



# SuperSpeed USB 3.0 Redriver

## PTN36241B

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PTN36241B is a SuperSpeed USB 3.0 redriver IC 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 device that supports data signaling rate of 5 Gbit/s through each channel. PTN36241B has two channels: one channel is facing the USB host, and another channel is facing the USB peripheral or device. Each channel consists of a high-speed Transmit (Tx) differential lane and a high-speed Receive (Rx) differential lane.

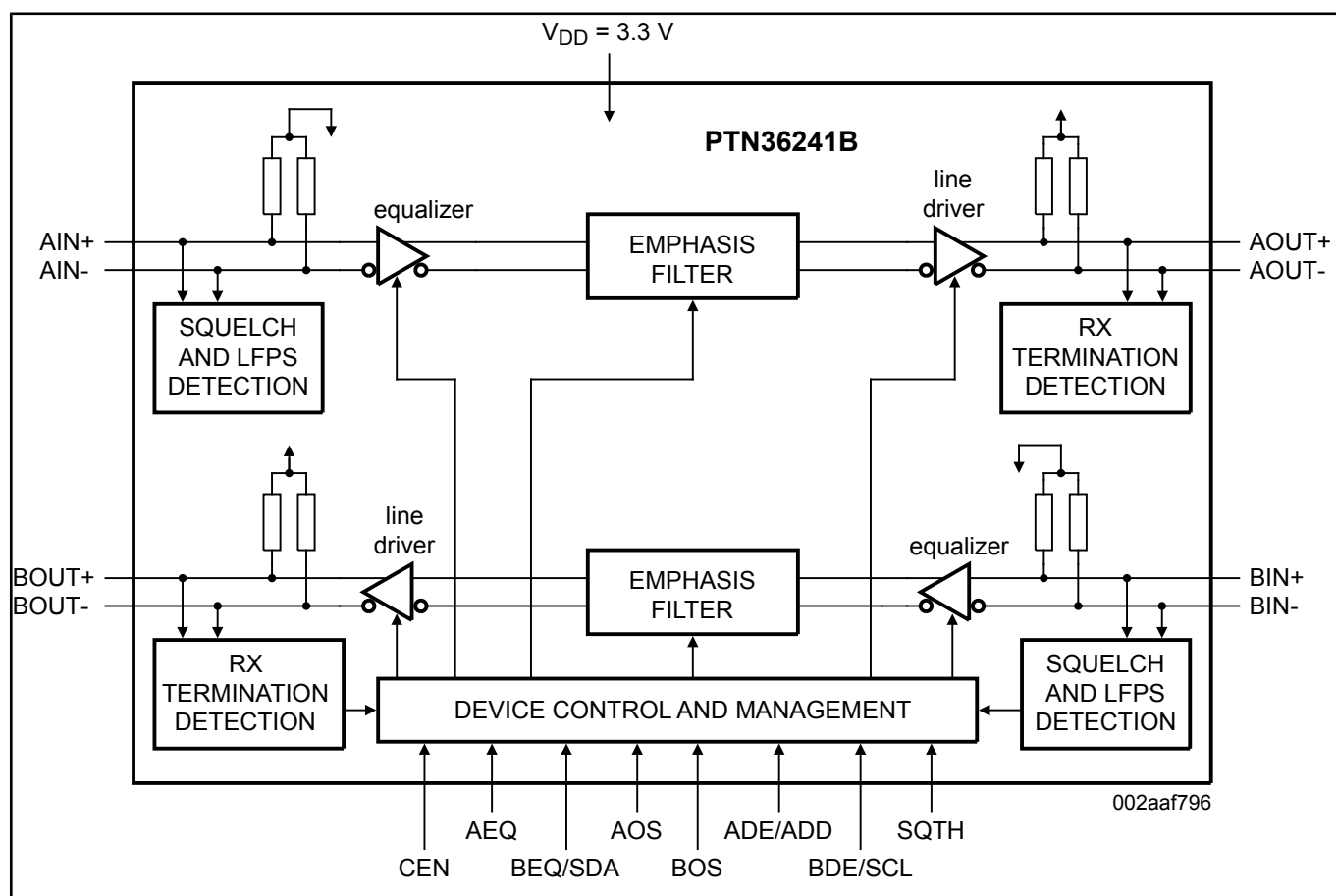
PTN36241B has independent 5-level configuration pins for each channel to select receive equalization, transmit de-emphasis and output swing and these pins can be easily configured by board-strapping (for example, short, open, resistor). To support applications that require greater level of configurability, PTN36241B delivers intelligent multiplexing of I<sup>2</sup>C-bus interface onto 5-level configuration pins. By default, the device is configured with the board-strapped levels of configuration pins. When I<sup>2</sup>C-bus reads/writes are performed over these multiplexed pins, the device decodes I<sup>2</sup>C transactions and configures its internal functions appropriately.

PTN36241B has built-in advanced power management capability that enables significant power savings under various different USB 3.0 Low-power modes (U2/U3). It can detect LFPS signaling and link electrical conditions and can dynamically activate/de-activate internal circuitry and logic. The device performs these actions without host software intervention and conserves power.

PTN36241B goes through the compliance testing controlled by the internal state machine. No compliance pin is required.

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

## PTN36241B Block Diagram Block Diagram



View additional information for [SuperSpeed USB 3.0 Redriver](#).

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