

PI3AUX221

AUX/DDC Interface IC

Features

- AC-coupling of AUX signal or DC-level translated Display Data Channel (DDC) signal controlled by the SEL pin
- Bi-directional level translation of 100KHz DDC signals
- Inverted level translation of HPD signal from DisplayPort Connector to GPU
- Protection function to prevent signal propagation across AUX1 and AUX2A/B when either VREF1 or VREF2 voltage is invalid
- Protection function to prevent signal propagation from HPD2 to HPD1 when VREF1 is invalid
- Protection on AUX1 from over-voltage condition of AUX2A and AUX2B
- Leakage current between VREF1 and VREF2 limited to 100nA
- 10MHz, -3dB Bandwidth for AUX switches
- Complies with DisplayPort 2.0
- Complies with HDMI 2.1
- 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.
- Packaging (Pb-free & Green):
 - 12-Pin, 2x2mm UQFN (ZTA)

Description

PI3AUX221 is an interface chip between the discrete Graphics Processing Unit (GPU) and the Display Port (DP) connector. The device is ideal for applications that require support of Dual-Mode Display Port. It integrates the support function for Display Data Channel (DDC) in HDMI mode and includes the functions of level translation, mux function, over-voltage protection, back-drive protection and inversion of Hot Plug Detect (HPD). The level translation function allows a wide range of voltages between 1V to 5V. The device eliminates the requirement of many discrete components, and it is available in a space-saving 12-pin ultra-thin 0.65mm high 2x2 mm QFN package.

Applications

- Dual Mode Display Port in Graphics Cards

Ordering Information

Part Number	Package	Description
PI3AUX221ZTAEX	ZTA	12-Pin, 2x2mm (UQFN)

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

Block Diagram

