

Octal D-Type Edge-Triggered Flip-Flops With 3-State Outputs 20-PDIP -40 to 85

Manufacturers	Renesas Technology Corp
Package/Case	QFN-8
Product Type	PMIC - MOSFET, Bridge Drivers - External Switch
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ISL6208CRZ-T or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com). We will contact you in 12 hours.

[RFQ](#)

General Description

The ISL6208 and ISL6208B are high frequency, dual MOSFET drivers, optimized to drive two N-Channel power MOSFETs in a synchronous-rectified buck converter topology. They are especially suited for mobile computing applications that require high efficiency and excellent thermal performance. These drivers, combined with an Intersil multiphase Buck PWM controller, form a complete single-stage core-voltage regulator solution for advanced mobile microprocessors. ISL6208 and ISL6208B have the same function but different packages. The descriptions in this datasheet are based on ISL6208 and also apply to ISL6208B. The ISL6208 features 4A typical sinking current for the lower gate driver. This current is capable of holding the lower MOSFET gate off during the rising edge of the Phase node. This prevents shoot-through power loss caused by the high dv/dt of phase voltages. The operating voltage matches the 30V breakdown voltage of the MOSFETs commonly used in mobile computer power supplies. The ISL6208 also features a three-state PWM input that, working together with Intersil's multiphase PWM controllers, will prevent negative voltage output during CPU shutdown. This feature eliminates a protective Schottky diode usually seen in a microprocessor power systems. MOSFET gates can be efficiently switched up to 2MHz using the ISL6208. Each driver is capable of driving a 3000pF load with propagation delays of 8ns and transition times under 10ns. Bootstrapping is implemented with an internal Schottky diode. This reduces system cost and complexity, while allowing the use of higher performance MOSFETs. Adaptive shoot-through protection is integrated to prevent both MOSFETs from conducting simultaneously. A diode emulation feature is integrated in the ISL6208 to enhance converter efficiency at light load conditions. This feature also allows for monotonic start-up into pre-biased outputs. When diode emulation is enabled, the driver will allow discontinuous conduction mode by detecting when the inductor current reaches zero and subsequently turning off the low side MOSFET gate.

Features

Dual MOSFET drives for synchronous rectified bridge

Adaptive shoot-through protection

0.5Ω On-resistance and 4A sink current capability

Supports high switching frequency up to 2MHz

Fast output rise and fall time

Low propagation delay

Three-state PWM input for power stage shutdown

Internal bootstrap Schottky diode

Low bias supply current (5V, 80μA)

Diode emulation for enhanced light load efficiency and pre-biased start-up applications

VCC POR (Power-On-Reset) feature integrated

Low three-state shutdown holdoff time (typical 160ns)

Pin-to-pin compatible with ISL6207

QFN and DFN package:

Compliant to JEDEC PUB95 MO-220 QFN - Quad flat no leads - package outline DFN - Dual flat no leads - package outline

Near chip scale package footprint, which improves PCB efficiency and has a thinner profile

Pb-free (RoHS Compliant)



Related Products



[ISL6262ACRZ](#)

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QFN-48



[ISL21080CIH315Z-TK](#)

Renesas Technology Corp
SOT-23-3



[ISL6377HRZ-T](#)

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DFN-8