3.3V Half Duplex, 250kbps Slew Rate Limited, IEC61000 ESD Protected, RS-485/RS-422 Transceiver; Temperature Range: -40°C to 85°C; Package: 8-SOIC T&R

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

Images are for reference only

Please submit RFQ for ISL3172EIBZ-T or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The Renesas ISL317xE are ±15kV IEC61000 ESD protected, 3.3V powered single transceivers that meet both the RS-485 and RS-422 standards for balanced communication. These devices have very low bus currents (+125μA/-100μA), so they present a true "1/8 unit load" to the RS-485 bus. This allows up to 256 transceivers on the network without violating the RS-485 specification's 32 unit load maximum, and without using repeaters. For example, in a remote utility meter reading system, individual meter readings are routed to a concentrator using an RS-485 network, so the high allowed node count minimizes the number of repeaters required.

Receiver (Rx) inputs feature a "Full Fail-Safe" design, which ensures a logic high Rx output if Rx inputs are floating, shorted, or terminated but undriven.

Hot Plug circuitry ensures that the Tx and Rx outputs remain in a high impedance state while the power supply stabilizes.

The ISL3170E through ISL3175E utilize slew rate limited drivers which reduce EMI, and minimize reflections from improperly terminated transmission lines, or unterminated stubs in multidrop and multipoint applications. Slew rate limited versions also include receiver input filtering to enhance noise immunity in the presence of slow input signals.

The ISL3170E, ISL3171E, ISL3173E, ISL3174E, ISL3176E, and ISL3177E are configured for full duplex (separate Rx input and Tx output pins) applications. The half duplex versions multiplex the Rx inputs and Tx outputs to allow transceivers with output disable functions in 8 Ld packages.

Features

IEC61000 ESD protection on RS-485 I/O pins ±15kV
Class 3 ESD level on all other pins >7kV HBM

Full fail-safe (open, short, terminated/floating) receivers

Hot plug - Tx and Rx outputs remain three-state during power-up (only versions with output enable pins)

True 1/8 unit load allows up to 256 devices on the bus

Single 3.3V supply

High data rates up to 20Mbps

Low quiescent supply current 800μA (Max)
Ultra low shutdown supply current 10nA

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

Half and full duplex pinouts

Three state Rx and Tx outputs available

Current limiting and thermal shutdown for driver overload protection

Tiny MSOP packages consume 50% less board space

Pb-free (RoHS compliant)

Related Products

ISL83491IBZ

Renesas Technology Corp

SOIC-14

ISL3170EIUZ

Renesas Technology Corp

MSOP-10

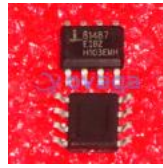

ISL99227FRZ-T

Renesas Technology Corp

32-PowerWFQFN

ISL83078EIBZA

Renesas Technology Corp

SOIC-8

ISL83072EIBZA

Renesas Technology Corp

SOIC-8

ISL81487EIBZ

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SOP-8

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PLCC-44

ISL83387EIVZ

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TSSOP-24