

5V RS-485/RS-422 Half-Duplex Transceiver

SP4082E

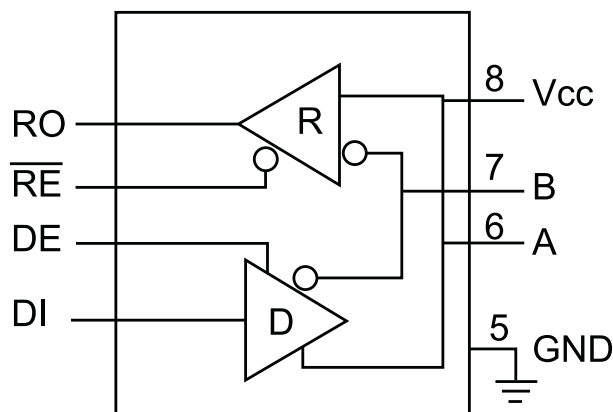
Ideal for Industrial and Remote Data Collection Applications

The SP4082E is designed for reliable, bidirectional communication on multipoint bus transmission lines. The device contains one differential driver and one differential receiver. It is a half-duplex device. The device complies with TIA/EIA-485 and TIA/EIA-422 standards. Lead-free and RoHS compliant packages are available.

This device is ruggedized for use in harsh operating conditions over the entire common-mode voltage range from -7V to +12V. Receivers are specially designed to fail-safe to a logic high output state if the inputs are open or shorted. All RS-485 bus-pins are protected against severe ESD events up to $\pm 15\text{kV}$ (Human Body Model). Drivers are protected from excess current flow caused by bus contention or output short-circuits by both an internal current limit and a thermal-overload shutdown. Devices are rated for industrial (-40 to +85°C) operating temperatures. Receivers have exceptionally high input impedance, which places only 1/8th the standard load on a shared bus. Up to 256 transceivers may coexist while preserving full signal margin.

The device operates from a single 5.0V power supply and draws negligible quiescent power. The device has an independent enable and disable for the driver and receiver and will enter a low power shutdown mode if both driver and receiver are disabled. All outputs maintain high impedance during shutdown or when powered-off.

Typical Application Circuit



Features

- 5.0V single supply operation
- Controlled driver slew rates 115kbps, Low EMI
- Receiver failsafe on open or shorted lines
- 1/8th Unit Load, 256 transceivers on bus
- Robust ESD protection for RS-485 pins $\pm 15\text{kV}$ Human Body Model
- Driver short circuit current limit and thermal shutdown for overload protection
- Industry standard package footprints

Applications

- Motor Control
- Building Automation
- Security Systems
- Remote Meter Reading

Ordering Information

Product No.	Package	Operating Temp. Range
SP4082EEN-L	Lead Free 8-Pin nSOIC	-40°C to +85°C
SP4082EEN-L/TR	Lead Free Tape and Reel 8-Pin nSOIC	-40°C to +85°C

