

±15kV, ESD-Protected, +5V Powered, RS-232 Transmitters/Receivers; Temperature Range: -40°C to 85°C; Package: 28-SSOP T&R

Manufacturers	<u>Renesas Technology Corp</u>
Package/Case	SSOP-28
Product Type	Interface ICs
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for HIN213EIAZ-T or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The HIN202E, HIN206E, HIN207E, HIN208E, HIN211E, HIN213E, HIN232E family of RS-232 transmitters/receivers interface circuits meet all EIA high-speed RS-232E and V.28 specifications, and are particularly suited for those applications where ±12V is not available. A redesigned transmitter circuit improves data rate and slew rate, which makes this suitable for ISDN and high speed modems. The transmitter outputs and receiver inputs are protected to ±15kV ESD (Electrostatic Discharge). They require a single +5V power supply and feature onboard charge pump voltage converters which generate +10V and -10V supplies from the 5V supply. The family of devices offers a wide variety of highspeed RS-232 transmitter/receiver combinations to accommodate various applications (see Selection Table). The HIN206E, HIN211E and HIN213E feature a low power shutdown mode to conserve energy in battery powered applications. In addition, the HIN213E provides two active receivers in shutdown mode allowing for easy "wakeup" capability. The drivers feature true TTL/CMOS input compatibility, slew rate-limited output, and 300Ω power-off source impedance. The receivers can handle up to ±30V input, and have a 3kΩ to 7kΩ input impedance. The receivers also feature hysteresis to greatly improve noise rejection.

## Features

Pb-Free Plus Anneal Available (RoHS Compliant)

High-Speed ISDN Compatible 230kbits/s

ESD Protection for RS-232 I/O Pins to  $\pm 15\text{kV}$  (IEC61000)

Meets All RS-232E and V.28 Specifications

Requires Only 0.1 $\mu\text{F}$  or Greater External Capacitors

Two Receivers Active in Shutdown Mode (HIN213E)

Requires Only Single +5V Power Supply

Onboard Voltage Doubler/Inverter

Low Power Consumption (Typ) 5mA

Low Power Shutdown Function (Typ) 1 $\mu\text{A}$

Three-State TTL/CMOS Receiver Outputs

Multiple Drivers

$\pm 10\text{V}$  Output Swing for +5V Input

300 $\Omega$  Power-Off Source Impedance

Output Current Limiting

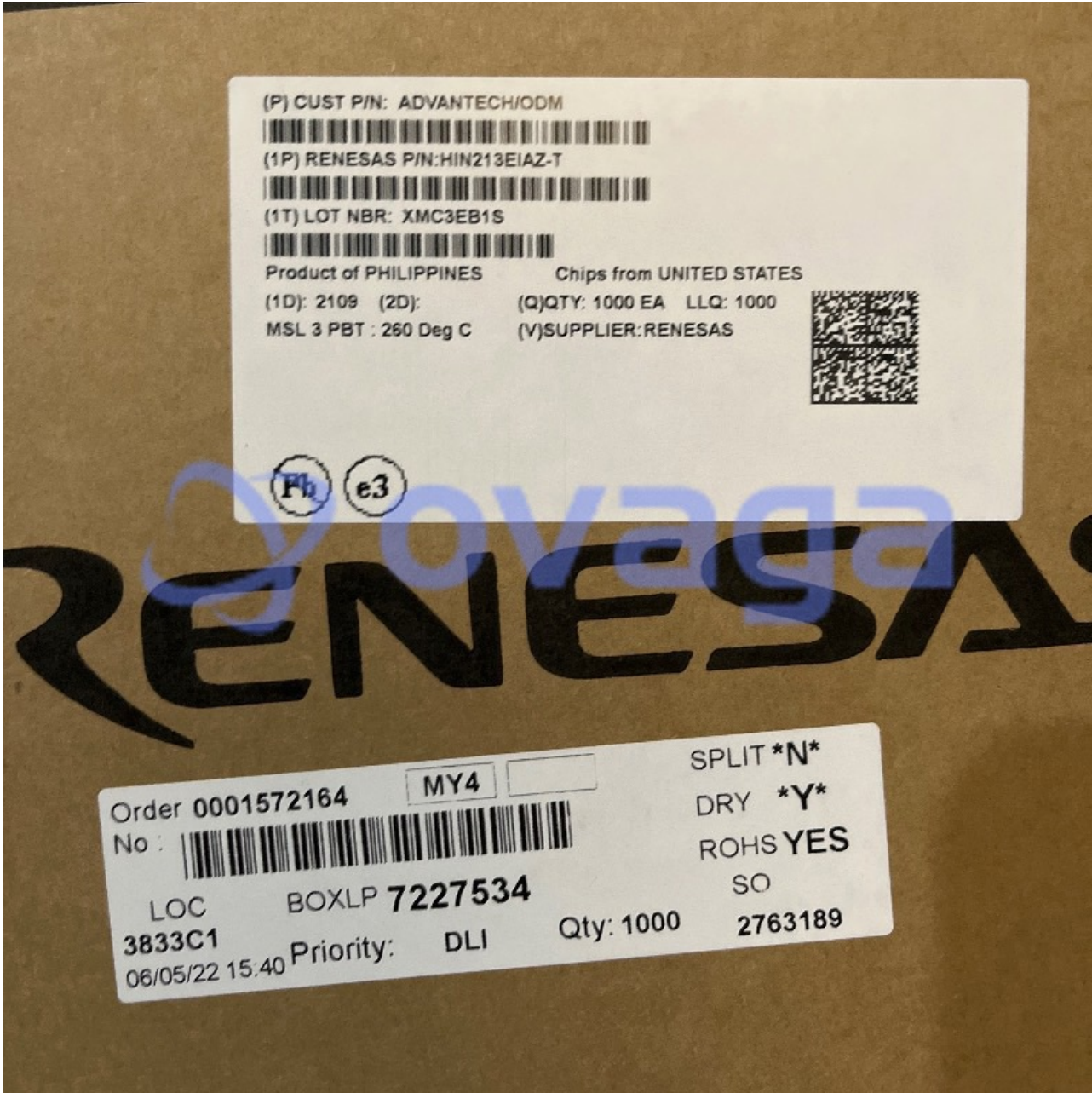
TTL/CMOS Compatible

Multiple Receivers

$\pm 30\text{V}$  Input Voltage Range

3k $\Omega$  to 7k $\Omega$  Input Impedance

0.5V Hysteresis to Improve Noise Rejection



**Related Products**



[HIN202EIBNZ](#)  
 Renesas Technology Corp  
 SOIC-16



[HI1-0508-2](#)  
 Renesas Technology Corp  
 CDIP-16



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[HI3-0547-5Z](#)

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