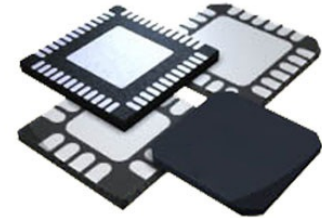


## Battery Charger 32-Pin QFN EP Tube



Images are for reference only

[Inquiry](#)

**Manufacturer:** [Renesas Technology Corp](#)

**Package/Case:** QFN

**Product Type:** Power Management ICs

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

### General Description

The ISL88739 is a highly versatile combo battery charger configurable for operating as either a Hybrid Power Boost (HPB) charger or a Narrow VDC (NVDC) charger, supporting 2-, 3- or 4-cell batteries. Both configurations allow the battery to work with the adapter together to supply the system load when it exceeds the adapter capability, referred to as system Turbo mode. HPB charger configuration reverse-boosts battery energy to system bus in order to help the adapter provide the system power in Turbo mode. NVDC charger configuration quickly turns on BGATE to enable the battery to help adapter provide the system power in Turbo mode. The ISL88739 uses N-channel MOSFETs (NFETs) for all the switches to achieve the best performance and lowest BOM cost. The internal charge pump is capable of turning on all the NFETs fast or slow depending on the circumstance or the need. The ability to quickly turn on NFETs prevents system bus voltage drop when the battery is suddenly removed in Turbo mode or in Battery Learn mode. The ISL88739 provides many protection features including PROCHOT# indicator for system low voltage, adapter overcurrent, battery overcurrent or overheating, with an array of SMBus programmable parameters for maximum flexibility. It also features hardware based adapter current limit and battery-current limit in addition to SMBus programmable limits. The ISL88739 provides a high accuracy adapter current monitor, battery current monitor and system power monitor outputs. To provide maximum flexibility for working with high power and low power systems, it provides several configurable current-sense resistor value options to achieve the best trade-off of current sensing accuracy vs power loss. The ISL88739 uses Intersil's Robust Ripple Regulator (R3™) modulation scheme to provide excellent light-load efficiency and fast dynamic response. It is available in a 32 Ld 4x4mm<sup>2</sup> QFN package.

## Key Features

Configurable as HPB charger or NVDC charger

Compliant with Intel PROCHOT# requirements

Adapter current monitor and battery discharging current monitor

Uses NFET for all the switches

Supports removal of battery during Battery Learn mode

Actively controlled inrush current to prevent FET damage

SMBus programmable settings and high accuracy

Comprehensive protection features include

PROCHOT# indicator for system low voltage, adapter overcurrent, battery overcurrent or system overheating

Hardware-based ad

apter-current and battery-current limits

Supports sudden removal of battery in system Turbo mode

16 switching frequency options from 350kHz to 1MHz

Low quiescent current

SMBus and auto-increment I2C compatible

Intersil Robust Ripple Regulator (R3™) modulation scheme provides excellent light-load efficiency and fast dynamic response

32 Ld 4x4mm<sup>2</sup> QFN package

Pb-free (RoHS compliant)

## Recommended For You

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### ISL83202IBZ

Renesas Technology Corp

SOP16

### ISL9492ERZ

Renesas Technology Corp

QFN

### ISL6520ACBZ-T

Renesas Technology Corp

SOP8

### ISL62883CHRTZ

Renesas Technology Corp

QFN

### ISL95836HRTZ-T

Renesas Technology Corp

QFN40

### ISL95837HRZ-T

Renesas Technology Corp

QFN40

### ISL95837HRZ

Renesas Technology Corp

QFN40

### ISL9301HRZ

Renesas Technology Corp

DFN10

### ISL95835HRZ

Renesas Technology Corp

QFN

**ISL95812HRZ**

Renesas Technology Corp

QFN

**ISL95870HRUZ-T**

Renesas Technology Corp

QFN16

**ISL6521IBZ**

Renesas Technology Corp

SOP16

**ISL62882CHRIZ**

Renesas Technology Corp

QFN

**ISL95870BIRZ-T**

Renesas Technology Corp

QFN20

**ISL78214ARZ**

Renesas Technology Corp

QFN