## Device Information

# HIN202

Printer Friendly Version

**+5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors**

DS Datasheet & Related Docs | Description | Key Features | PT Parametric Data | Application Diagrams | Related Devices

**Ordering Information** — RoHS/Pb-Free/Green Device

| Part No. | Status | Temp. | Package | MSL | |
|---|---|---|---|---|---|
| HIN202CB | Active | Comm | 16 Ld SOIC | 1 | Buy Sample |
| HIN202CB-T | Active | Comm | 16 Ld SOIC T+R | 1 | Buy |
| HIN202CBN | Active | Comm | 16 Ld SOIC | 1 | Buy Sample |
| HIN202CBN-T | Active | Comm | 16 Ld SOIC T+R | 1 | Buy |
| HIN202CBNZ (Pb) | Active | Comm | 16 Ld SOIC | 2 | Buy Sample |
| HIN202CBNZ-T (Pb) | Active | Comm | 16 Ld SOIC T+R | 2 | Buy |
| HIN202CBZ (Pb) | Active | Comm | 16 Ld SOIC | 2 | Buy Sample |
| HIN202CBZ-T (Pb) | Active | Comm | 16 Ld SOIC T+R | 2 | Buy |
| HIN202CP | Active | Comm | 16 Ld PDIP | N/A | Buy Sample |
| HIN202IB | Active | Ind | 16 Ld SOIC | 1 | Buy Sample |
| HIN202IBN | Active | Ind | 16 Ld SOIC | 1 | Buy Sample |
| HIN202IBN-T | Active | Ind | 16 Ld SOIC T+R | 1 | Buy |
| HIN202IBNZ (Pb) | Active | Ind | 16 Ld SOIC | 3 | Buy Sample |
| HIN202IBNZ-T (Pb) | Active | Ind | 16 Ld SOIC T+R | 3 | Buy |
| HIN202IBZ (Pb) | Active | Ind | 16 Ld SOIC | 3 | Buy Sample |

**The price listed is the manufacturer's suggested retail price for quantities between 100 and 999 units. However, prices in today's market are fluid and may change without notice.**

**MSL** = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020

**SMD** = Standard Microcircuit Drawing

## Description

The HIN202, HIN206, HIN207, HIN208, HIN211, HIN213 family of RS-232 transmitters/receivers interface circuits meet all EIA RS-232E and V.28 specifications, and are particularly suited for those applications where ±12V is not available. 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 RS-232 transmitter/receiver combinations to accommodate various applications (see Selection Table).

The HIN206, HIN211 and HIN213 feature a low power shutdown mode to conserve energy in battery powered applications. In addition, the HIN213 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.

## Key Features

- Pb-Free Available as an Option (See Ordering Info)
- Meets All RS-232E and V.28 Specifications
- Requires Only 0.1µF or Greater External Capacitors
- High Data Rate 120kbit/s
- Two Receivers Active in Shutdown Mode (HIN213)
- Requires Only Single +5V Power Supply
- Onboard Voltage Doubler/Inverter
- Low Power Consumption (Typ) 5mA
- Low Power Shutdown Function (Typ) 1µA
- Three-State TTL/CMOS Receiver Outputs
- Multiple Drivers
  - ±10V Output Swing for +5V Input
  - 300Ω Power-Off Source Impedance
  - Output Current Limiting
  - TTL/CMOS Compatible
  - 30V/µs Maximum Slew Rate
- Multiple Receivers
  - ±30V Input Voltage Range
  - 3kΩ to 7kΩ Input Impedance
  - 0.5V Hysteresis to Improve Noise Rejection

## Related Documentation

DS Datasheet(s):

- +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors

TH Technical Homepage:

- Interface Ics
- RS-232 Interface Ics

## PT Parametric Data

| | |
|---|---|
| # of Tx | 2 |
| # of Rx | 2 |
| High ESD | No |
| Manual Shutdown | No |
| Auto Shutdown | No |
| Rx Disable | No |
| Data Rate (kbps) | 120 |
| Cap. Value (µF) | .1 |
| $I_{CC}$ Enabled (mA) | 8 |
| $I_{CC}$ Disabled (µA) | N/A |
| $V_{CC}$ Range (+V) | 4.5 to 5.5 |

## Application Block Diagrams

- Blade PC
- Blade Server
- DSLAM
- Desktop Computers
- Desktop Server
- Industrial Controls
- Keyboard Video Mouse (KVM)
- POS Register
- POS Self-Service
- Smart Sensor

## Applications

- Any System Requiring RS-232 Communications Port
  - Computer - Portable, Mainframe, Laptop
  - Peripheral - Printers and Terminals
  - Instrumentation
  - Modems

## Related Devices

Parametric Table

| | |
|---|---|
| HIN206 | +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors |
| HIN207 | +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors |
| HIN208 | +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors |
| HIN211 | +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors |
| HIN213 | +5V Powered RS-232 Transmitters/Receivers' with 0.1Microfarad External Capacitors |
| HIN232 | +5V Powered RS-232 Transmitters/Receivers |
| HIN232A | High Speed +5V Powered RS-232 Transmitters/Receivers |
| HIN236 | +5V Powered RS-232 Transmitters/Receivers |
| HIN237 | +5V Powered RS-232 Transmitters/Receivers |
| HIN238 | +5V Powered RS-232 Transmitters/Receivers |
| HIN239 | +5V Powered RS-232 Transmitters/Receivers |
| HIN240 | +5V Powered RS-232 Transmitters/Receivers |
| HIN241 | +5V Powered RS-232 Transmitters/Receivers |
| ICL232 | +5V Powered, Dual RS-232 Transmitter/Receiver |
| ICL3222 | 1 Microamp Supply-Current, +3V to +5.5V, 250kbps, RS-232 Transmitters/ Receivers |
| ICL3223 | 1 Microamp Supply-Current, +3V to +5.5V, 250kbps, RS-232 Transmitters/ Receivers |
| ICL3224 | 1 microamp, +3V To +5.5V, 250kbps, RS-232 Transceivers With Enhanced Automatic Powerdown |
| ICL3225 | 1 Microamp, +3V to +5.5V, 1Mbps, RS-232 Transceivers with Enhanced Automatic Powerdown |
| ICL3232 | 1 Microamp Supply-Current, +3V to +5.5V, 250kbps, RS-232 Transmitters/ Receivers |