

## Six Channel Integrated Power Management IC for Handheld Portable Equipment

### FEATURES

- Multiple Patents Pending
- Six Integrated Regulators
  - 350mA PWM Step-Down DC/DC
  - 550mA PWM Step-Down DC/DC
  - 550mA PWM Step-Down DC/DC
  - 250mA Low Noise LDO
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- I<sup>2</sup>C™ Compatible Serial Interface
  - Programmable Output Voltages
  - Configurable Operating Modes
- Minimal External Components
- 4x4mm, Thin-QFN (TQFN44-24) Package
  - Only 0.75mm Height
  - RoHS Compliant

### APPLICATIONS

- Portable Devices and PDAs
- Wireless Handhelds
- DMB Enabled Devices
- GPS Receivers, etc.

### GENERAL DESCRIPTION

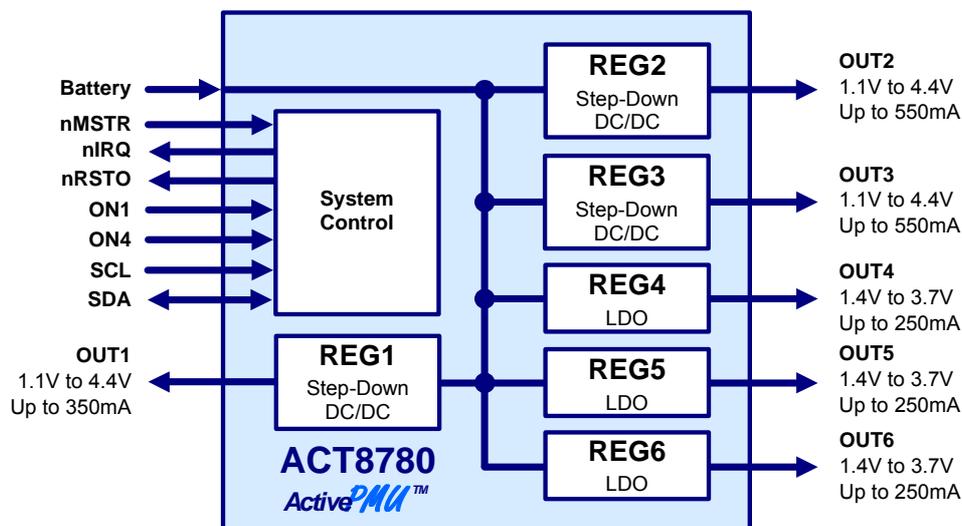
The patent-pending ACT8780 is a complete, cost-effective, highly-efficient *ActivePMU™* power management solution that is ideal for a wide range of portable handheld equipment. This device integrates three step-down DC/DC converters and three low dropout linear regulators (LDOs) into a single, thin, space-saving package. An I<sup>2</sup>C Serial Interface provides programmability for the DC/DC converters and LDOs.

The ACT8780 also integrates two enable pins: ON1 controls REG1, REG2 and REG3, ON4 controls REG4, REG5 and REG6.

REG1, REG2 and REG3 are fixed-frequency, current-mode PWM step-down DC/DC converters that are optimized for high efficiency and are capable of supplying up to 350mA, 550mA and 550mA, respectively. REG4, REG5 and REG6 are low noise, high PSRR linear regulators that are capable of supplying up to 250mA each.

The ACT8780 is available in a tiny 4mm x 4mm 24-pin Thin-QFN package that is just 0.75mm thin.

### SYSTEM BLOCK DIAGRAM



## PRODUCT OPTIONS

Block	Function	Output Voltage <sup>①</sup>	Capability <sup>②</sup>
REG1	Step-Down DC/DC	1.1V to 4.4V	350mA
REG2	Step-Down DC/DC		550mA
REG3	Step-Down DC/DC		550mA
REG4	LDO	1.4V to 3.7V	250mA
REG5	LDO		250mA
REG6	LDO		250mA

①: Output voltage options detailed in this table represent standard voltage options, and are available for samples or production orders. Contact Active-Semi for more information regarding semi-custom output voltage combinations.

②: Contact factory for additional available products or custom requirements.

## FUNCTIONAL BLOCK DIAGRAM

