

Single Transmitter/Receiver RS-485 Automotive 8-Pin SOIC T/R

Manufacturer:	Texas Instruments, Inc	<input type="text" value="SN65HVD1780QDRQ1 Image"/>
Package/Case:	SOP8	Images are for reference only
Product Type:	Drivers	<input type="button" value="Inquiry"/>
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

These devices are designed to survive overvoltage faults such as direct shorts to power supplies, mis-wiring faults, connector failures, cable crushes, and tool mis-applications. They are also robust to ESD events, with high levels of protection to the human-body-model specification.

These devices combine a differential driver and a differential receiver, which operate from a single power supply. In the 'HVD1782, the driver differential outputs and the receiver differential inputs are connected internally to form a bus port suitable for half-duplex (two-wire bus) communication. This port features a wide common-mode voltage range, making the devices suitable for multipoint applications over long cable runs. These devices are characterized from -40°C to 125°C. These devices are pin-compatible with the industry-standard SN75176 transceiver, making them drop-in upgrades in most systems. These devices are fully compliant with ANSI TIA/EIA 485-A with a 5-V supply and can operate with a 3.3-V supply with reduced driver output voltage for low-power applications. For applications where operation is required over an extended common-mode voltage range, see the SN65HVD1785 (SLLS872) data sheet.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results

Device Temperature Grade 1:

-40°C to 125°C Ambient Operating Temperature Range

Device HBM ESD Classification Level H2

Device CDM ESG Classification Level C3B

Bus-Pin Fault Protection to:

> ±70 V ('HVD1780-Q1, 'HVD1781-Q1)

> ±30 V ('HVD1782-Q1)

Operation With 3.3-V to 5-V Supply Range

±16-kV HBM Protection on Bus Pins

Reduced Unit Load for up to 320 Nodes

Failsafe Receiver for Open-Circuit, Short-Circuit and Idle-Bus Conditions

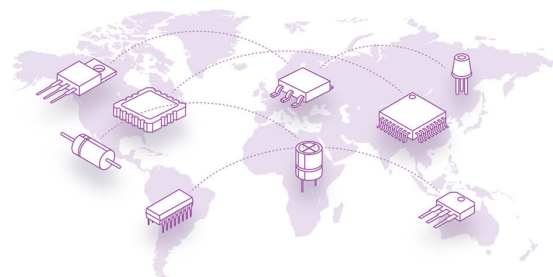
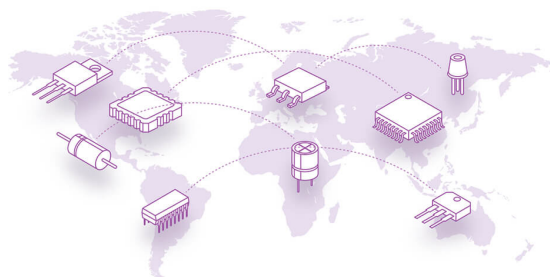
Low Power Consumption

Low Standby Supply Current, 1 µA Maximum

ICC 4-mA Quiescent During Operation

Pin-Compatible With Industry-Standard SN75176

Signaling Rates of 115 kbps, 1 Mbps, and up to 10 Mbps



Recommended For You

SN65LV1224BDBR

Texas Instruments, Inc
SSOP28

SN75173N

Texas Instruments, Inc
DIP

SN65LBC179D

Texas Instruments, Inc
SOP8

SN75176AD

Texas Instruments, Inc
SOP-8

SN65LVDS3486D

Texas Instruments, Inc
SOP-16

SN65HVD33MDREP

Texas Instruments, Inc
SOP-14

SN65LVDS3487D

Texas Instruments, Inc
SOP16

SN65LBC175AD

Texas Instruments, Inc
SOP-16

SN65LVDS31PW

Texas Instruments, Inc
TSSOP-16

SN75176AP

Texas Instruments, Inc
DIP8

SN65LVDS33D

Texas Instruments, Inc
SOP-16

SN65LVDS32D

Texas Instruments, Inc
SOP-16

SN65LVDS31D

Texas Instruments, Inc
SOP

SN75175D

Texas Instruments, Inc
SOP

SN75175N

Texas Instruments, Inc
DIP