

10G Active Mux (6x4) with Integrated Re-timers for USB 3.1/DisplayPort™

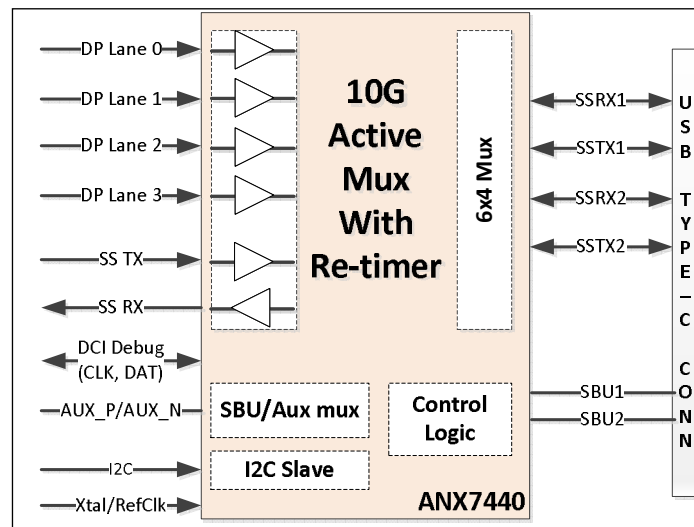
ANX7440 is a re-timing mux capable of switching DisplayPort (DP) and USB 3.1 Gen 2 10Gbps signals to support a single USB Type-C™ (USB-C™) port. ANX7440 has built-in re-timers to recover both the USB and DP signals with loss compensation of up to 27dB. Digital muxing (6x4) is supported by ANX7440 to ensure the enhanced signals from the re-timers are preserved and outputted over the USB-C connector. ANX7440 integrates the SBU/AUX mux for switching DP AUX signals and reducing overall system BOM cost.

Features

- Built-in re-timers
 - Integrated re-timers for USB 3.1 up to Gen 2 @ 10Gbps
 - Integrated re-timers (Link training-tunable PHY repeater) for DisplayPort up to HBR3 @ 8.1Gbps. Supports both transparent mode and non-transparent mode (transparent or LTTTPR).
 - Loss compensation to recover up to 23dB channel loss (USB), up to 27dB (DP)
- Integrated mux
 - Integrated (6x4) mux switches USB and DP signals and preserves enhanced signal output over USB-C connector
 - Mux control input through I2C commands from external I2C master (or, optionally through FLIP/OP_MODE pins)
 - Integrated SBU/AUX mux for switching DisplayPort AUX +/- signals
- Reference clock for re-timers
 - Utilizes a 24MHz crystal or 1.05V swing single-ended clock source
- Serial and debug interfaces
 - I²C Slave interface, up to 1MHz, for mux and re-timer configuration
 - DCI debug interface support
- Industry standard compatibility
 - USB 3.1 specification, Appendix E
 - DisplayPort 1.4 specification
 - USB Type-C r1.2 specification
 - Intel USB 3.1 Repeater and Active Switch specification
- Low-power design
 - Analog power supply at 1.8V
 - Dedicated 3.3V power for PULL_1 and PULL_2, DCI interface
 - Dedicated supply power pin for I/O power at 1.8V
- Packages
 - BGA-56, 4.0mm x 4.5mm, 0.8mm Z-height, 0.5mm ball-pitch
 - QFN-60, 7.0mm x 7.0mm, 0.85mm Z-height, 0.4mm pin-pitch
- Commercial temperature range of 0C to 70C

Applications

Notebooks, desktops, and 2-in-1s



Related Products

Part Number	Description
ANX7401	USB-PD and Channel Configuration Controller
ANX7408	USB3 Switch, USB-PD and Channel Configuration Controller
ANX7428	DP Alternate Mode (up to 4L), USB3 Switch, USB-PD and Channel Configuration Controller
ANX7430	USB 3.1 Gen2 10G Re-timer (1x1, 1x2)
ANX7490	10G USB 3.1 Re-timer (1-Port)
ANX7496	8.1G DisplayPort 4-lanes Re-timer

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.