BEYOND ∃

SEMICONDUCTOR

BEYOND GPIO CONTROLLER

General-purpose Input / Output Controller

OVERVIEW

The Beyond GPIO IP core is a programmable general-purpose input and output controller, allowing device functions which are not implemented with dedicated controllers and require simple input and/or output software controlled signals.

The core can be configured to have up to 32-bit general-purpose input / output pins, whereby signals can be sampled synchronous or asynchronous to an external clock. Programmable interrupt controller is also implemented where each pin independently can be programed to be a source of the interrupt.
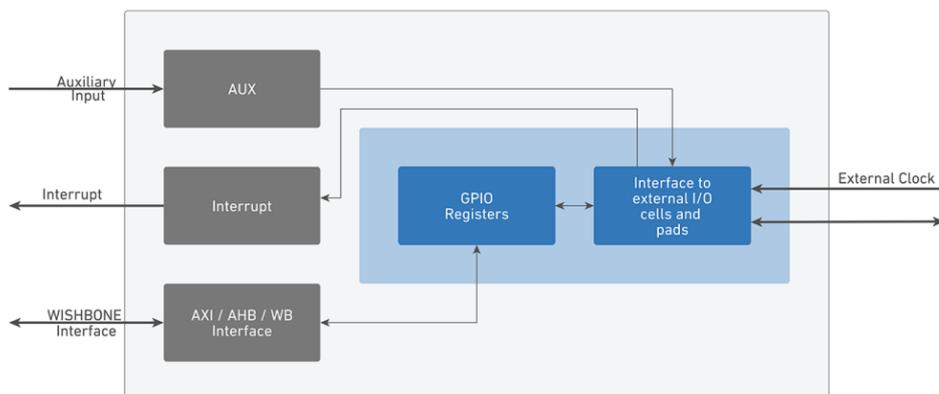
KEY BENEFITS

- Compatible with AMBA and WISHBONE SoC Bus Interfaces
- Can sample I/O signals on the rising edge of system clock or user programed edge of external clock
- Alternative input reference clock signal from external interface
- GPIO pins can be controlled by other on-chip peripherals

APPLICATIONS

- Automotive
- Embedded
- Home entertainment consumer electronics

BLOCK DIAGRAM

FEATURES

Communication and Interrupt Features

- Independent and dynamic pin configuration as input or output
- User selectable number of general-purpose I/O signals that can be in the range from 1 to 32.
- All general-purpose I/O signals can be bi-directional (external bidirectional I/O cells are required)
- All general-purpose I/O signals can be tri-stated or open-drain enabled (external tri-stated or open-drain I/O cells are required)

- Programmable interrupt generation
- Can sample I/O signals on the rising edge of system clock or user programed edge of external clock

Supported SoC Bus Interfaces

- AMBA AXI / AHB / APB as appropriate
- AMBA AXI
- WHISBONE

Beyond Semiconductor is addressing challenges of systemic complexity in today's electronic devices, empowering its customers to create new experiences for end users.

Initially known for its processor expertise, Beyond quickly gained acceptance among top semiconductor companies and evolved into global company leveraging processing, software and system-wide view competence to provide its customers with effectively designed IP and ASICs.

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