Mode Supporting Four Downstream Ports

Power Switching and Overcurrent Reporting Is Provided Ganged or Per Port

Supports Suspend and Resume Operations

Suspend Status Pin Available for External Logic Power Down

Supports Custom Vendor ID and Product ID With External Serial EEPROM

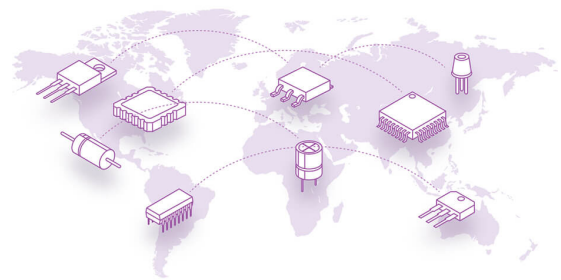
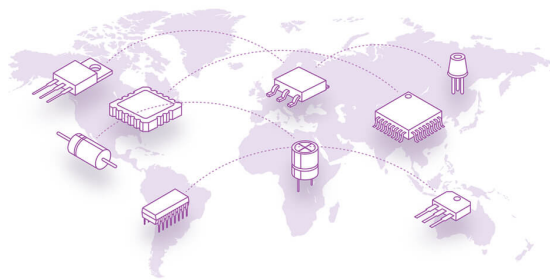
3-State EEPROM Interface Allows EEPROM Sharing

Push-Pull Outputs for BUSPWR and Enable Easy Implementation of Onboard Bus/Self-Power Dynamic Switching Circuitry

No Special Driver Requirements; Works Seamlessly With Any Operating System With USB Stack Support

Available in 48-Pin LQFP Package

JEDEC Descriptor S-PQFP-G for Low-Profile Quad Flatpack (LQFP).



## Recommended For You

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**TUSB1002RGER**

Texas Instruments, Inc  
QFN

**TUSB1105RTZR**

Texas Instruments, Inc  
WQFN-16

**TUSB211QRWBRQ1**

Texas Instruments, Inc  
X2QFN-12

**TUSB4041IPAPRQ1**

Texas Instruments, Inc  
HTQFP-64

**TUSB1210BRHBR**

Texas Instruments, Inc  
VQFN32

**TUSB212QRWBRQ1**

Texas Instruments, Inc  
X2QFN12

**TUSB319IDRFQRQ1**

Texas Instruments, Inc  
WSON8

**TUSB1211A1ZRQ**

Texas Instruments, Inc  
BGA

**TUSB4020BIPHP**

Texas Instruments, Inc  
TQFP48

**TUSB1105RGIR**

Texas Instruments, Inc  
VQFN16

**TUSB321RWBR**

Texas Instruments, Inc  
X2QFN12

**TUSB8020BPHP**

Texas Instruments, Inc  
TQFP48

**TUSB1002AIRGET**

Texas Instruments, Inc  
VQFN-24

**TUSB3210PM**

Texas Instruments, Inc  
QFP64

**TUSB214IRWBT**

Texas Instruments, Inc  
X2QFN-12