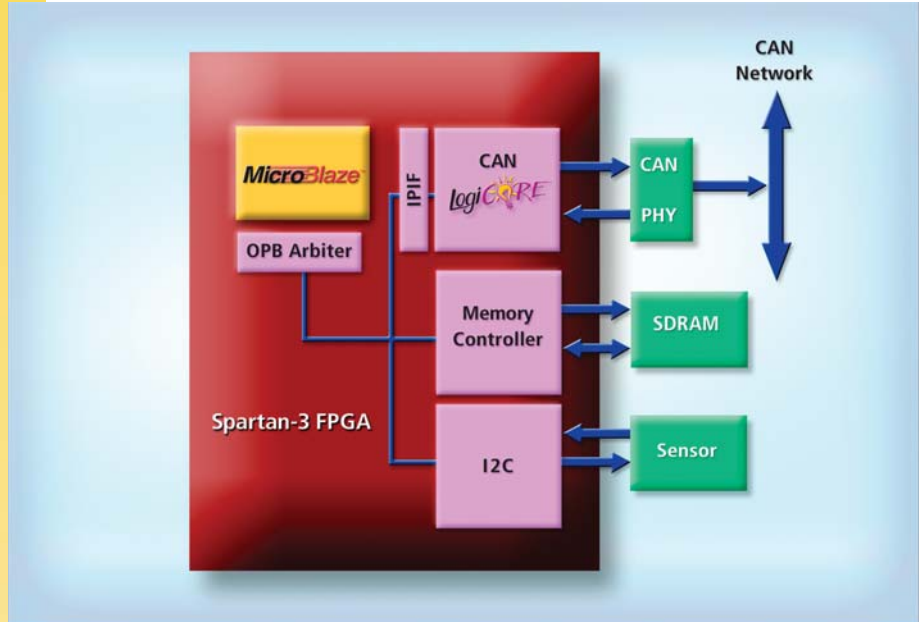




Accelerating Higher Integration in Automotive Applications with Xilinx CAN IP Solutions

The use of electronics in automotive applications continues to move towards higher integration and lower cost, but challenges still remain. Design costs, difficulty in meeting delivery schedules, and the lack of programmable flexibility are just a few of the issues impacting the efforts of automobile manufacturers to bring designs to market faster and with a higher degree of customization.

Xilinx re-programmable logic solutions respond to these challenges by providing solutions that offer longevity, quality, reliability, and availability across a wide range of automotive applications. The use of a CAN (Controller Area Network) IP core that can be parameterized for FIFO depth and the number of receiver filters, either alone or with an embedded processor, eases many design constraints, by giving you the freedom to use what is specific to your design requirements. By optimizing the core for information and communications driver assistance, or for comfort and convenience applications, you can reduce your design costs and deliver your designs on schedule.



Designing Customizable Automotive Solutions

Xilinx customizable silicon and IP solutions enable you to design automotive solutions with the knowledge that your implementation will be low cost and backed by the largest supplier of programmable logic devices. Xilinx programmable logic solutions also allow you to adapt to changing standards and performance requirements. The Xilinx CAN LogiCORE also supports Xilinx PowerPC™ and MicroBlaze applications. Specific benefits of the Xilinx CAN solution include:

Conforms to ISO 11898-1 and Bosch CAN 2.0A/B specifications. The CAN LogiCORE IP is current to industry standards. It can also be updated when new revisions are released for general production.

Support for stand-alone or embedded designs. The CAN LogiCORE implementation is supported for stand-alone FPGA designs or with MicroBlaze™ embedded processor or PowerPC designs. It includes an On-chip Peripheral Bus interface suitable for Xilinx embedded processor or μ P interconnect.

Full line of FPGA device selection. You can use this core in any Xilinx FPGA product. This gives you large flexibility in package type and logic utilization. Xilinx fabrication, assembly and test sites are compliant to ISO-TS16949 or QS9000, and Xilinx is certified to ISO-TS16949. The automotive-specific Xilinx Automotive product family is also qualified to AEC-Q100 with Production Part Approval Process documentation available for all of the devices.

