YAMAR Electronics Ltd.
Preliminary Information

DCAN500 - CAN over Powerline Communication

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Description

The DCAN500 transfers CAN messages over noisy DC Power Line at bitrates up to 500Kbps using the DC-BUS™ technology. The DCAN500 operates as a transceiver for a new CAN physical layer over common DC powerline used for network communication between electronic modules. The DCAN500 eliminates the traditional CAN twisted pair data wires, saves weight and simplifies installation.
The device receives and transmits CAN2.0A/B messages. The arbitration over the DC line is based on the CAN message Identifier's LSB 11 bits. The data is error protected QPSK modulated with low voltage narrow band carrier, eliminating the EMC generated by the "square wave" CAN data lines.
The DCAN500 implemented in CMOS digital process that requires small silicon area, allowing integration with other customer's CMOS IP such as micro-controllers. The DCAN500 couples to the DC line via capacitor; thus, there is no need for high voltage process used by ordinary CAN transceivers.

This innovative solution allows low cost overall CAN implementation, combining power and data over the same cable, withstanding the hostile DC lines impulse noises.

Main Features

- CAN2.0 *A/B protocol Communication over DC power line*
- *Bit rates of up to 500Kbps*
- *Built-in Modem, Error Correction and Synchronization*
- *Multiplex CSMA/CA arbitration mechanism*
- *Sleep mode for low power consumption*

Main Benefits

- *Eliminates complex harness*
- *Reduces weight and installation time*
- *Robust to power line noises*
- *Increase reliability*
- *Allows flexible network designs*
- *Low cost CMOS Implementation*

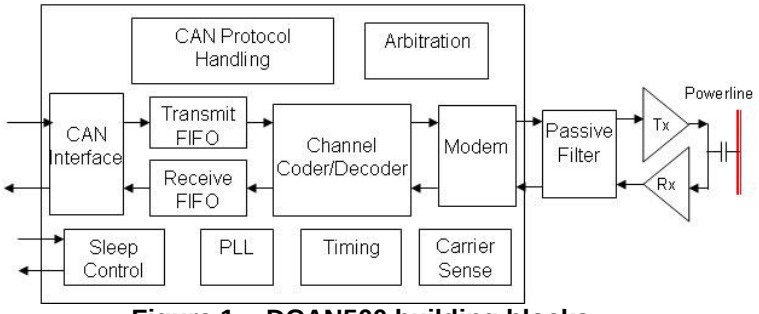

Figure 1 - DCAN500 building blocks

Figure 2 - DCAN500 Evaluation Board

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