

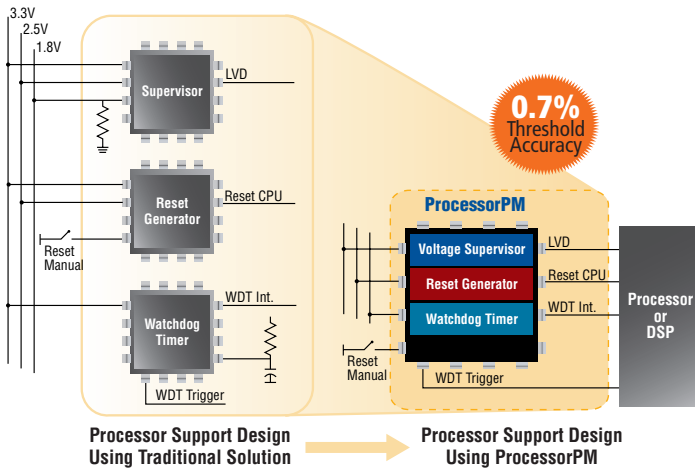
ProcessorPM – POWR605

Integrated Voltage Supervisor, Reset Generator, Watchdog Timer Functions

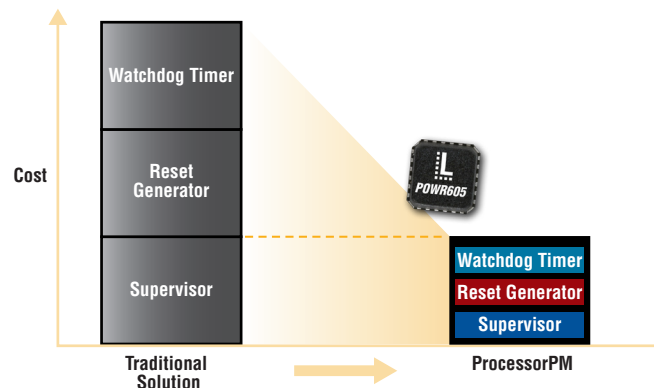
Introduction

Imagine a processor support device that integrates all types of reset generator ICs, voltage supervisor ICs and watchdog timer ICs. That is what you get with the ProcessorPM™ device. The ProcessorPM device integrates six precision (0.7%) programmable threshold monitors that can be configured to monitor any supply rail from 0.67V to 5.7V, a 16-macrocell PLD that can be used for generating reset signals and brown-out signals and four timers for reset pulse stretching, de-bouncing reset switches and implementing watchdog timers. This device can be programmed in-system through JTAG and the configuration is stored in the on-chip non-volatile E²CMOS® memory.

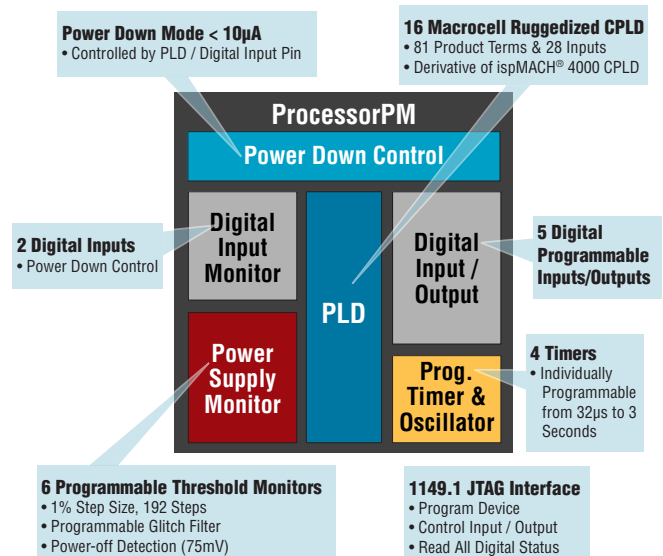
ProcessorPM Integrates Multiple Discrete Chips



