

钍地半导体
Tudi Semiconductor

Product Specification

TUDI-DS3486

Quad RS-422, RS-423 Line Receiver

网址 www.sztdbdt.com

用芯智造·卓越品质

semiconductor device manufacturer

- Design
- research and development
- production
- and sales

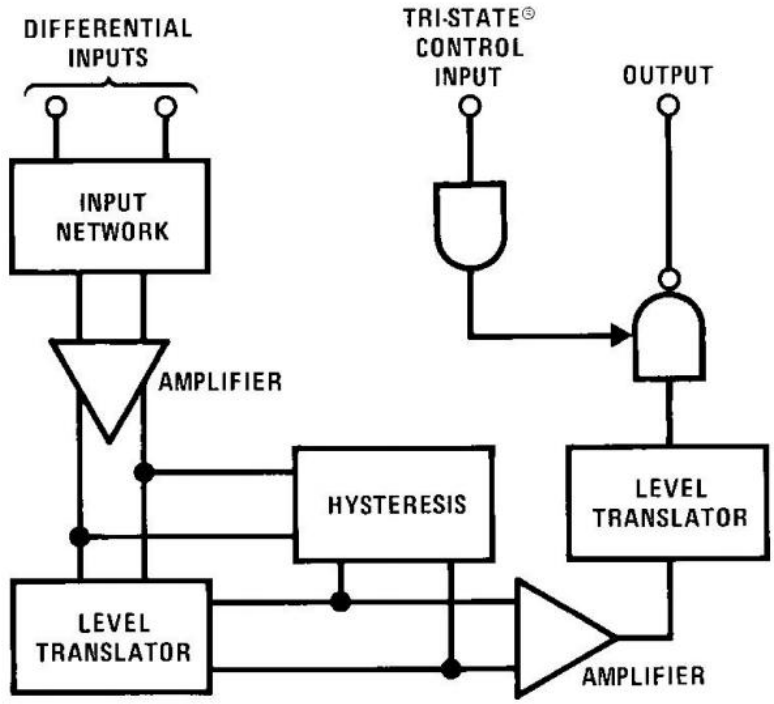
Features

- ●Four independent receivers
- ●TRI-STATE outputs
- ● Internal hysteresis：140 mV (typ)
- ● Fast propagation times ：19 ns (typ)
- ●TTL compatible outputs
- ● 5V supply
- ● Pin compatible and interchangeable with MC3486

