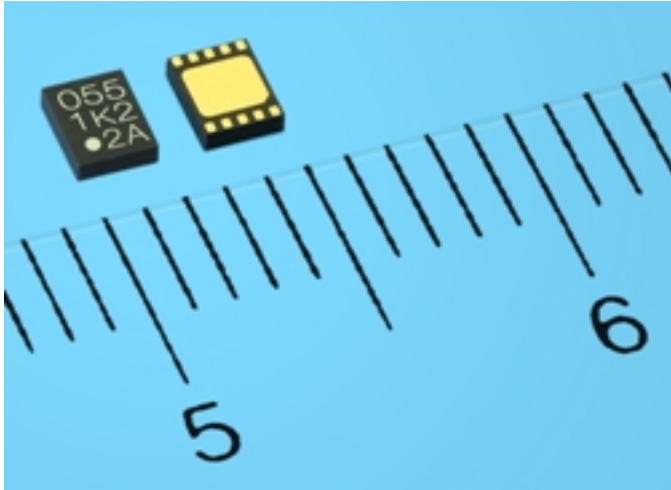


Compact Lithium-Ion Battery-Charging Control IC Supporting USB Charging



Renesas Electronics Corporation announced a charging control integrated circuit (IC), the R2A20055NS, that achieves further miniaturization and safe charging control for single-cell lithium-ion batteries used in portable devices.

Used in a wide range of portable equipment, from cell phones to digital still cameras, media players, personal navigation devices, and tablet PCs, lithium-ion batteries have a high energy density and can contribute to equipment miniaturization. At the same time however, they can generate excessive heat and catch fire if they are overcharged. For this reason, JEITA (Japan Electronics and Information Technology Industries Association) has formulated guidelines stipulating that charging rates be reduced when the battery temperature is in low- or high-temperature ranges. In addition, there is an increasing need for charging portable equipment using USB bus power when connected to a personal computer by a USB cable, and for charging within the range of power that can be supplied by a USB bus.

While Renesas has focused primarily on IC products for battery chargers and digital still cameras, the company is now releasing the R2A20055NS device, which targets the full range of portable equipment in response to these market needs.

Key Features of the R2A20055NS IC

(1) Conforms to the changing profiles stipulated by JEITA

In addition to the full complement of protection features necessary for portable equipment, including battery overvoltage protection and charging timers, the new IC includes functions that implement the charging profiles stipulated by JEITA, which allow the R2A20055NS IC to implement safe charging control.

(2) Support for USB charging

The R2A20055NS IC provides control pins for each block to limit the input current.

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Current limit options are 100 milliamps (mA), 500 mA, or no limit; thus, it can perform battery charging according to the USB power available.

(3) Increased input pin withstand voltage

Not only do the R2A20055NS input pins have high withstand voltage of 25V, but Renesas has added new overvoltage protection functions to the input pins as well. These can protect application systems from the overshoot that occurs when a power adapter or USB cable is connected.

(4) High thermal dissipation, ultra-miniature package

The R2A20055NS IC implements the functions in a 2.0 × 2.5 millimeter (mm) ultra-miniature, high thermal dissipation, 10-pin HUSON package, and thus can contribute to further miniaturization in portable equipment.

More information about the products offered by Renesas Electronics America can be found at <http://am.renesas.com> [1].

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[1] <http://am.renesas.com>