



## **AnalogicTech's Battery Charger IC Dynamically Manages System Load and Charging Dual Path Device Automatically Routes Power from Battery to System When Load Requirements Exceed Adapter Capabilities**

Advanced Analogic Technologies Incorporated (AnalogicTech) (Nasdaq: AATI), a developer of power management semiconductors for mobile consumer electronic devices, announced today the AAT3672, a developer of power management integrated circuits, announced today the AAT3672, a highly integrated, single-cell Lithium-ion (Li-on)/polymer battery charger and system management IC. Using an innovative three-switch architecture, the dual path device enables simultaneous battery charging and system load management. It automatically reroutes power from the battery to the system without interruption when load requirements exceed available current. As a single-chip alternative to complex discrete solutions, the AAT3672 simplifies power circuit design, reduces board space requirements and drives down system cost in a wide variety of smart phones, navigation devices, and portable media players (PMPs).

"In a number of situations, such as when a GPS-enabled GPRS phone switches zones, a cellular handset or portable system may require more current than the power adapter can deliver," explains Siamak Bastami, product line director for AnalogicTech. "Typically designers compensate for this possibility by using a larger, more expensive adapter or requiring intervention and control by the system processor. To address this problem and avoid a power interruption and system reset, the AAT3672 offers a single, highly integrated solution, delivering additional power as required from the battery."

### **Dynamic Power Sourcing**

The AAT3672 is a single input dynamic battery charger and control IC, compatible with either an AC power adapter or a USB port power source. Dynamic power control allows the device to charge a single-cell Li-on battery and power a system load simultaneously. The device regulates battery charge current and voltage for 4.2V Li-on battery cells. Battery charge current can be programmed up to 1.6A.

Three internal switches on the device provide dynamic power sourcing to the system load. If the system load exceeds the input current supply from the input source, the AAT3672 supplies additional current from the battery cell. The device automatically manages distribution of power between the source, the battery and the system simultaneously to support all power needs, charging the battery cell with the maximum amount of current possible.

To help minimize charge time and protect an input source from overload, the AAT3672 features an automatic battery charge current reduction loop that automatically compensates for voltage sags and throttles back the charge current when the input source cannot provide the required load current. This feature protects the charger, system and source supply if an adapter or power source cannot meet the programmed ADP charging mode current demand.

The AAT3672 also features an intelligent thermal loop control system that continuously measures internal circuit die temperature and automatically reduces fast charge current when the device exceeds a preset internal temperature threshold. By automatically monitoring circuit die temperature and adjusting fast charge current as die temperature changes, this function helps optimize charging by maximizing charge current under given temperature conditions.

The new charger/system management IC also offers a number of protection features including battery over-voltage, over-current and over-temperature protections circuits. It also adds system load current limiting capability.

**Availability**

Qualified across the -40° C to +85° C temperature range, the AAT3672 is available in a compact 14-pin, 3 x 3-mm TDFN package.