Supported features. Standard and extended identifiers, configurable transmit and receive FIFO depth, programmable receive filtering and sleep mode with automatic wakeup.

Comprehensive support. Xilinx supports all aspects of the CAN IP LogiCORE.

Design support — Our comprehensive collection of courses and locations help reduce your time to knowledge while increasing your design productivity. Xilinx offers self-learning capabilities (i.e. – tutorials), instructor-led courses, and live and recorded e-learning opportunities. Both instructor-led courses and e-learning can be delivered in either a public or private setting.

Automotive FPGA device support — The Xilinx Automotive (XA) product family is the industry's leading programmable logic family developed specifically for automotive applications. This family is ideal for a wide range of advanced automotive electronics modules and systems ranging from the latest Driver Assistance Systems and Infotainment systems to Reconfigurable Instrument Clusters and ECU Gateways. The CAN IP core will work with any Xilinx FPGA product offerings listed in the table below.

Core Specifics					
	Spartan™-3 XA, Spartan-3E XA, Spartan-3, Spartan-3E Virtex™-II PRO, Virtex-4, Virtex-4 XA				
Resources Used	I/O	LUTs	FFs	Block RAMs	Slices
	2	868-1056	411-593	2	569-885

CAN IP Key Features

The key features of the LogiCORE CAN IP include:

- Soft IP core designed for Xilinx Virtex and Spartan families of FPGAs
- Complies with ISO 11898-1, CAN 2.0A and CAN 2.0B standards
- Designed for PowerPC and MicroBlaze applications
- Validated with Vector CANalyzer and CANstress test equipment
- Industrial (I) and extended (Q) temperature ranges
- Supports standard 11 bit identifiers and extended 29 bit identifiers
- Supports bit rates up to 1Mbps
- Configurable depths for both transmit and receive FIFOs
- Transmit prioritization through High Priority Transmit buffer
- User configurable acceptance filtering
- Loop back for diagnostic testing
- Ability to mask error and status interrupts

Design and services support web page

<http://www.xilinx.com/support/gsd/index.htm>

Design resources

http://www.xilinx.com/products/design_resources/index.htm

Cores web page

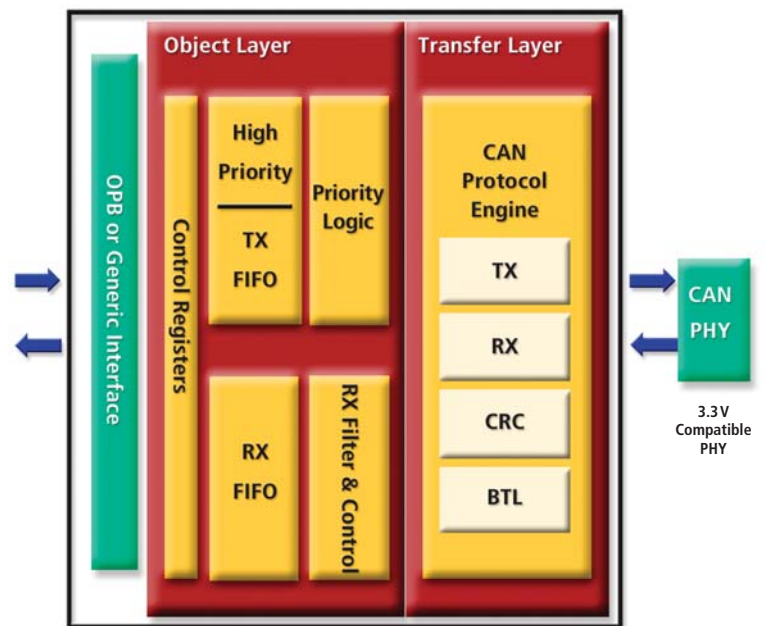
<http://www.xilinx.com/ipcenter/index.htm>

Automotive web page

<http://www.xilinx.com/esp/automotive/>

Xilinx automotive product lineup

<http://www.xilinx.com/products/automotive/>



Take the Next Step
To learn more about the Xilinx LogiCORE CAN IP, please visit our web site at www.xilinx.com/ipcenter/index.htm or call your local Xilinx sales representative.

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