



# DS26LS32C/DS26LS32M/DS26LS32AC/DS26LS33C/ DS26LS33M/DS26LS33AC Quad Differential Line Receivers

## General Description

The DS26LS32 and DS26LS32A are quad differential line receivers designed to meet the RS-422, RS-423 and Federal Standards 1020 and 1030 for balanced and unbalanced digital data transmission.

The DS26LS32 and DS26LS32A have an input sensitivity of 200 mV over the input voltage range of  $\pm 7V$  and the DS26LS33 and DS26LS33A have an input sensitivity of 500 mV over the input voltage range of  $\pm 15\%V$ .

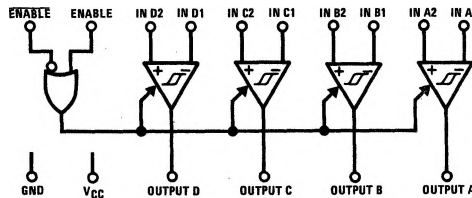
Both the DS26LS32A and DS26LS33A differ in function from the popular DS26LS32 and DS26LS33 in that input fail-safe circuitry is provided for each receiver, which causes the outputs to go to a logic "1" state when the inputs are open.

Each version provides an enable and disable function common to all four receivers and features TRI-STATE® outputs with 8 mA sink capability. Constructed using low power Schottky processing, these devices are available over the full military and commercial operating temperature ranges.

## Features

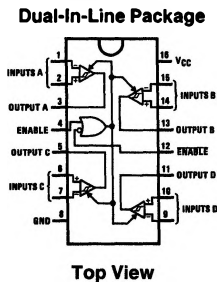
- High differential or common-mode input voltage ranges of  $\pm 7V$  on the DS26LS32 and DS26LS32A and  $\pm 15V$  on the DS26LS33 and DS26LS33A
- $\pm 0.2V$  sensitivity over the input voltage range on the DS26LS32 and DS26LS32A,  $\pm 0.5V$  sensitivity on the DS26LS33 and DS26LS33A
- Input fail-safe circuitry on the DS26LS32A and DS26LS33A
- DS26LS32 and DS26LS32A meet all requirements of RS-422 and RS-423
- 6k minimum input impedance
- 100 mV input hysteresis on the DS26LS32 and DS26LS32A, 200 mV on the DS26LS33 and DS26LS33A
- Operation from a single 5V supply
- TRI-STATE drive, with choice of complementary output enables for receiving directly onto a data bus
- Pin replacement for Advanced Micro Devices AM26LS32

## Logic Diagram



TL/F/5255-1

## Connection Diagram



TL/F/5255-2

## Truth Table

ENABLE	ENABLE	Input	Output
1	1	X	Hi-Z
See Note Below		$V_{ID} \geq V_{TH} (\text{Max})$	1
		$V_{ID} \leq V_{TH} (\text{Min})$	0
		Open	1*

Hi-Z = TRI-STATE

\*DS26LS32A and DS26LS33A only

Note: Input conditions may be any combination not defined for ENABLE and ENABLE.

**Order Number DS26LS32MJ, DS26LS32CJ,  
DS26LS32CM, DS26LS32CN, DS26LS32ACJ,  
DS26LS32ACN, DS26LS32ACM, DS26LS33MJ,  
DS26LS33CJ, DS26LS33CN, DS26LS33ACJ  
or DS26LS33ACN**

**See NS Package Number J16A, M16A or N16A**