EEPROM-configurable IC enables easier development of TPMS modules

The MLX91802 is a system in package solution for tire pressure monitoring system (TPMS) implementations that combines an analog pressure sensor and a low power sensor interface with an MLX16 16-bit RISC-based microcontroller. It is housed in a compact, pressure ported, plastic SO16 package and has an operational temperature range of -40 °C to 125 °C.

The MLX91802Uni-ROM concept makes available Melexis' ready-to-use firmware. This means that any TPMS incorporating this device can be fully developed without the need for custom software engineering. By using simple configuration tools, operating behaviors can be set so that the MLX91802 can be deployed in a customized TPMS module without writing any code.

It provides a complete firmware solution for TPMS based on 6 modes: Storage, parking, driving, pressure alert, fault and test.

· Storage mode minimizes power consumption until sensor is installed and activated on a vehicle.

· Driving and parking are the main operational modes supporting transmission of the measured pressure, temperature and battery voltage to the vehicle computer via the RF channel with programmable periodicity.

· Pressure Alert mode ensures a quick response to a detected rapid pressure drop.

· Fault mode appears if any available sensor or is faulty.

· Test mode facilitates EOL module testing and diagnostics.

The Uni-ROM allows setting of the main parameters, defining the features of the different modes and the transitions between them. Configuration and customer data are stored in the internal EEPROM memory of the MLX91802. As well as shortening design time, utilizing Uni-ROM instead of a custom ROM permits ordering of low unit volumes.

As Melexis Product Manager Ivan Zagan notes “The need to simplify and accelerate the design in of TPMS functionality requires an approach that eliminates complex custom software engineering and development. The MLX91802 Uni-ROM is a complete solution through which engineers can leverage the experience and knowledge of Melexis in order to realize the high performance TPMS sensors their customers want in much shorter design cycles” he concludes.

The MLX91802 Uni-ROM samples are available now.

For more information go to the website: www.melexis.com [1]

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[1] http://www.melexis.com