

## **bq24745 and bq24747 Comparison**

Li Wang

PMP - BMS-Battery Charge

### **ABSTRACT**

This application report presents the differences between bq24745 and bq24747. bq24747 removes analog ground to optimize layout and adds battery short inhibit time to improve battery charger short performance. It is intended to assist design engineers in selecting the most suitable device for their applications.

## **1 bq24745 and bq24747 Comparison**

[Table 1](#) compares the differences between bq24745 and bq24747 parameters.

**Table 1. bq24745 and bq24747 comparison**

	<b>Ground</b>	<b>BAT Short Reset function</b>
bq24745	Separate Analog ground and Power ground	No
bq24747	Remove analog GND to have single ground PGND	When BAT<4V, 2ms inhibit charge and soft start again

## **2 bq24745 and bq24747 Feature Descriptions**

The bq24745 and bq24747 are high-efficiency, synchronous battery chargers with an integrated input-current comparator. They offer low component count for space-constrained, multi-chemistry battery-charging applications. The input-current, charge-current, and charge-voltage DACs allow for high-accuracy regulation that can be programmed by the system power-management microcontroller using the SMBus interface. The bq24745 and bq24747 can charge one, two, three, or four series Li+ cells, and are available in a 28-pin, 5x5 mm<sup>2</sup> QFN package.

The bq24745 and bq24747 feature Dynamic Power Management (DPM) and input power limiting. These features reduce battery-charge current when the input power limit is reached to avoid overloading the AC adaptor when supplying the load and the battery charger simultaneously. A highly accurate current-sense amplifier enables precise measurement of the input current from the AC adapter, which allows for monitoring of the overall system power. If the adapter current is above the programmed low-power threshold, a signal is sent to host so that the system optimizes its performance to the power available from the adapter. An integrated comparator monitors the input current through a current-sense amplifier and indicates when the input current exceeds a programmable threshold limit.

## **3 References**

1. bq24745, SMBus-Controlled Level 2 Multi-Chemistry Battery Charger With Input Current Detect Comparator and Charge Enable Pin data sheet ([SLUS761](#))
2. bq24747, SMBus-Controlled Level 2 Multi-Chemistry Battery Charger With Input Current Detect Comparator and Charge Enable Pin data sheet ([SLUS988](#))

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