A product Line of
Diodes Incorporated

PRODUCT BRIEF

PI3WVR13612

DisplayPort 1.3/1.4, HDMI 2.0 Video Switch

Description

The PI3WVR13612 is a multi-standard video switch with wide voltage range capability. It supports DisplayPort 1.3/1.4, HDMI 2.0, and emerging and proprietary standards.In addition to four high-speed lanes, PI3WVR13612 also switches AUX, DDC, and HPD signals.

PI3WVR13612 can pass high-speed signals up to 1.2 V peak-to-peak differential with a common-mode voltage from 0 to 3.4V. The wide voltage range allows DC-coupled multi-standard operation. Eliminating AC coupling capacitors saves board space and improves signal integrity for dense PCB designs.

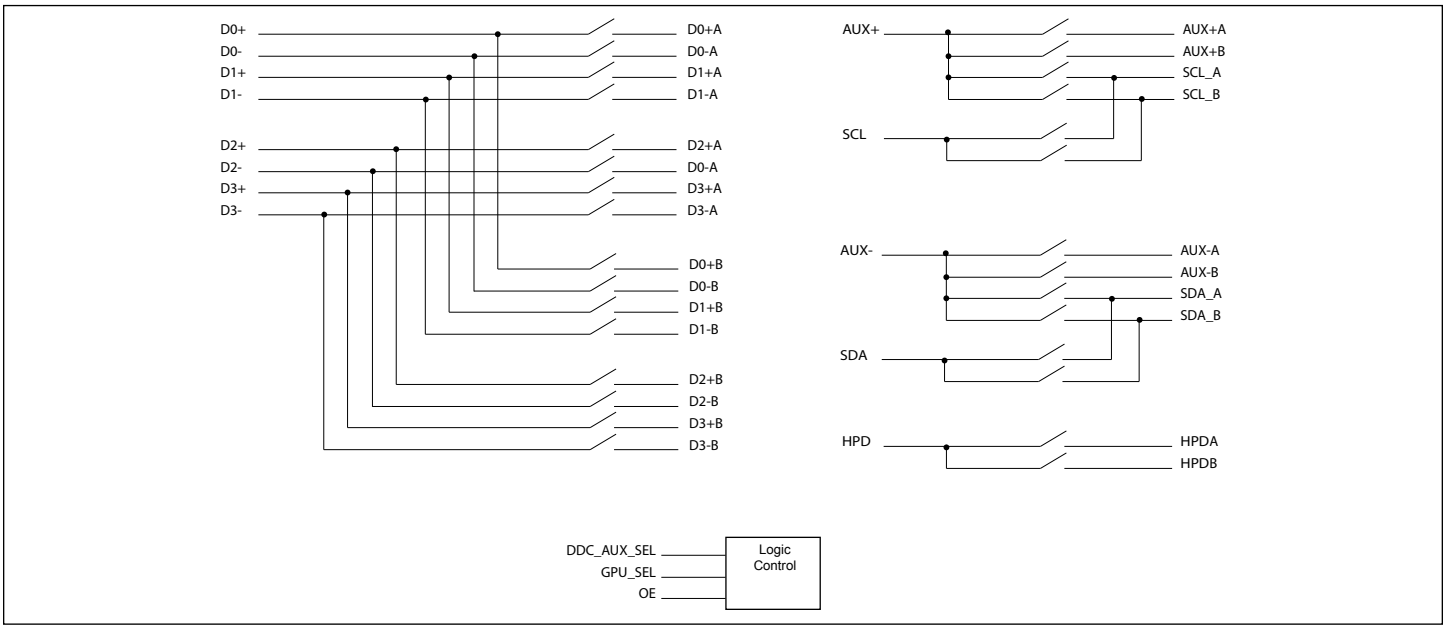
Applications

- Routing of DisplayPort and HDMI signals with low signal attenuation between source and sink.

Features

- DisplayPort 1.3/1.4, HDMI 2.0 Electrical standard compatible
- 4-lane, 1:2 and 2:1 switches that support RBR, HBR1, HBR2 and HBR3
- Data rate: 8.1 Gbps for high-speed channels
- 1-channel 1:2 and 2:1 switches for HPD signal
- Differential switch matrix for DP AUX and HDMI DDC
- Supports 720 Mbps high-speed DP AUX
- -1.6 dB Insertion Loss for high-speed channels @ 4.05 GHz
- -3 dB Bandwidth for high-speed channels: 7 GHz
- Return loss for high-speed channels @ 4.05 GHz: -11 dB
- Low Crosstalk for high-speed channels: -35 dB@ 4.05 GHz
- Low Off Isolation for high-speed channels: -20dB@ 4.05 GHz
- Low channel-to-channel skew, 35ps max
- Low Bit-to-Bit Skew, 5ps typ (between '+' and '-' bits)
- VDD Operating Range: 3.3V +/-10%
- ESD Tolerance: 1.5kV HBM
- Packaging (Pb-free & Green):
  -52-pin TQFN (ZL)

Block Diagram



Ordering Information

Part Number	Package	Description
PI3WVR13612ZLEX	ZL	52-Pin, 3.5 x 9.0 mm (TQFN)

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free. Thermal characteristics can be found on the company web site at www.diodes.com/design/support/packaging/
3. E = Pb-free and Green
4. X suffix = Tape/Reel