19-1910; Rev 0; 1/01

MAXIM

±15kV ESD-Protected, 460kbps, 1µA, RS-232-Compatible Transceivers in µMAX

General Description

The MAX3311E/MAX3313E are low-power, 5V EIA/TIA-232-compatible transceivers. All transmitter outputs and receiver inputs are protected to ±15kV using the Human Body Model, making these devices ideal for applications where more robust transceivers are required.

Both devices have one transmitter and one receiver. The transmitters have a proprietary low-dropout transmitter output stage enabling RS-232-compatible operation from a +5V supply with a single inverting charge pump. These transceivers require only three 0.1µF capacitors and will run at data rates up to 460kbps while maintaining RS-232-compatible output levels.

The MAX3311E features a 1µA shutdown mode. In shutdown the device turns off the charge pump, pulls V- to ground, and the transmitter output is disabled. The MAX3313E features an $\overline{\text{INVALID}}$ output that asserts high when an active RS-232 cable signal is connected, signaling to the host that a peripheral is connected to the communication port.

Applications

Digital Cameras

PDAs

GPS

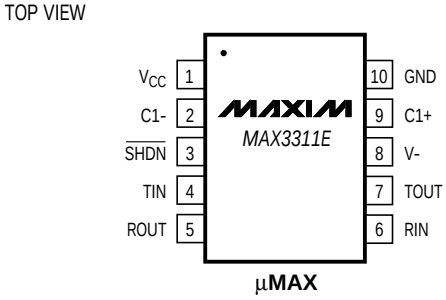
POS

Telecommunications

Handy Terminals

Set-Top Boxes

Pin Configurations



Pin Configurations continued at end of data sheet.

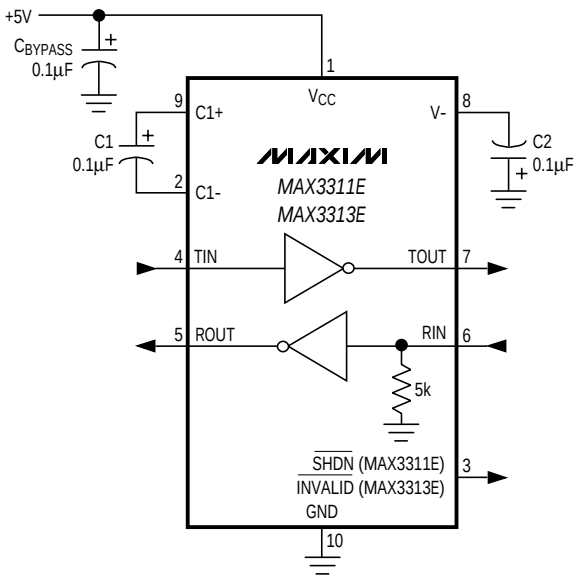
Features

- **ESD Protection for RS-232-Compatible I/O Pins ±15kV—Human Body Model**
- **1µA Low-Power Shutdown (MAX3311E)**
- **$\overline{\text{INVALID}}$ Output (MAX3313E)**
- **Receiver Active in Shutdown (MAX3311E)**
- **Single Transceiver (1Tx/1Rx) in 10-Pin µMAX Package**

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX3311ECUB	0°C to +70°C	10 µMAX
MAX3311EEUB	-40°C to +85°C	10 µMAX
MAX3313ECUB	0°C to +70°C	10 µMAX
MAX3313EEUB	-40°C to +85°C	10 µMAX

Typical Operating Circuit



CAPACITORS MAY BE POLARIZED OR NONPOLARIZED.