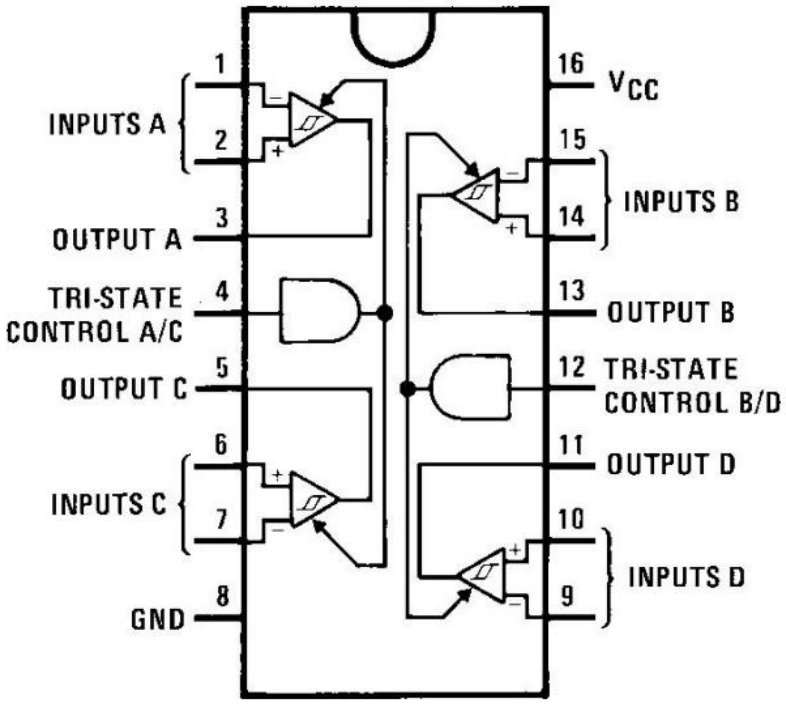
General Description

National's quad RS-422, RS-423 receiver features four inde- pendent receivers which comply with EIA Standards for the electrical characteristics of balanced/unbalanced voltage dig- ital interface circuits. Receiver outputs are 74LS compatible, TRI-STATE ? structures which are forced to a high impedance state when the appropriate output control pin reaches a logic zero condition. A PNP device buffers each output control pin to assure minimum loading for either logic one or logic zero inputs. In addition, each receiver has internal hysteresis cir- cuitry to improve noise margin and discourage output insta- bility for slowly changing input waveforms.

Block and Connection Diagrams



Pin Assignments



DIP16/SOP16/TSSOP16

Absolute Maximum Ratings (Note 2)

Parameter	Value	Unit
Power Supply Voltage, V_{CC}	8	V
Input Common-Mode Voltage,V_{ICM}	±25	V
Input Differential Voltage, V_{ID}	±25	V
TRI-STATE Control Input Voltage, V_I	8	V
Output Sink Current, I_O	50	mA
Storage Temperature, T_{STG}	−65 to +150	℃
Maximum Power Dissipation (Note 1) at 25℃ Molded		
DIP Package	1362	mW
SOP Package	1002	mW
SOP Package Thermal Resistance		
θ_{JA}	+124.5	℃/W
θ_{JC}	+41.2	℃/W
Lead Temperature (Soldering, 10 seconds)	245	℃

Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Operating Ratings indicate conditions for which the device is intended to be functional, but specific performance is not ensured.

Operating Conditions

Parameter	MAX	MIN	Units
Power Supply Voltage, V_{CC}	4.75	5.25	V
Operating Temperature, T_A	0	70	℃
Input Common-Mode VoltageRange, V_{ICR}	−7.0	7.0	V

Note 1: Derate Dip molded package 10.2 mW/°C above 25°C. Derate SOP package 8.01 mW/°C above 25°C.

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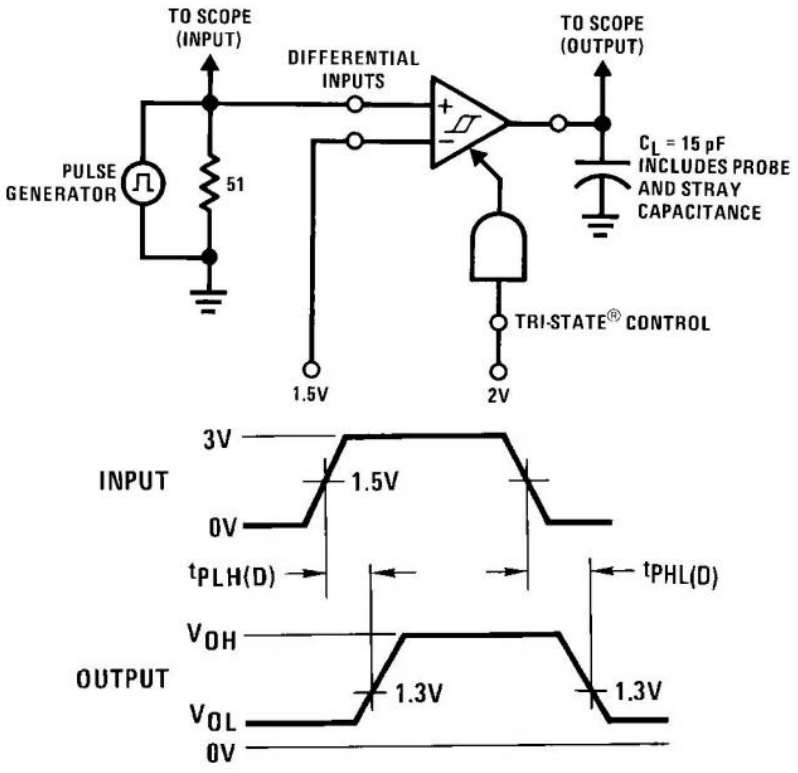
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Switching Characteristics

(Unless otherwise noted, V_{CC} = 5V and T_A = 25°C.)

