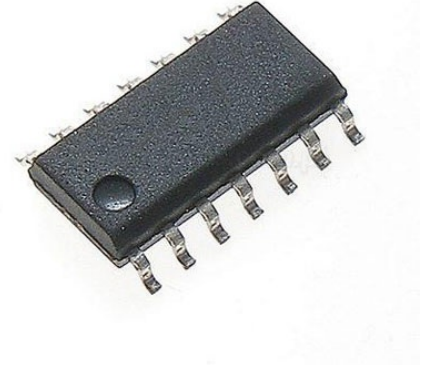


+/-15kV ESD Protected, 5V, Low Power, High Speed and Slew Rate Limited, Full Duplex, RS-485/RS-422 Transceivers

Manufacturers	Renesas Technology Corp
Package/Case	SOP-14
Product Type	Interface ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for ISL8489EIBZ-T or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ISL8488E, ISL8489E, ISL8490E, ISL8491E devices are ESD protected, BiCMOS, 5V powered, single transceivers that meet both the RS-485 and RS-422 standards for balanced communication. Each driver output and receiver input is protected against $\pm 15\text{kV}$ ESD strikes, without latch-up. Unlike competitive versions, these Intersil devices are specified for 10% tolerance supplies (4.5V to 5.5V). These devices are configured for full duplex (separate Rx input and Tx output pins) applications, so they are ideal for RS-422 networks requiring high ESD tolerance on the bus pins. The ISL8488E, ISL8490E are 8 Ld versions without Rx and Tx output enables. The other two versions include Rx and Tx output enable pins in a standard 14 Ld pinout. The ISL8488E, ISL8489E utilize slew rate limited drivers which reduce EMI, and minimize reflections from improperly terminated transmission lines, or unterminated stubs in multidrop and multipoint applications. Data rates up to 10Mbps are achievable by using the ISL8490E, ISL8491E, which feature higher slew rates. The devices present a "single unit load" to the RS-485 bus, which allows a total of 32 transmitters and receivers on the network. For "1/8 unit load" versions (256 devices on the bus), please refer to the ISL4489E, ISL4491E data sheet. Receiver (Rx) inputs feature a "fail-safe if open" design, which ensures a logic high Rx output if Rx inputs are floating. Driver (Tx) outputs are short circuit protected, even for voltages exceeding the power supply voltage. Additionally, on-chip thermal shutdown circuitry disables the Tx outputs to prevent damage if power dissipation becomes excessive.

Features

RS-485 I/O Pin ESD Protection $\pm 15\text{kV}$ HBM

Class 3 ESD Level on all Other Pins $>7\text{kV}$ HBM

High Data Rates (ISL8490E, ISL8491E) up to 10Mbps

Slew Rate Limited for Error Free Data Transmission (ISL8488E, ISL8489E)

Single Unit Load Allows up to 32 Devices on the Bus (See ISL4489E, ISL4491E for 256 Devices on Bus)

Low Quiescent Current:

120 μA (ISL8488E)

140 μA (ISL8489E)

370 μA (ISL8490E, ISL8491E)

-7V to +12V Common Mode Input Voltage Range

Three-State Rx and Tx Outputs (Except ISL8488E, ISL8490E)

Full Duplex Pinout

Operates from a Single +5V Supply (10% Tolerance)

Current Limiting and Thermal Shutdown for Driver Overload Protection

Pb-Free Plus Anneal Available (RoHS Compliant)

Related Products



[ISL83491IBZ](#)

Renesas Technology Corp
SOIC-14



[ISL3170EIUZ](#)

Renesas Technology Corp
MSOP-10



[ISL99227FRZ-T](#)

Renesas Technology Corp
32-PowerWFQFN



[ISL83078EIBZA](#)

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SOIC-8



[ISL83072EIBZA](#)

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[ISL81487EIBZ](#)

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SOP-8



[IS82C55AZ](#)

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PLCC-44



[ISL83387EIVZ](#)

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TSSOP-24