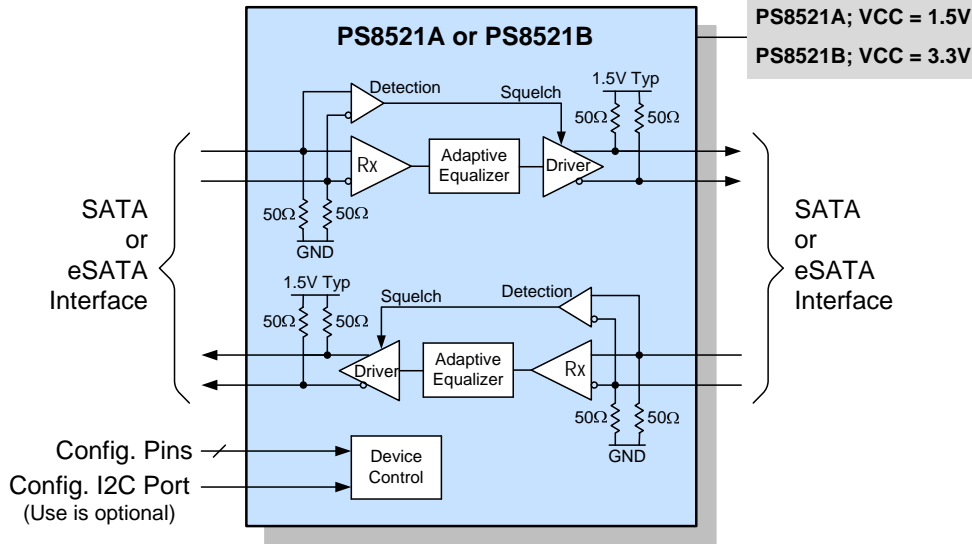




# PS8521A & PS8521B SATA 6Gb/s Bidirectional Repeaters

## Product Brief

## PS8521A, PS8521B



### APPLICATIONS

- Desktop and laptop PCs
- Docking Stations
- Servers
- Workstations
- Data Storage Systems

### KEY FEATURES

- Supports serial-ATA (SATA) III/SAS operation up to 6.0Gbps
- Supports SATA Out-of-Band (OOB) Signaling with fast enter/exit time
- Adaptive equalizer in SATA receiver enhances performance
- **Very low power consumption** – PS8521A performance:
  - Active Mode – 122mW
  - Power Saving Mode – 10mW
  - Standby Mode -- < 0.5mW
- Integrated 50Ω termination resistors for input and output
- Programmable output pre-emphasis
- Pin and I2C control options provide flexible host control
- High ESD performance:
  - HBM 8kV
  - CDM 2kV
  - MM 400V
  - IEC 6100-4-2: 8kV Direct Contact Zapping
- Single 1.5V power supply for PS8521A
- Single 3.3V power supply for PS8521B
- In-line signal pads for flow-through PCB layout
- 20-pin TQFN Halogen free RoHS Package
- 0°C to 85°C Operating Temperature

### GENERAL DESCRIPTION

PS8521A and PS8521B are bidirectional SATA repeaters that support the new SATA 6Gb/s standard, twice the speed of the previous generation SATA. As repeater (or redriver) devices they integrate two equalizer-driver channels to recondition the high-speed SATA signals. In a typically application, the PS8521A or PS8521B is placed close to an eSATA receptacle to compensate for board losses and regenerate high-quality SATA electrical signals.

The PS8521A and PS8521B offer many unique device features. For example, in addition to the usual 3.3V power supply operation (PS8531B), a 1.5V version is offered (PS8521A). Within each device, input receivers have adaptive input equalization, another industry first. Both output drivers have programmable output boost for eSATA connections as well as programmable pre-emphasis. A squelch circuit prevents driver output when the input amplitude drops below the threshold level.

The PS8521A and PS8521B also offer greatly reduced power consumption. The PS8521A, which uses a 1.5V supply voltage, consumes only 122mW when fully active, 10mW in automatic power saving mode, and < 0.5mW in standby. The automatic power saving mode in both devices require no host or firmware support. Exit from Partial and Slumber states is <50ns.

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Date of release: June 2010

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