

# PTN36241B

## USB 3.0 (SuperSpeed) re-driver

Rev. 1 — 18 May 2011

Product brief

### 1. General description

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PTN36241B is a USB 3.0 (SuperSpeed) re-driver that enhances signal quality by performing receive equalization on the deteriorated input signal followed by transmit de-emphasis maximizing system link performance. With its superior differential signal conditioning and enhancement capability, the device delivers significant flexibility and performance scaling for various systems with different PCB trace and cable channel conditions and still benefit from optimum power consumption. PTN36241B is a dual-channel (channel A and channel B) device that supports data signaling rate of 5 Gbit/s through each channel.

PTN36241B is flexibly powered from 3.3 V and is available in HVQFN24 4 mm × 4 mm package with 0.5 mm pitch.

### 2. Features and benefits

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- Support of 2 channels (channel A and channel B)—each channel supports receive equalization and transmit de-emphasis functions
- Significant flexibility and programmability via boardstrapping/I<sup>2</sup>C
  - ◆ Selectable Receive Equalization on each channel to recover from Inter Symbol Interference and high-frequency losses
  - ◆ Selectable Transmit de-emphasis on each channel
  - ◆ Selectable transmit output swing on each channel
  - ◆ Selectable input threshold setting
- Intelligent I<sup>2</sup>C-bus multiplexing 5-level logic configuration options (with patent-pending quinary pins) delivering ultimate flexibility
- Supports USB 3.0 Compliance mode
- Smart Power management scheme based on USB bus condition
- Flow-through pinout to ease PCB layout and minimize crosstalk effects
- Hot Plug capable
- Power supply: 3.3 V ± 10 %
- ESD: 8 kV HBM
- Operating temperature range 0 °C to 85 °C
- HVQFN24 package: 4 mm × 4 mm, 0.5 mm pitch; exposed center pad for thermal relief and electrical ground

### 3. Applications

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- Desktop and AIO platforms
- Notebook/netbook platforms and docking stations
- USB peripherals like storage devices, printers or USB 3.0 hubs/repeaters
- Active cables
- Server platforms



Table 1. Ordering information

Type number	Package		Version
	Name	Description	
PTN36241BBS	HVQFN24	plastic thermal enhanced very thin quad flat package; no leads; 24 terminals; body 4 × 4 × 0.85 mm [1]; 0.5 mm pitch	SOT616-3

[1] Maximum package height is 1 mm.