Symbol	Parameter	Min	Typ	Max	Units
$t_{PHL(D)}$	Propagation Delay Time—Differential Inputs to Output Output High to Low		19	35	ns
$t_{PLH(D)}$	Output Low to High		19	30	ns
t_{PLZ}	TRI-STATE Control to Output Output Low to TRI-STATE		23	35	ns
t_{PHZ}	Output High to TRI-STATE		25	35	ns
t_{PZH}	Output TRI-STATE to High		18	30	ns
t_{PZL}	Output TRI-STATE to Low		20	30	ns

AC Test Circuit and Switching Time Waveforms

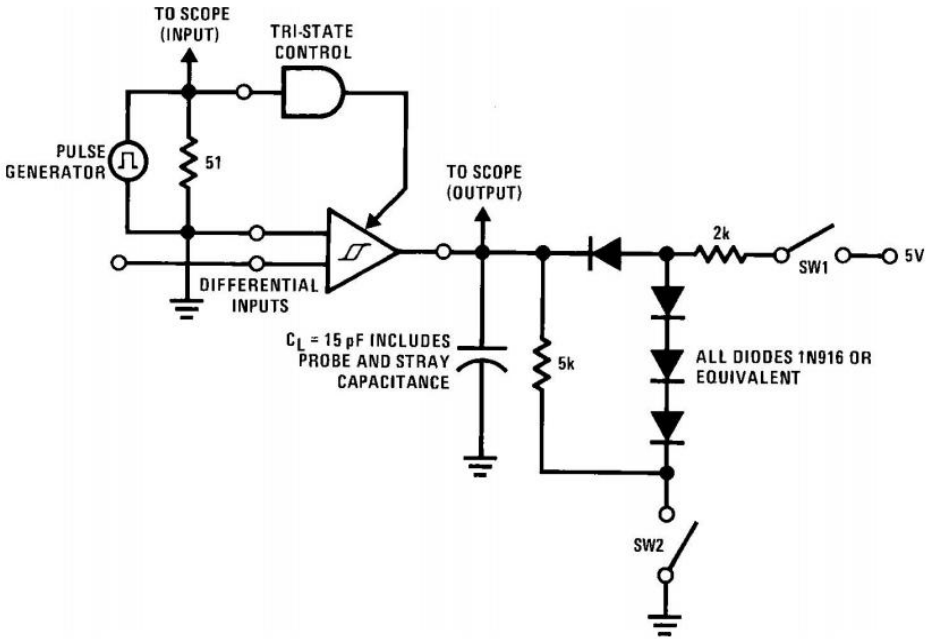


Input pulse characteristics:

t_{TLH} = t_{THL} = 6 ns (10% to 90%)

