

LEAD-FREE SYNCH BUCK MOSFET HV DRIVER, 8LD SOIC, Disabled OT HT
SUSA CODE:8542390000



Images are for reference only

Manufacturers	Renesas Technology Corp
Package/Case	SOIC-8
Product Type	Power Management ICs
RoHS	
Lifecycle	

Please submit RFQ for ISL6612ACBZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ISL6612A and ISL6613A are high frequency MOSFET drivers specifically designed to drive upper and lower power N-Channel MOSFETs in a synchronous rectified buck converter topology. These drivers combined with HIP63xx or ISL65xx Multi-Phase Buck PWM controllers and N-Channel MOSFETs form complete core-voltage regulator solutions for advanced microprocessors.

The ISL6612A drives the upper gate to 12V, while the lower gate can be independently driven over a range from 5V to 12V. The ISL6613A drives both upper and lower gates over a range of 5V to 12V. This drive-voltage provides the flexibility necessary to optimize applications involving trade-offs between gate charge and conduction losses.

An advanced adaptive zero shoot-through protection is integrated to prevent both the upper and lower MOSFETs from conducting simultaneously and to minimize the dead time. These products add an overvoltage protection feature operational before VCC exceeds its turn-on threshold, at which the PHASE node is connected to the gate of the low side MOSFET (LGATE). The output voltage of the converter is then limited by the threshold of the low side MOSFET, which provides some protection to the microprocessor if the upper MOSFET(s) is shorted during initial startup.

These drivers also feature a three-state PWM input which, working together with multi-phase PWM controllers, prevents a negative transient on the output voltage when the output is shut down. This feature eliminates the Schottky diode that is used in some systems for protecting the load from reversed output voltage events.

Features

Pin-to-pin Compatible with HIP6601 SOIC family

Dual MOSFET Drives for Synchronous Rectified Bridge

Advanced Adaptive Zero Shoot-Through Protection
Body Diode Detection

Auto-zero of $r_{DS(ON)}$ Conduction Offset Effect

Adjustable Gate Voltage (5V to 12V) for Optimal Efficiency

36V Internal Bootstrap Schottky Diode

Bootstrap Capacitor Overcharging Prevention

Supports High Switching Frequency (up to 2MHz)
3A Sinking Current Capability

Fast Rise/Fall Times and Low Propagation Delays

Three-State PWM Input for Output Stage Shutdown

Three-State PWM Input Hysteresis for Applications with Power Sequencing Requirement

Pre-POR Overvoltage Protection

VCC Undervoltage Protection

Expandable Bottom Copper Pad for Enhanced Heat Sinking

Dual Flat No-Lead (DFN) Package
Near Chip-Scale Package Footprint; Improves PCB Efficiency and Thinner in Profile

Pb-Free (RoHS Compliant)



Related Products



[ISL6262ACRZ](#)

Renesas Technology Corp
QFN-48



[ISL21080CIH315Z-TK](#)

Renesas Technology Corp
SOT-23-3



[ISL6377HRZ-T](#)

Renesas Technology Corp
QFN-48



[ISL62771HRTZ](#)

Renesas Technology Corp
QFN40



[ISL6294IRZ-T](#)

Renesas Technology Corp
QFN-8



[ISL6506BCBZ](#)

Renesas Technology Corp
SOP-8



[ISL62771HRTZ-T](#)

Renesas Technology Corp
40-WFQFN Exposed Pad



[ISL95808HRZ-T](#)

Renesas Technology Corp
DFN-8