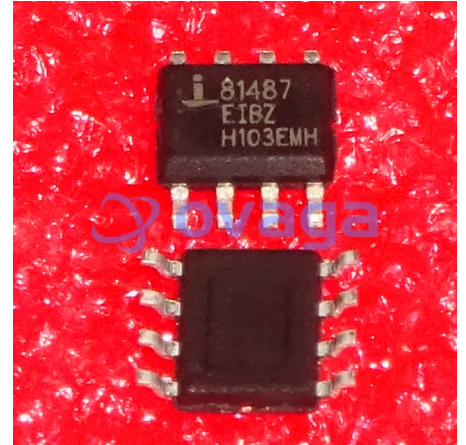


【15kV ESD Protected, 1/8 Unit Load, 5V, Low Power, High Speed or Slew Rate Limited, RS-485/RS-422 Transceivers

Manufacturers	<a href="#">Renesas Technology Corp</a>
Package/Case	SOP-8
Product Type	Interface ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for ISL81487EIBZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The ISL8487E, ISL81487L, and ISL81487E RS-485/RS-422 devices are ESD protected, fractional unit load (UL), 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 device family is specified for 10% tolerance supplies (4.5V to 5.5V).

All devices present a 1/8 unit load to the RS-485 bus, which allows up to 256 transceivers on the network for large node count systems (for example, process automation and remote meter reading systems). In a remote utility meter reading system, individual utility meter readings (in apartments, forexample) are routed to a concentrator with an RS-485 network, so the high allowed node count minimizes the number of repeaters required to network all the meters. Data for all meters is then read out from the concentrator from a single access port or a wireless link.

Slew rate limited drivers on the ISL8487E and ISL81487L reduce EMI and minimize reflections from improperly terminated transmission lines or unterminated stubs in multidrop and multipoint applications. Data rates up to 250kbps are achievable with these devices.

Data rates up to 5Mbps are achievable by using the ISL81487E, which features higher slew rates.

The receiver (Rx) inputs feature a “fail-safe if open” design, which ensures a logic high Rx output if Rx inputs are floating.

The 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.

The half duplex devices multiplex the Rx inputs and Tx outputs to allow transceivers with Rx and Tx disable functions in 8 lead packages.

## 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

Fractional unit load allows up to 256 devices on the bus

Specified for 10% tolerance supplies

High data rate version (ISL81487E): up to 5Mbps

Slew rate limited versions for error free data transmission (ISL8487E, ISL81487L): up to 250kbps

Low current shutdown mode (except ISL81487E):  $0.5\mu\text{A}$

Low quiescent supply current:

ISL8487E, ISL81487L:  $145\mu\text{A}$  (maximum)

ISL81487E:  $420\mu\text{A}$  (maximum)

$-7\text{V}$  to  $+12\text{V}$  common mode input voltage range

Three state Rx and Tx outputs

30ns propagation delays, 5ns skew (ISL81487E)

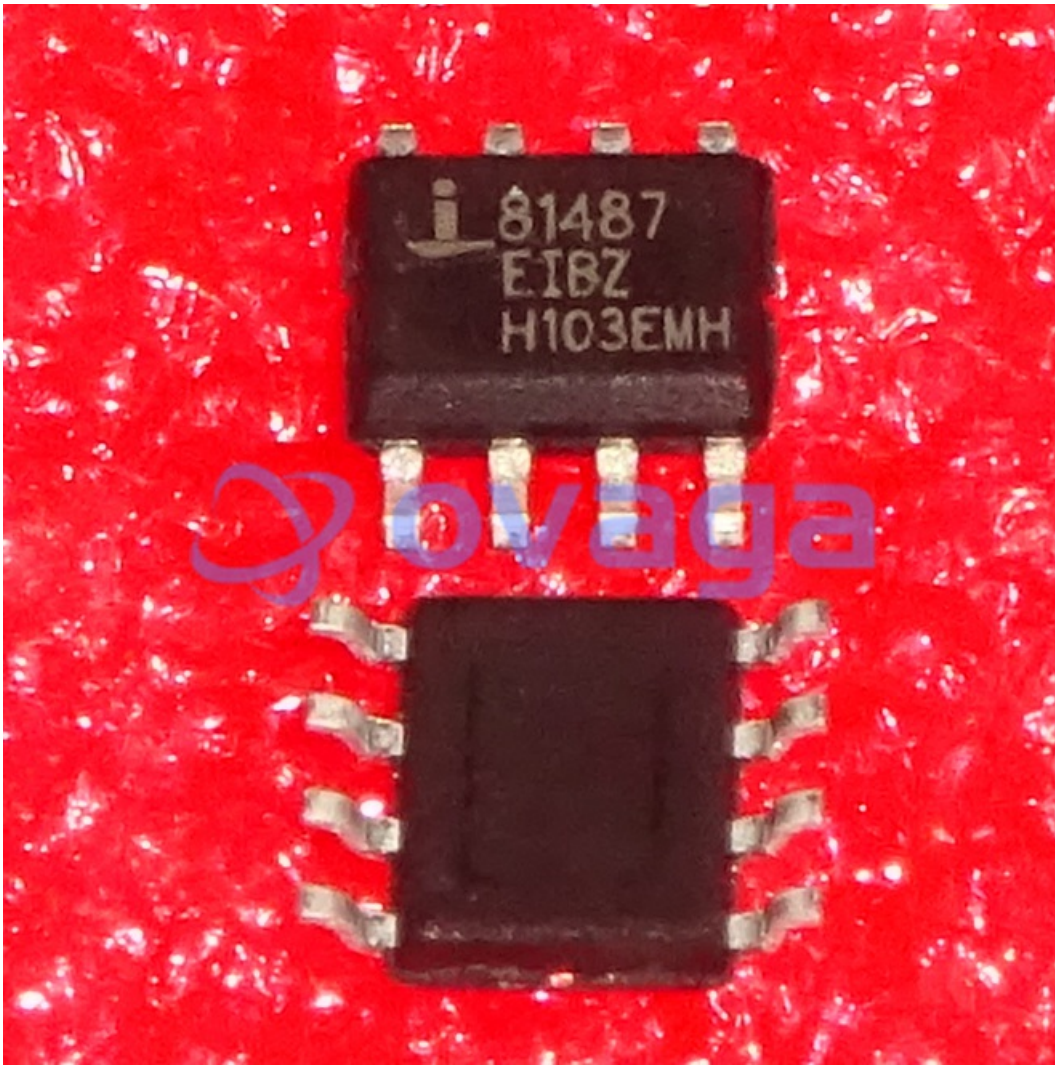
Half duplex pinouts

Operate from a single  $+5\text{V}$  supply (10% tolerance)

Current limiting and thermal shutdown for driver overload protection

Pin compatible replacements for: MAX487E, (ISL8487E); LTC1487, ADM1487 (ISL81487L); MAX1487E, ST485ER (ISL81487E)

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](#)

Renesas Technology Corp  
SOIC-8



#### [ISL83072EIBZA](#)

Renesas Technology Corp  
SOIC-8



#### [IS82C55AZ](#)

Renesas Technology Corp  
PLCC-44



[ISL83387EIVZ](#)

Renesas Technology Corp

TSSOP-24



[ISL8483EIBZ](#)

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SOP8