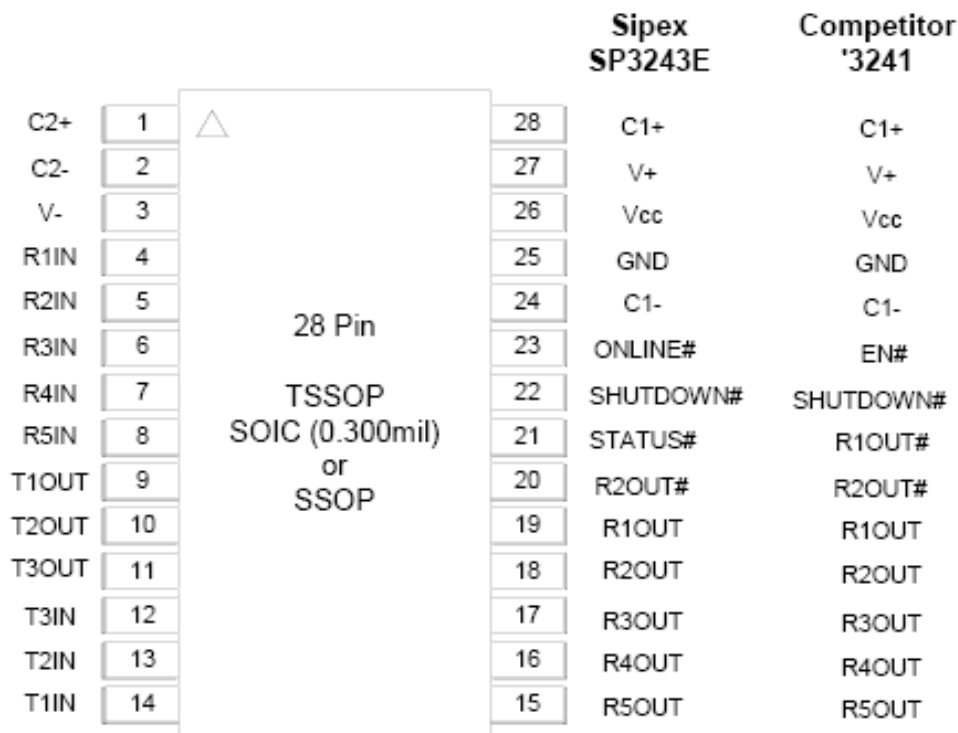


## Upgrade From The '3241 to SP3243E

The SP3243E is a superior upgrade to older style RS-232 transceivers such as the competitors' '3241 device. SP3243E can duplicate the functionality of the '3241 and adds advanced new power saving features. Both devices share a common package footprint in standard 28-pin TSSOP, "wide" SOIC (0.300 mil), and SSOP packages. Both have three drivers and five receivers. Both operate from single supply voltages at 3.0 or 5.0V. Both are available with enhanced ESD protection.

The figure below shows a side by side layout of pin names for each device. Pins 1 through 20 and 24 through 28 are identical on both devices.



### Low-Power Shutdown:

The SP3243 incorporates Sipex's advanced Auto On-Line® circuitry. Auto On-Line can place the device into a low power standby mode if it is not connected to another active RS-232 transceiver and can automatically bring it back on-line when reconnected, all without user or system intervention and without changes to drivers or system software.

