Features

- **Main Supply 3.0V to 3.6V**
- **Independent 2.5V to 3.6V Auxiliary Supply for Backup Section**
- **Internal State Machine for Startup**
- **25 mA/1.8V-2.75V Linear Low Drop Out Regulator with High PSRR and Low Noise (LDO1)**
- **30 mA/1.5V-1.8V Linear Low Drop Out Regulator with High PSRR and Low Noise (LDO2)**
- **60 mA/1.23V-1.5V-1.8V Linear Low Drop Out Regulator with High PSRR (LDO3)**
- **2 mA/1.2V-1.5V-1.8V Linear Low Drop Out Regulator with Very Low Quiescent Current (LDO4)**
- **HPBG Economic High Performance Voltage Reference for LDO Supply to RF Sections**
- **LPBG Low Power Voltage Reference to LDO4 During Backup Battery Operation**
- **Internal Oscillator Generates Internal Master Clock**
- **Internal Reset Generator for Main Supply**
- **Additional External Reset Input**
- **Two Wire Interface (TWI) for Independent Activation and Output Voltage Programming for Each LDO**
- **Available in 3 x 3 x 0.9 mm 16-pin QFN Package**
- **Applications: GPS Modules, WLAN Devices, Wireless Modules**

1. Description

The AT73C239 is a 4-channel Power Supply Power Management Unit (PMU) available in a QFN 3 x 3 mm package. It is a fully integrated, low cost, combined Power Management device for wireless modules, GPS and WLAN devices. It integrates four Linear Low Drop Out (LDO) Regulators, three of which provide high-accuracy RF performance and one (LDO4) with very low quiescent current that is supplied by an external backup battery. A Low Power Bandgap (LPBG) requiring no external capacitor for decoupling, is used as reference voltage for LDO4 and starts when VBAT is present. LDO4 regulates output voltage with extremely low quiescent current, maximizing the lifetime of the backup battery. An Internal State Machine manages the startup of the other LDOs in the order of LDO3 then LDO1 then LDO2. An economic High Power Bandgap (HPBG) provides highly accurate, low noise voltage reference to LDOs 1, 2, 3. HPBG operates in switching mode thereby decreasing its current consumption and becomes inactive when not directly supplied by VIN current. When the RF LDOs are in idle mode, quiescent current is decreased to a minimum.

The AT73C239 features a Two-wire Interface (TWI) to increase the efficiency of the system by disabling LDOs when not needed.

Power Management for Mobiles (PM)

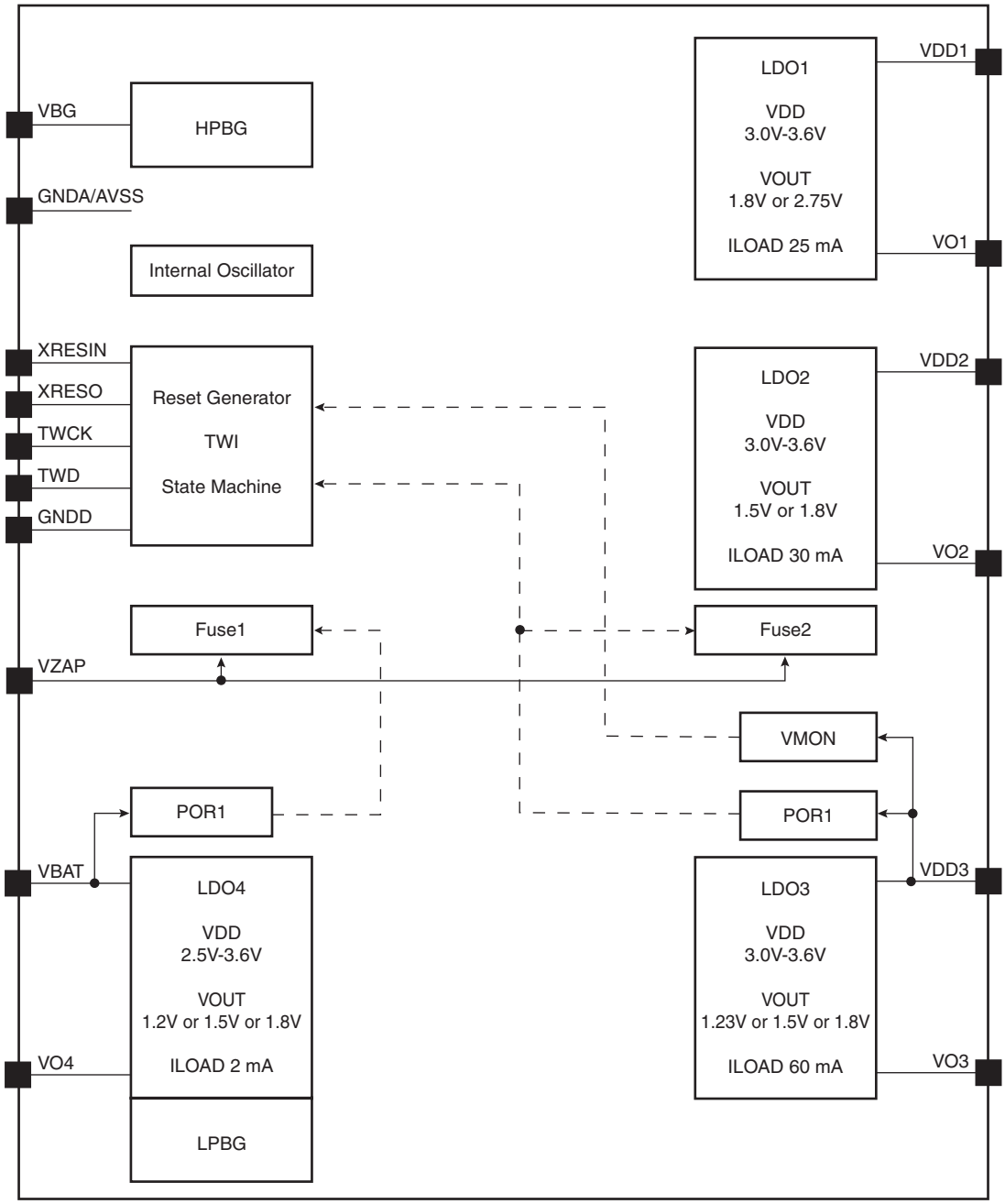
AT73C239 4-channel Power Management for Wireless Modules

Summary

6201AS–PMAAC–24-Oct-05

2. Block Diagram

Figure 2-1. AT73C239 Functional Block Diagram



Revision History

Doc. Rev	Date	Comments	Change Request Ref.
6201AS	01-Sep-05	First issue	

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