PRR = 1 MHz, 50% duty cycle

FIGURE 1. Propagation Delay Differential Input to Output



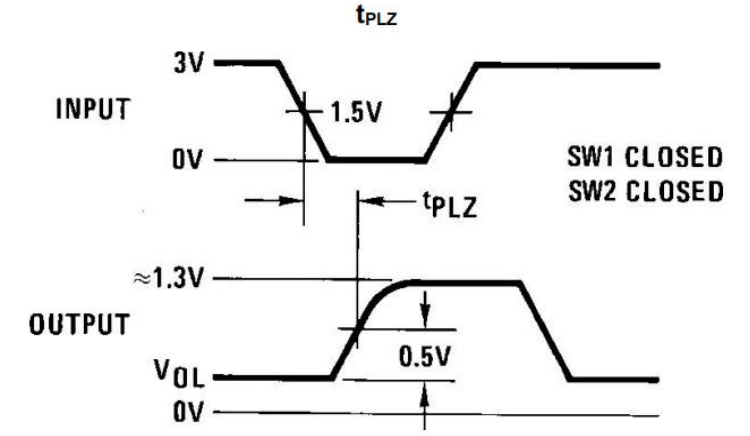
1.5V for t_{PHZ} and t_{PLZ}

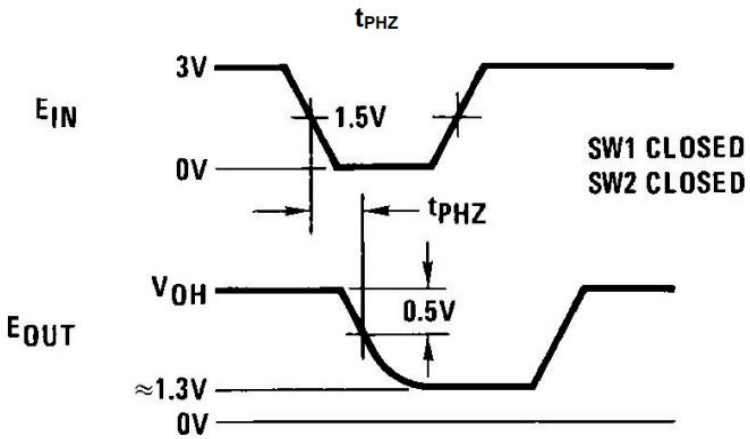
1.5V for t_{PLZ} and t_{PZL}

Input pulse characteristics:

$t_{TLH} = t_{THL}$ = 6 ns (10% to 90%)

PRR = 1 MHz, 50% duty cycle





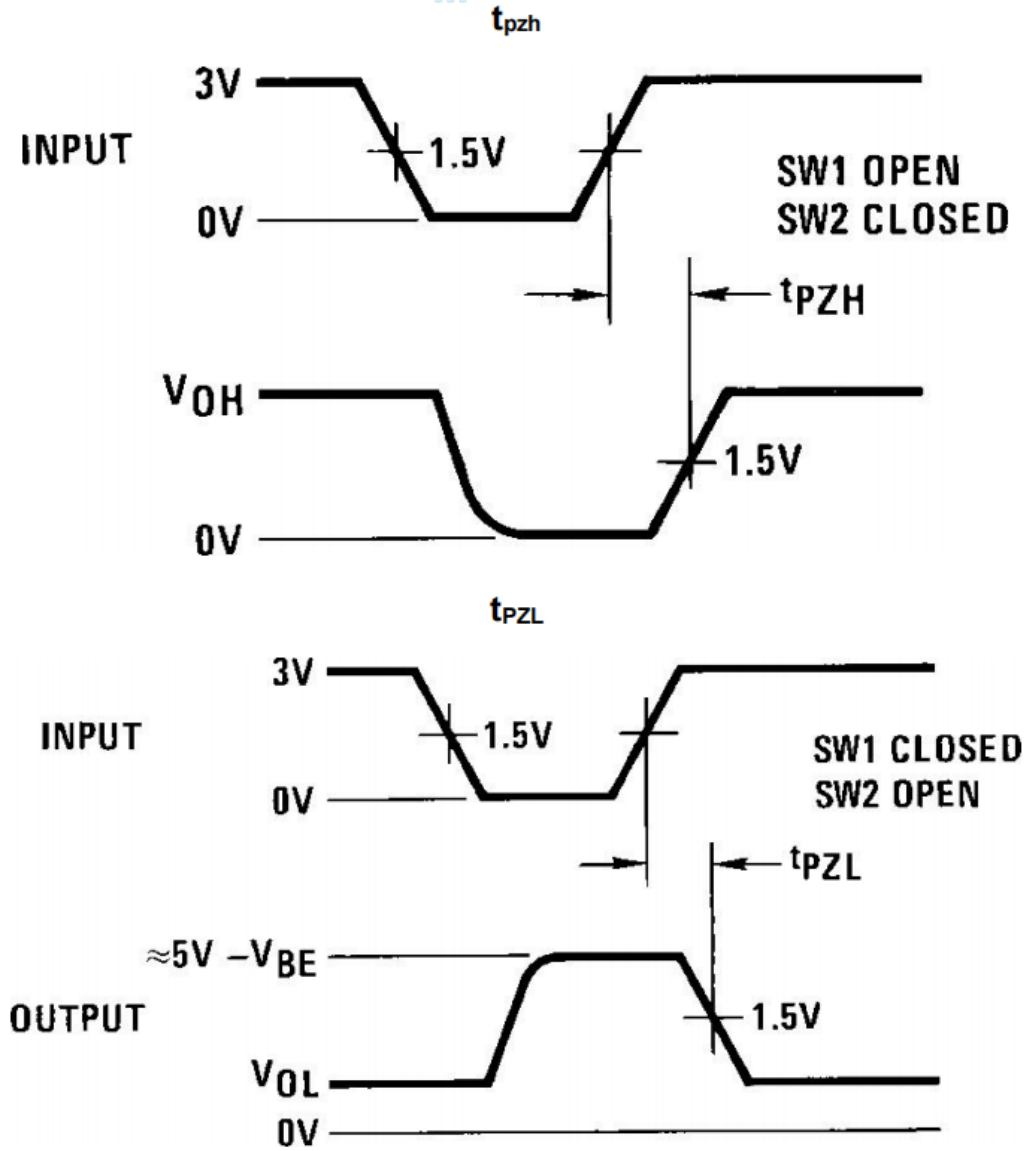
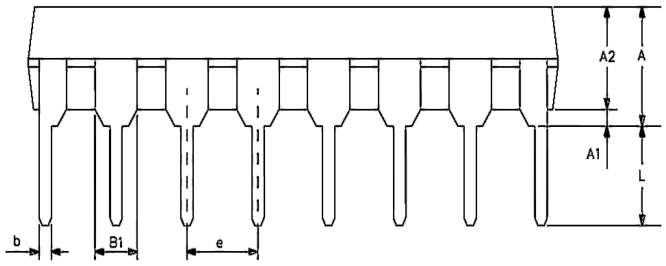


