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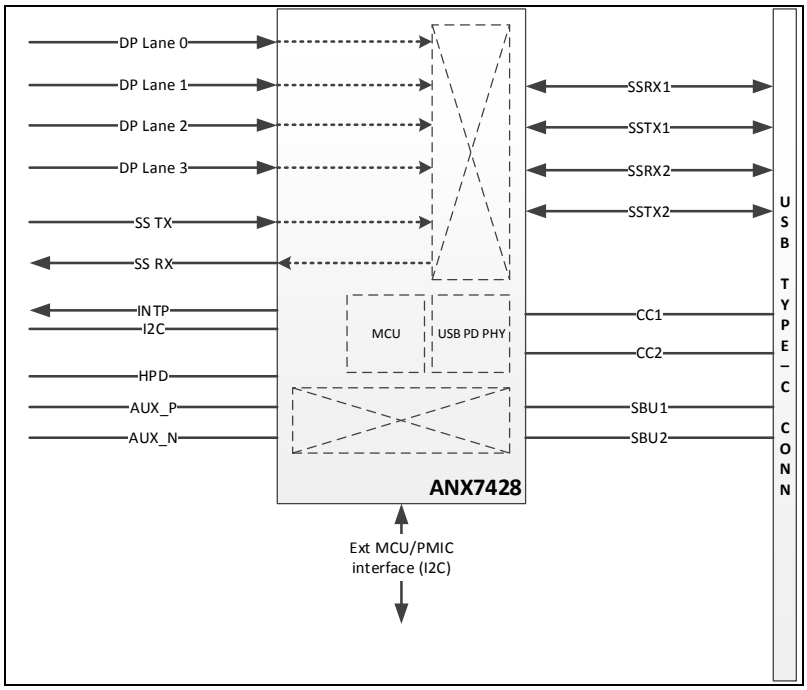
ANX7428
Product Brief

USB Type-C™ Crosspoint Switch

ANX7428 is an intelligent crosspoint switch that supports switching at data rates of up to 6.75Gbps. ANX7428 supports high-speed interfaces, such as USB 3.1 (Gen 1 – 5Gbps) and DisplayPort™ (DP) 1.3 at up to HBR2.5 (6.75Gbps). ANX7428 is designed as a companion IC to various CPUs and Application Processors (APs) to enable notebook PCs, tablets, and smartphones to use mobile connectors such as the reversible USB Type-C (USB-C™). 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 v1.1 and USB Power Delivery v2.0 specifications. ANX7428 can be configured for a Downstream Facing Port (DFP), Upstream Facing Port (UFP), or Dual-Role Port (DRP) to support a USB-C receptacle. In the DFP configuration, ANX7428 supports the DisplayPort Alternate Mode as defined by VESA® to carry high-definition audio and video (A/V) contents at 1, 2, or 4-lanes DP over the USB-C connector.

Features

- High-speed switching up to 6.75Gbps
- 4-lanes DisplayPort inputs with link speed of 1.62Gbps, 2.7Gbps, 5.4Gbps, and 6.75Gbps
- USB 3.1 signal (SSTX and SSRX) with Gen1 (5Gbps) link speed
- DisplayPort Alternate Mode (SlimPort®) communication support through USB-PD structured VDM messaging
- On-chip Microcontroller (OCM) to implement signal switching, USB-PD messaging, and DisplayPort related functions
- 5V-tolerant CC/VCONN signals
- Dead battery detection support
- I2C slave mode to support external MCU/IC
- VBUS control and USB_ID pins to control external Power Management Integrated Circuits (PMICs) or USB charger IC based on the USB-PD configuration
- 3.3V power supply for analog part (1.0V Core power generated by internal regulator)
- 1.8V~3.3V power supply for digital IO
- Supports the following
  - USB 3.1 signal switching
  - DisplayPort Alternate Mode on USB Type-C Standard (rev 1.0) Pin Assignments C, D, E and F
  - USB Power Delivery Specification v2.0 on CC wire
- Designed to the following specifications
  - DisplayPort 1.3 PHY and electrical specifications
  - USB Type-C Cable and Connector Specification v1.1
  - USB Power Delivery Specification v2.0
  - USB 3.1 Gen 1 electrical specifications



Related Products

Part Number	Description
ANX7401	USB-PD and Channel Configuration Controller
ANX7408	USB3 Switch, USB-PD and Channel Configuration Controller
ANX7430	USB 3.1 Gen 2 10G Re-timer (1x1, 1x2)
ANX7440	10G Active Mux (6x4) with Integrated Re-timers for USB 3.1/DisplayPort
ANX7688	HDMI to USB Type-C Bridge (Port Controller with MUX)

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