


## Dual Transmitter/Receiver RS-232 20-Pin SSOP T/R

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>
<b>Package/Case:</b>	SSOP20
<b>Product Type:</b>	Drivers
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active



Images are for reference only

[Inquiry](#)

## General Description

The MAX3223 consists of two line drivers, two line receivers, and a dual charge-pump circuit with  $\pm 15$ -kV ESD protection pin to pin (serial-port connection pins, including GND). The device meets the requirements of TIA/EIA-232-F and provides the electrical interface between an asynchronous communication controller and the serial-port connector. The charge pump and four small external capacitors allow operation from a single 3-V to 5.5-V supply. The device operates at data signaling rates up to 250 kbit/s and a maximum of 30-V/ $\mu$ s driver output slew rate.

Flexible control options for power management are available when the serial port is inactive. The auto-powerdown feature functions when FORCEON is low and FORCEOFF is high. During this mode of operation, if the device does not sense a valid RS-232 signal, the driver outputs are disabled. If FORCEOFF is set low and EN is high, both drivers and receivers are shut off, and the supply current is reduced to 1  $\mu$ A. Disconnecting the serial port or turning off the peripheral drivers causes auto-powerdown to occur. Auto-powerdown can be disabled when FORCEON and FORCEOFF are high. With auto-powerdown enabled, the device is activated automatically when a valid signal is applied to any receiver input. The INVALID output is used to notify the user if an RS-232 signal is present at any receiver input. INVALID is high (valid data) if any receiver input voltage is greater than 2.7 V or less than -2.7 V or has been between -0.3 V and 0.3 V for less than 30  $\mu$ s. INVALID is low (invalid data) if the receiver input voltage is between -0.3 V and 0.3 V for more than 30  $\mu$ s. Refer to Figure 4 for receiver input levels.

## Key Features

Controlled Baseline  
One Assembly

One Test Site

One Fabrication Site

Extended Temperature Performance of up to -55°C to 125°C

Enhanced Diminishing Manufacturing Sources (DMS) Support

Enhanced Product-Change Notification

Qualification Pedigree(1)

RS-232 Bus-Pin ESD Protection Exceeds ±15 kV Using Human-Body Model (HBM)

Meets or Exceeds the Requirements of TIA/EIA-232-F and ITU v.28 Standards

Operates With 3-V to 5.5-V VCC Supply

Operates up to 250 kbit/s

Two Drivers and Two Receivers

Low Standby Current . . . 1 µA Typical

External Capacitors . . . 4 × 0.1 µF

Accepts 5-V Logic Input With 3.3-V Supply

Alternative High-Speed Pin-Compatible Device (1 Mbit/s)  
SNx5C3223

## APPLICATIONS

Battery-Powered Systems

PDA's

Notebooks

Laptops

Palmtop PCs

Hand-Held Equipment

(1) Component qualification in accordance with JEDEC and industry standards to ensure reliable operation over an extended temperature range. This includes, but is not limited to, Highly Accelerated Stress Test (HAST) or biased 85/85, temperature cycle, autoclave or unbiased HAST, electromigration, bond intermetallic life, and mold compound life. Such qualification testing should not be viewed as justifying use of this component beyond specified performance and environmental limits.



## Recommended For You

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### **MAX3232EIPWRQ1**

Texas Instruments, Inc  
TSSOP16

### **MAX232N**

Texas Instruments, Inc  
DIP-16

### **MAX3221ECDBR**

Texas Instruments, Inc  
SSOP16

### **MAX3222ECPWR**

Texas Instruments, Inc  
TSSOP20

### **MAX3222IPWR**

Texas Instruments, Inc  
TSSOP20

### **MAX3222ECDW**

Texas Instruments, Inc  
SOP20

### **MAX3223IDW**

Texas Instruments, Inc  
SOP20

### **MAX3243IPW**

Texas Instruments, Inc  
TSSOP

### **MAX3221MDBREP**

Texas Instruments, Inc  
SSOP-16

### **MAX208CDB**

Texas Instruments, Inc  
SSOP

### **MAX232ECN**

Texas Instruments, Inc  
DIP-16

### **MAX232IDW**

Texas Instruments, Inc  
SOP16

### **MAX3232MDBREP**

Texas Instruments, Inc  
SSOP16

### **DS90LV028AQMA/NOPB**

Texas Instruments, Inc  
SOP-8

### **MAX232EID**

Texas Instruments, Inc  
SOP16