



DS96177/ μ A96177 Differential Bus Repeater

General Description

The DS96177/ μ A96177 Differential Bus Repeater is a monolithic integrated device is designed for one-way data communication on multipoint bus transmission lines. This device is designed for balanced transmission bus line applications and meets EIA Standard RS-485 and RS-422A. The device is designed to improve the performance of the data communication over long bus lines. The DS96177/ μ A96177 is an active high Enable.

The DS96177/ μ A96177 features positive and negative current limiting and TRI-STATE[®] outputs for the receiver and driver. The receiver features high input impedance, input hysteresis for increased noise immunity, and input sensitivity of 200 mV over a common mode input voltage range of -12V to $+12\text{V}$. The driver features thermal shutdown for protection from line fault conditions. Thermal shutdown is designed to occur at a junction temperature of approximately 160°C . The driver is designed to drive current loads up to 60 mA maximum.

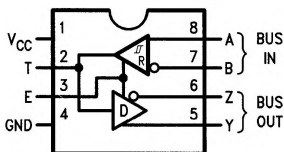
The DS96177/ μ A96177 is designed for optimum performance when used on transmission buses employing the DS96172/ μ A96172 and DS96174/ μ A96174 differential line drivers, DS96173/ μ A96173 and DS96175/ μ A96175 differential line receivers, or DS96176/ μ A96176 differential bus transceivers.

Features

- Meets EIA Standard RS-422A and RS-485
- Designed for multipoint transmission on long bus lines in noisy environments
- TRI-STATE outputs
- Bus voltage range -7.0V to $+12\text{V}$
- Positive and negative current limiting
- Driver output capability $\pm 60\text{ mA}$ max
- Driver thermal shutdown protection
- Receiver input high impedance
- Receiver input sensitivity of $\pm 200\text{ mV}$
- Receiver input hysteresis of 50 mV typical
- Operates from single 5.0V supply
- Low power requirements

Connection Diagram

8-Lead Dual-In-Line Package



Top View

TL/F/9644-1

Order Number DS96177RC/ μ A96177RC
See NS Package Number J08A
Order Number DS96177TC/ μ A96177TC
See NS Package Number N08E

Function Table

Differential Inputs	Enable	Outputs		
		T	Y	Z
A-B	E	H	H	L
$V_{ID} \geq 0.2\text{V}$	H	H	L	H
$V_{ID} \leq -0.2\text{V}$	H	L	L	H
X	L	Z	Z	Z

H = High Level

L = Low Level

X = Immaterial

Z = High Impedance (off)