Low-Cost Programmable Mixed-Signal IC



ProcessorPM Block Diagram



Key Features and Benefits

- **Low-Cost Programmable Mixed-Signal IC**
 - Reduced cost ProcessorPM integrates supervisor, reset generator and watchdog timer functions and costs as much as a supervisor IC
- **6 Precision Programmable Threshold Monitors 0.67V to 5.7V**
 - Smaller BOM – One chip replaces multiple factory-set supervisor ICs and resistors
 - Increased reliability due to increased monitoring accuracy
- **16-macrocell PLD to Integrate Various Logic Functions**
 - Standard solution – Design-specific logic functions required to support wide range of processors and DSP
- **Five Configurable Outputs with Programmable Functions**
 - Reduced number of ICs in a system – Single chip integrates multiple types of functions such as reset generators, supervisors
- **Four Programmable Timers**
 - Reduced number of ICs on a board – One chip to integrate watchdog timers, resistors and capacitors
- **24-Pin QFNS Package**
 - Smaller overall circuit board area – 16 mm² area replaces many ICs, resistors and capacitors
- **-40 to +85°C Operating Range**
 - Can be used across commercial and industrial applications
- **JTAG In-System Programmable**
 - Reduced manufacturing costs
 - Standard solution – ProcessorPM can be customized to implement supervisory functions specific to any processor or DSP

Design Made Simple with PAC-Designer Software

Lattice's PAC-Designer® software, a PC-based software tool, provides simple and intuitive pull-down menus for configuring all

programmable features of the ProcessorPM device to implement support functions for a wide variety of processors and DSPs.

1. Set Power Supply Thresholds For Each Analog Input

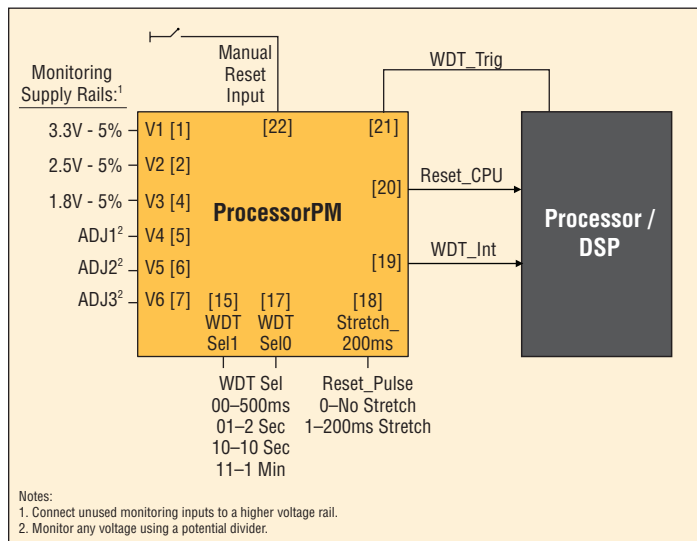
2. Reset, WDT & Supervisor Design Using LogiBuilder

3. Verify Using Waveform Simulator

4. In-System Program the Design Through JTAG & Verify

Pre-Configured* & Ready-to-Use!

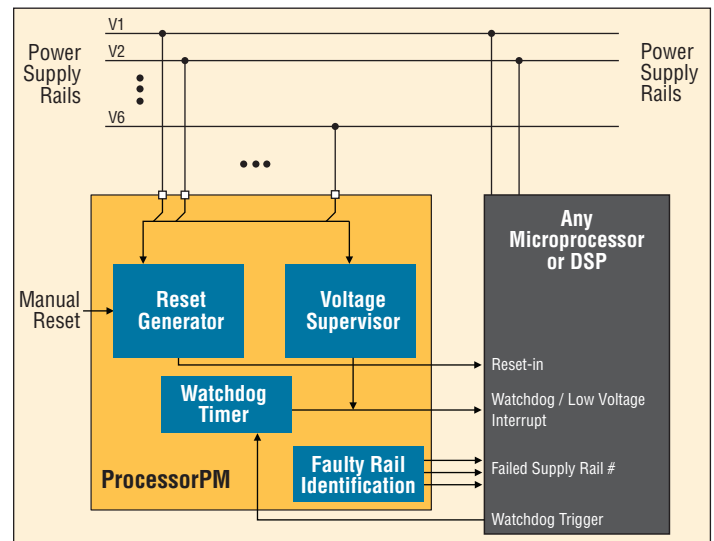
ProcessorPM devices are factory-set to integrate a 6-supply reset generator as well as a watchdog timer with up to 1 minute delay.



* User specific applications can be programmed in-system through the JTAG interface.

ProcessorPM Application Example

Configuration to meet any microprocessor or DSP support function.



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