

ESD Protected to $\pm 15\text{kV}$, 5V, Low Power, High Speed or Slew Rate Limited, RS-485/RS-422 Transceivers

Manufacturers	Renesas Technology Corp
Package/Case	SOIC-8
Product Type	Interface ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ISL8485EIBZ-T or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ISL8483E and ISL8485E are ESD protected, BiCMOS 5V powered, single transceivers that meet both the RS-485 and RS-422 standards for balanced communication. Each driver output/receiver input is protected against $\pm 15\text{kV}$ ESD strikes without latch-up. Unlike competitive devices, this Renesas family is specified for 10% tolerance supplies (4.5V to 5.5V).

The ISL8483E uses slew rate limited drivers that 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 ISL8485E, which features higher slew rates.

Both devices present a “single unit load” to the RS-485 bus, which allows up to 32 transceivers on the network.

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.

These half duplex configurations multiplex the Rx inputs and Tx outputs to allow transceivers with Rx and Tx disable functions in 8 Ld packages.

Features

Pb-Free (RoHS compliant)

Extended industrial temperature options (+125°C)

RS-485 I/O pin ESD protection: ±15kV HBM

Class 3 ESD level on all other pins: >7kV HBM

Specified for 10% tolerance supplies

High data rate version (ISL8485E): up to 10Mbps

Slew rate limited version for error free data transmission (ISL8483E): up to 250kbps

Single unit load allows up to 32 devices on the bus

1nA low current Shutdown mode (ISL8483E)

Low quiescent current:

160µA (ISL8483E)

500µA (ISL8485E)

-7V to +12V common-mode input voltage range

Three-state Rx and Tx outputs

30ns propagation delays, 5ns skew (ISL8485E)

Operate from a single +5V supply (10% tolerance)

Current limiting and thermal shutdown for driver overload protection

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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[ISL83072EIBZA](#)

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[ISL81487EIBZ](#)

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[IS82C55AZ](#)

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PLCC-44



[ISL83387EIVZ](#)

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TSSOP-24