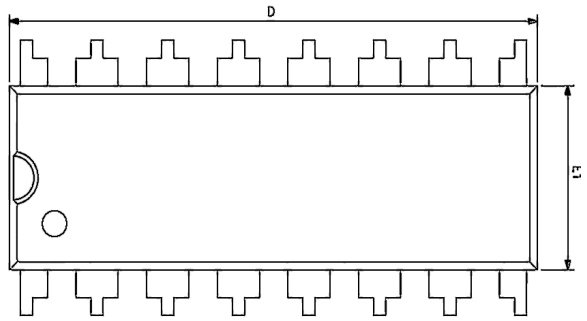
FIGURE 2. Propagation Delay TRI-STATE Control Input to Output

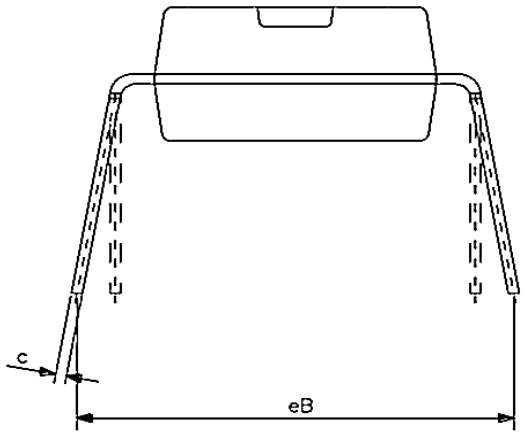
Order information

Order Number	Package	Package Quantity	Marking On The park
DS3486N-TUDI	DIP16	Tube,25,A box of 1000	DS3486N

Package DIP16







SIZE / SYMBOL	MIN./mm	MAX./mm
A2	3.20	3.60
A1	0.51	___
A	3.60	5.33
L	3.00	3.60
b	0.36	0.56
B1	1.52	
D	18.80	19.94
E1	6.20	6.60
e	2.54	
C	0.20	0.36
eB	7.62	9.30
R	0.20TYP	
R1	0.30TYP	
θ	0°	8°
θ1	45°TYP	
02	12°TYP	
03	0°	8°
04	0°	10°

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