Green Hybrid Digital Four Phase PWM Controller for Intel VR12.5™ CPUs

| | |
|---|---|
| Manufacturers | Renesas Technology Corp |
| Package/Case | 40pin-TQFN |
| Product Type | Integrated Circuits (ICs) |
| RoHS | |
| Lifecycle | |
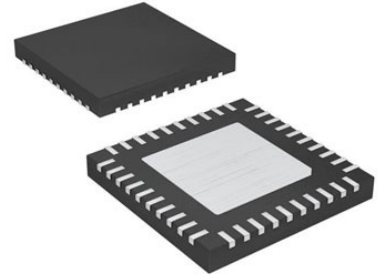
Images are for reference only

Please submit RFQ for ISL95820CRTZ-T or Email to us: sales@ovaga.com We will contact you in 12 hours.      RFQ

## General Description

The ISL95820 Pulse Width Modulation (PWM) controller IC provides a complete low-cost solution for Intel VR12.5™ compliant microprocessor core power supplies. It provides the control and protection for a Voltage Regulator (VR). The VR incorporates 3 integrated drivers and can operate in 4-, 3-, 2- or 1-phase configurations. The VR uses a serial control bus to communicate with the CPU and achieve lower cost and smaller board area. The VR utilizes Intersil's Robust Ripple Regulator R3 Technology™. The R3™ modulator has many advantages compared to traditional modulators, including faster transient response, variable switching frequency in response to load transients, and improved light load efficiency due to diode emulation mode with load-dependent low switching frequency. The ISL95820 has several other key features. It supports either DCR current sensing with a single NTC thermistor for DCR temperature compensation, or more precise resistor current sensing if desired; remote voltage sense; programmable VBOOT voltage, IMAX, voltage transition slew rate and switching frequency; adjustable overcurrent protection; and Power-Good signal.

# Features

Serial data bus

SMBus/PMBus/I$^2$C interface with SVID conflict free

Configurable 4-, 3-, 2- or 1-phase for the output using three integrated gate drivers

Green Hybrid Digital R3™ modulator

Excellent transient response

Phase shedding with power state selection

Diode emulation in single-phase for high light-load efficiency

0.5% system accuracy over-temperature

Supports multiple current sensing methods

Lossless inductor DCR current sensing

Precision resistor current sensing

Differential remote voltage sensing

Programmable $V_{BOOT}$ voltage at start-up

Resistor programmable $I_{MAX}$, load line, diode emulation, slope compensation, and switching frequency

Adaptive body diode conduction time reduction

## Related Products

**ISL95855HRTZ-T**
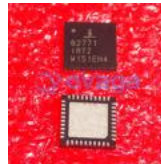
Renesas Technology Corp

48pin-TQFN

**ISL69127IRAZ-T**

Renesas Technology Corp

QFN 48

**ISL99380FRZ-TR5935**

Renesas Technology Corp

**ISL62771IRTZ-T**

Renesas Technology Corp

TQFN-40

**ISL69125IRAZ-T**

Renesas Technology Corp

40-TQFN

**ISL95855IRTZ-T**

Renesas Technology Corp

TQFN

**ISL32601EFUZ**

Renesas Technology Corp

**ISL68137IRAZ**

Renesas Technology Corp

48-QFN