

PI3WVR14412

DisplayPort 1.3/1.4/2.0, HDMI 2.1 Video Switch

Features

- DisplayPort 1.3/1.4/2.0, HDMI 2.1 Electrical standard compatible
- 4-lane, 1:2 and 2:1 switches that support RBR, HBR1, HBR2, HBR3, UHBR 10, UHBR 13.5 and UHBR 20
- Data rate: 20 Gbps for high-speed channels
- Supports DDC with HPD channel mux/demux @ HDMI
- Supports 720 Mbps high-speed DP AUX @ DP
- -2.0 dB insertion loss for high-speed channels @ 10 GHz
- Return loss for high-speed channels @ 10 GHz: -10 dB
- Low channel-to-channel crosstalk for high-speed channels: -35dB @ 10GHz
- Low off-isolation for high-speed channels: -15 dB @ 10 GHz
- Low bit-to-bit skew, 5ps typ (between '+' and '-' bits)
- VDD Operating Range: 3.3V +/-10%
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.

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Description

The PI3WVR14412 is a multi-standard video switch with wide voltage range capability. It supports DisplayPort 1.3/1.4/2.0, HDMI 2.1, and emerging and proprietary standards.

The PI3WVR14412 can pass high-speed signals up to 1.2V peak-to-peak differential, with a common-mode voltage from 0 to VDD for TMDS signal.

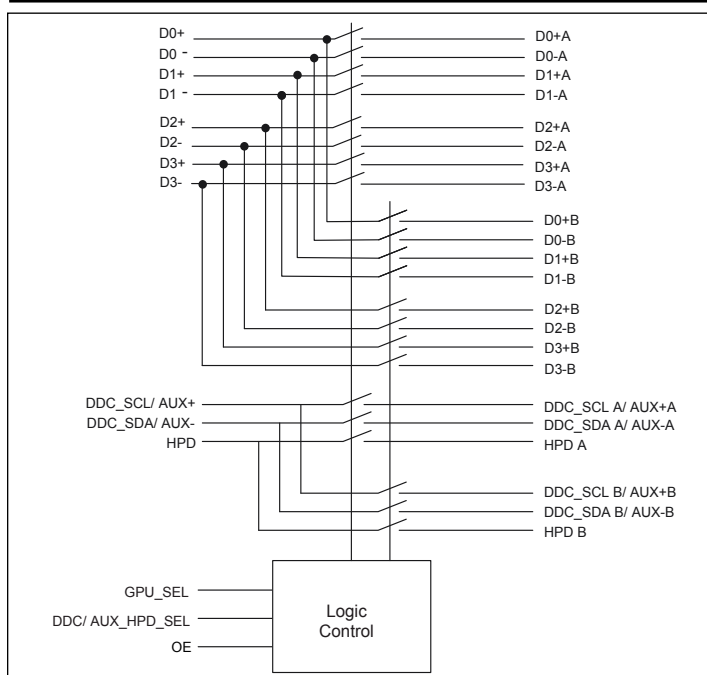
The wide voltage range allows DC-coupled multi-standard operation. Eliminating AC coupling capacitors saves board space and improves signal integrity for dense PCB design.

In addition to four high-speed lanes, the PI3WVR14412 also switches the DDC and HPD signals or AUX and HPD signals using the DDC/ AUX and HPD channel mux/demux.

Applications

- Routing of DisplayPort video signals with low signal attenuation between source and sink for PC and monitor.
- Routing of HDMI 2.1 video signals with low signal attenuation between source and sink for 4K2K ultra-high definition video display and broadcast video equipment.

Block Diagram



Ordering Information

Part Number	Package Code	Description
PI3WVR14412ZLCEX	ZLC	40-contact, 3 x 6mm (TQFN)

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. E = Pb-free and Green
5. X suffix = Tape/Reel