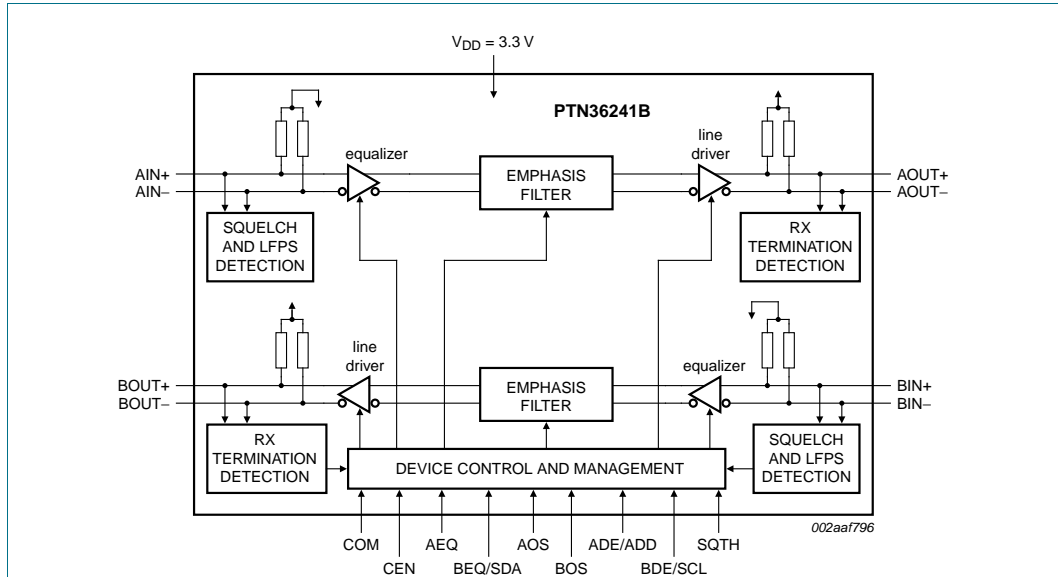


Fig 1. Block diagram of PTN36241B

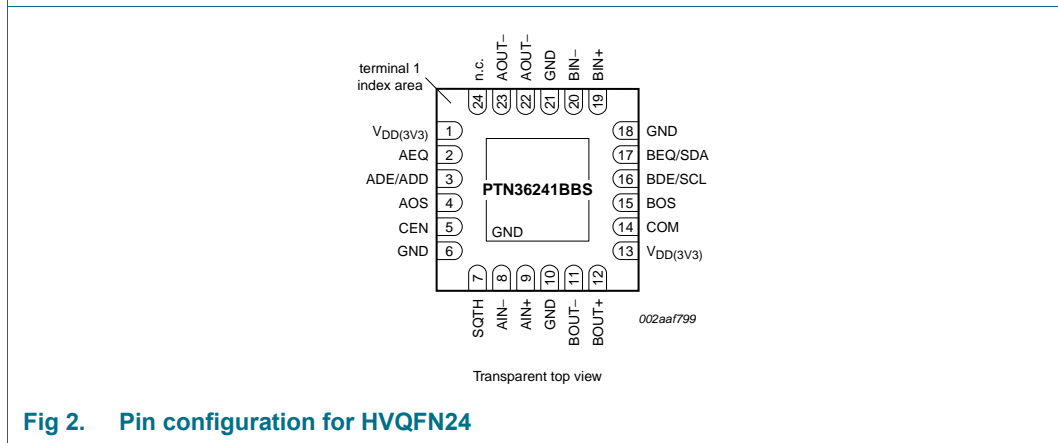


Fig 2. Pin configuration for HVQFN24

HVQFN24: plastic thermal enhanced very thin quad flat package; no leads;  
24 terminals; body 4 x 4 x 0.85 mm

SOT616-3

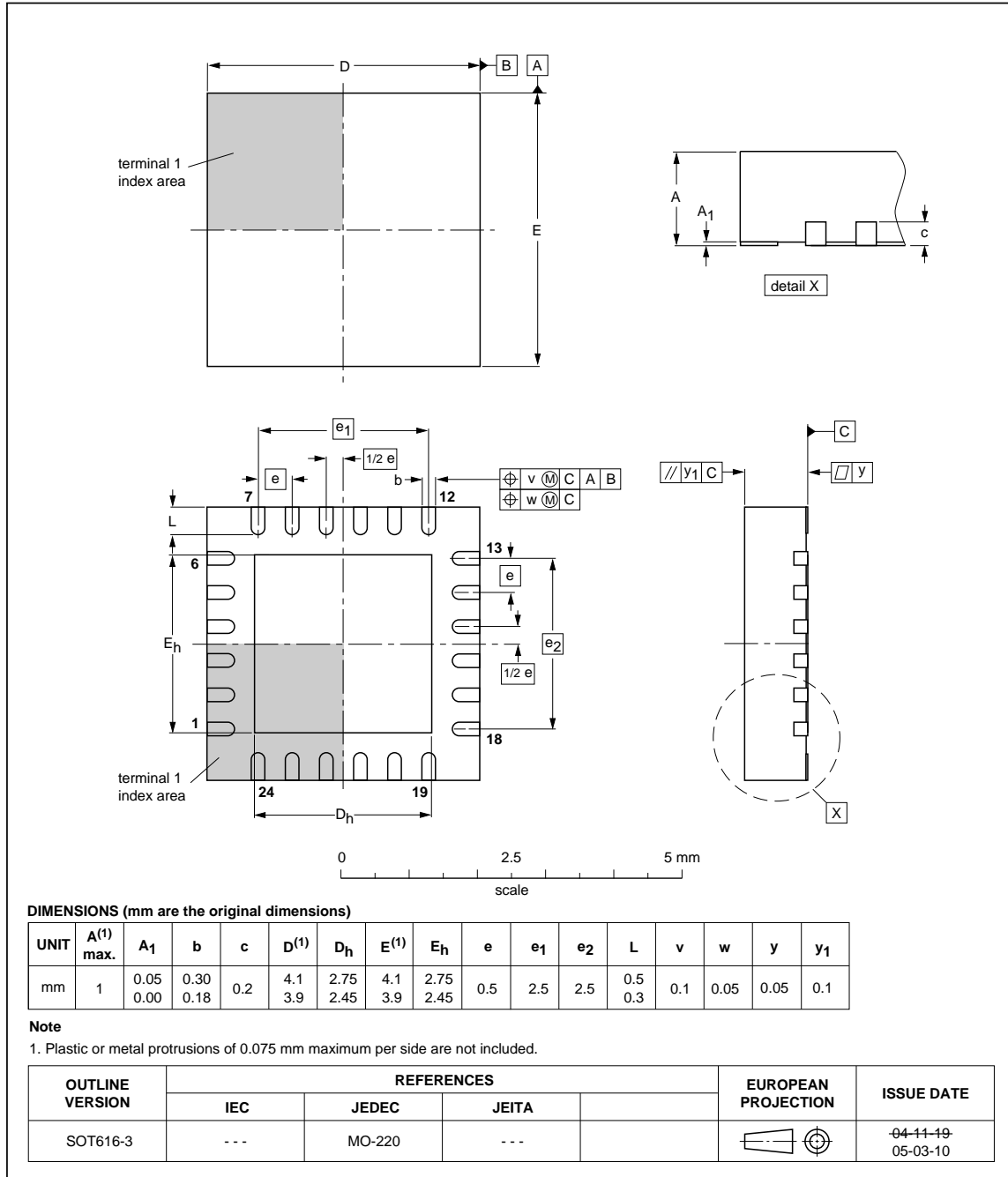


Fig 3. Package outline SOT616-3 (HVQFN24)

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