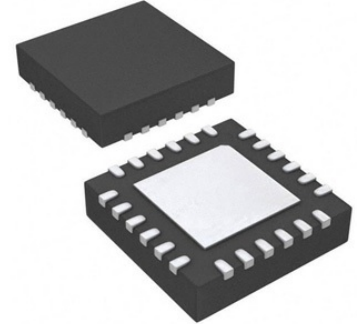


Buck-Boost Configurable Battery Charger with SMBus Interface and USB Power Delivery

Manufacturers	<a href="#">Renesas Technology Corp</a>
Package/Case	32pin-TQFN
Product Type	Power Management ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for ISL9241HRTZ-T or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The ISL9241 is a digitally configurable buck-boost battery charger that can support both Narrow Voltage Direct Charging (NVDC) and Hybrid Power Buck Boost (HPBB/Bypass) charging and switch between the modes using firmware control. Bypass mode is also supported using the firmware of the controller, which allows the adapter to provide power directly to the system. The ISL9241 provides charging functionality, system bus regulation, and protection features using only NFETs for tablet, Ultrabook, and notebook platforms. The advanced Renesas R3™ technology provides a high, light-load efficient Charging mode. The ISL9241 takes input power from a wide range of DC power sources (such as conventional AC/DC charger adapters, USB Type-C Power ports, and travel adapters) and safely charges battery packs with up to 4-series cell Li-ion batteries.

The system power can be provided from the adapter, battery, or a combination of both. The reconfigurable internal registers of the charger allow the use of a smaller inductor for the HPBB mode to achieve higher efficiencies across multiple power levels. The ISL9241 can operate with only a battery, only an adapter, or both connected. For Intel IMVP compliant systems, the ISL9241 includes System Power monitor (PSYS) functionality, which provides an analog signal representing total platform power. The PSYS output connects to a wide range of IMVP core regulators to provide an IMVP compliant power domain function. The ISL9241 supports reverse buck, boost, or buck-boost operation to the adapter port (OTG mode) from 2- to 4-cell batteries. This allows configurations to support USB-C Power Delivery (PD) output for Programmable Power Supply (PPS) ports. The ISL9241 serial communication uses SMBus/I2C, which allows programming of many key parameters to deliver a customized solution.

## Features

Buck-boost NVDC or hybrid power (turbo boost) charger for 2-, 3-, or 4-cell Li-ion batteries using all NFET transistors

Input voltage range: 3.9V to 23.4V (no dead zone)

System/battery output voltage: 3.9V to 18.304V

Bypass mode supported to connect system to adapter

Autonomous charging option (automatic end of charging)

Adapter current and battery current monitor (AMON/BMON)

PROCHOT# open-drain output, IMVP compliant

System power monitor PSYS output, IMVP8/9 compliant

Internal 8-bit ADC for monitoring key parameters

USB-C PD Fast Role Swap support and PPS support

Independent compensation pins for forward and reverse operation (OTG) modes

Supports supplemental power (Intel  $V_{MIN}$  active protection)

Battery Ship mode: IC ultra-low power state

Supports JEITA compliance using an NTC

4mm x 4mm 32 Ld TQFN package

## Related Products



### [ISL6262ACRZ](#)

Renesas Technology Corp  
QFN-48



### [ISL21080CIH315Z-TK](#)

Renesas Technology Corp  
SOT-23-3



### [ISL6377HRZ-T](#)

Renesas Technology Corp  
QFN-48



### [ISL6294IRZ-T](#)

Renesas Technology Corp  
QFN-8



### [ISL6506BCBZ](#)

Renesas Technology Corp  
SOP-8



### [ISL62771HRTZ-T](#)

Renesas Technology Corp  
40-WFQFN Exposed Pad



[ISL62771HRZ](#)

Renesas Technology Corp

QFN40



[ISL95808HRZ-T](#)

Renesas Technology Corp

DFN-8