



**THE DATASHEET OF  
PI3AUX221ZTAEX**



# 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

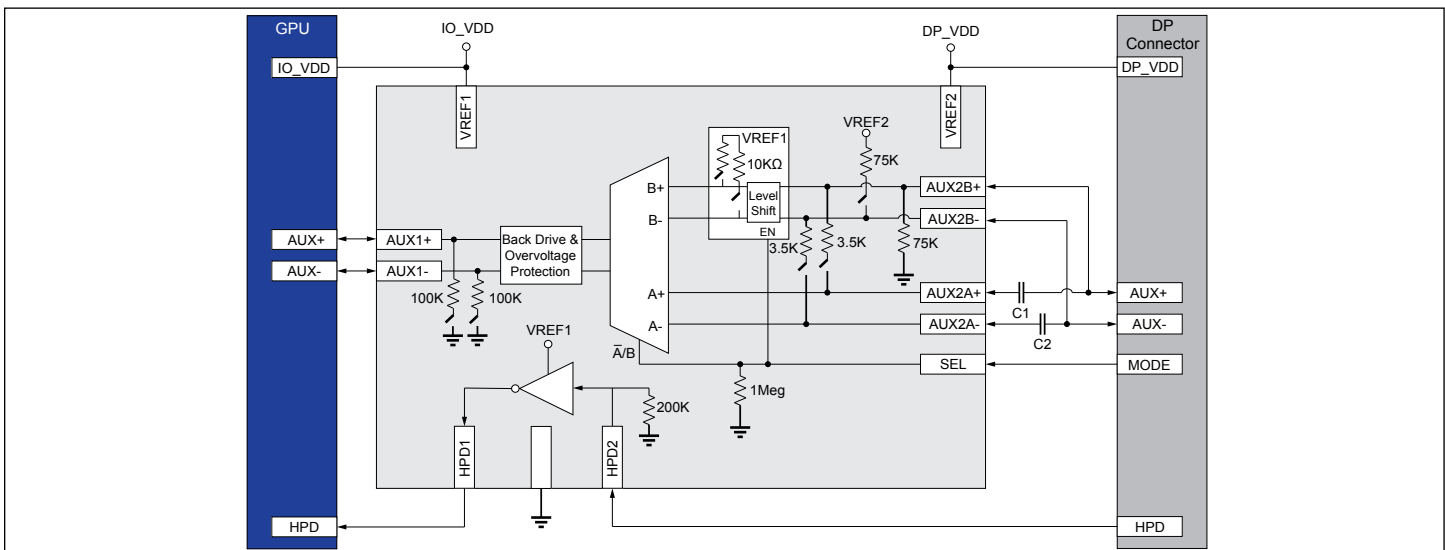
### Ordering Information

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



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