

USB Type-C™ Crosspoint Switch with On-chip Microcontroller

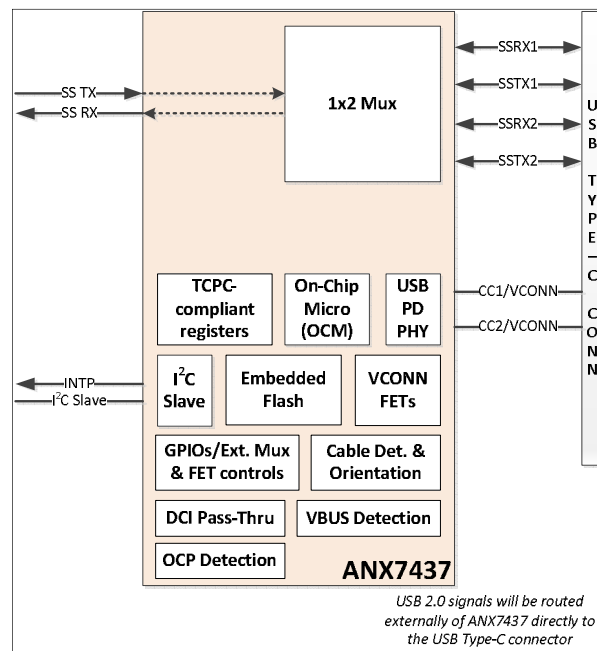
ANX7437 is an intelligent crosspoint switch that supports switching at data rates of up to 10Gbps. ANX7437 supports high-speed interfaces, such as USB 3.1 (Gen 1 – 5Gbps, Gen 2 – 10Gbps). ANX7437 is designed as a companion IC to various CPUs and Application Processors (APs) to enable notebooks, desktops, and 2-in-1 PCs to use the reversible USB Type-C (USB-C™) connectors. An On-chip Microcontroller (OCM) is available to manage the signal switching, Channel Configuration (CC) detection, USB Power Delivery (USB-PD) charging and Vendor Defined Message (VDM) protocol, and other functions, as defined in the USB Type-C v1.2 and USB Power Delivery v3.0 specifications. ANX7437 can be configured for a Downstream Facing Port (DFP) or Dual-Role Port (DRP) to support a USB-C receptacle.

Features

- USB 3.1 signal (SSTX and SSRX) with Gen1 (5Gbps) and Gen2 (10Gbps) link speed
- Native TCPC-compliant hardware register interface
- Supports DFP and DRP modes for Host-only or Dual-Role applications
- Integrated VCONN FETs
- Built-in 10-bit ADC to monitor VBUS voltage and current
- Dedicated control signals for VBUS Source FET, VBUS sink FET, and VBUS auto discharge circuitry
- Serial and debug interfaces
 - Slave interface
 - Direct Connect Interface (DCI) debug support
- Industry standard compatibility
 - USB Type-C r1.2 specification
 - USB Power Delivery v3.0 r1.0 specification
 - Universal Serial Bus (USB) Type-C Port Controller Interface r1.0 specification
- Low-power design
 - Single supply at 3.3V
 - Dedicated supply power pin for flexible I/O power – 1.8V or 3.3V
 - Ultra-low power consumption (typical 80uW) in standby mode
- On-chip Microcontroller (OCM) to implement signal switching and USB-PD messaging
 - 64K bytes SRAM for firmware execution
 - 128K bytes Flash for firmware storage
 - PDFU function for firmware updating
- Dead battery detection support
- Package offered: 48-pin QFN, 6mm x 6mm, 0.90mm Z-height, pin-pitch: 0.4mm

Applications

Notebooks, desktops, and 2-in-1 PCs



Related Products

Part Number	Description
ANX7412	USB Power Delivery (USB-PD) v3.0 port controller for Sink-side
ANX7411	USB Power Delivery (USB-PD) v3.0 port controller for Source-side
ANX7447	USB Power Delivery (USB-PD) v3.0 port controller with integrated USB/DP mux (6x4)

Copyright ©2018 Analogix Semiconductor, Inc.
3211 Scott Blvd., Suite 100
Santa Clara, CA 95054, USA
+1 (408) 988-8848

<http://www.analogix.com/>

©2018 Analogix Semiconductor, Inc. All Rights reserved.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY EXPRESS REPRESENTATIONS OF WARRANTIES. IN ADDITION, ANALOGIX SEMICONDUCTOR INC. DISCLAIMS ALL IMPLIED REPRESENTATIONS AND WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

This document contains proprietary information of Analogix Semiconductor, Inc. or under license from third parties. No part of this document may be reproduced in any form or by any means or transferred to any third party without the prior written consent of Analogix Semiconductor, Inc.

The information contained in this document is not designed or intended for use in on-line control of aircraft, aircraft navigation or aircraft communications; or in the design, construction, operation or maintenance of any nuclear facility. Analogix disclaims any express or implied warranty of fitness for such uses.

Analogix Semiconductor, Inc., the Analogix Logo, and WideEye™ SerDes, CoolHD™, and SlimPort® are trademarks of Analogix Semiconductor, Inc., in the United States and other countries.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

DisplayPort and the DisplayPort logo are trademarks or registered trademarks of the Video Electronics Standards Association, VESA®.

USB and the USB logo are trademarks or registered trademarks of USB Implementers Forum, Inc., creators of USB technology.

All other trademarks and registered trademarks are the property of their respective owners.