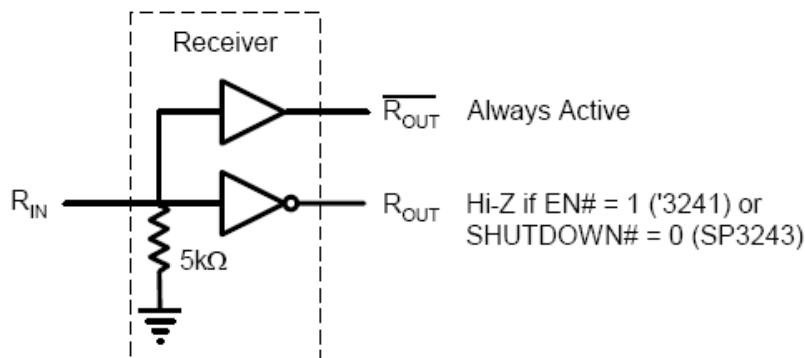
RS-232 Active	SHDN# Input	ONLINE # Input	STATUS# Output	Transceiver Status	Tx OUT	Rx OUT	R2 OUT#
Yes	High	Low	High	Normal Operation (Auto On-Line)	Active	Active	Active
No	High	High	Low	Normal Operation	Active	Active	Active
No	High	Low	Low	Shutdown (Auto On-Line)	Hi-Z	Active	Active
Yes	Low	X	High	Shutdown	Hi-Z	Hi-Z	Active
No	Low	X	Low	Shutdown	Hi-Z	Hi-Z	Active

The '3241 does not have enhanced automated shutdown functionality. It does feature a manual shutdown mode controlled by pin 22 (Shutdown#). Pin 22 on the SP3243 will also force the device into low power shutdown mode. Shutdown mode in both devices will power-off the onboard charge pumps and will tri-state all driver outputs.

On the SP3243, the shutdown pin will also put the receiver outputs into high impedance state. The receivers on the '3241 are controlled by the EN# pin (pin 23) independent of shutdown. SP3243 does not have a separate EN# pin.

#### Always Active Receivers to Detect Cable Plug/Unplug:

Two receivers on the '3241 (R1 and R2) have both inverting and non-inverting outputs. The two non-inverted receiver outputs are always active, even in shutdown# or when EN# is high. They are used to detect when a serial device is plugged in and powered or unplugged/power-off.



In idle state or when the receiver inputs are not driven, line-receiver outputs default to logic 1 (VOH). The non-inverted output will idle at logic 0 (VOL). When another serial device is connected and powered on, it should assert DCE Ready (sometimes called Data-Set Ready or DSR). Ring Indicate (RI) asserts active when the modem detects an incoming call ring signal. The non-inverting receivers can be connected to either of these signals. Its default outputs is VOL, thus it will not forward bias the input diodes of system wakeup logic.

The SP3243 has one receiver (R2) with a secondary non-inverted output. In place of R1OUT# the SP3243 features a STATUS# output. Both STATUS# and R2OUT# are always active, even in shutdown. STATUS# outputs logic 1 (VOH) when it detects an active connection on any receiver, not just R1 or R2. Therefore, it can trigger system wakeup even if connected to devices that do not support modem control signals DSR or RI.

**Pin 23 – EN# or ONLINE#:**

The function of pin 23 differs between SP3243 and the '3241. On the SP3243, pin 23 enables the Auto On-Line function. On the '3241 pin 23 controls receiver EN# function. Existing systems designed for the '3241 that permanently connect pin 23 to VIL or GND (receivers always on) will gain the benefit of Auto On-Line function using the SP3243. If Auto On-Line is not desired, pin 23 should be connected to VIH when using the SP3243.

**Higher Data Rates:**

SP3243 is available in data rates from 120kbps (SP3243E), 250kbps (SP3243EB), 460kbps (SP3243EH), and 1Mbps (SP3243EU).

For further assistance:

Email:	<a href="mailto:Sipexsupport@sipex.com">Sipexsupport@sipex.com</a>
WWW Support page:	<a href="http://www.sipex.com/content.aspx?p=support">http://www.sipex.com/content.aspx?p=support</a>
Live Technical Chat:	<a href="http://www.geolink-group.com/sipex/">http://www.geolink-group.com/sipex/</a>
Sipex Application Notes:	<a href="http://www.sipex.com/applicationNotes.aspx">http://www.sipex.com/applicationNotes.aspx</a>



**Sipex Corporation**  
**Headquarters and**  
**Sales Office**  
233 South Hillview Drive  
Milpitas, CA95035  
tel: (408) 934-7500  
faX: (408) 935-7600

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