



SANYO Semiconductors

# DATA SHEET

## TND307TD — ExPD (Excellent Power Device) General Purpose Driver for PDP Sustain Pulse Drive, Motor Drive, Switching Power Supply, and DC / DC Converter Applications

### Features

- Dual inverter.
- Monolithic structure(High voltage CMOS process adopted).
- Withstand voltage of 25V is assured.
- Wide range of operating voltage : 4.5V to 25V.
- Peak output current : 1A.
- Fast switching time(25ns typical at 1000pF load).
- Fully compatible input to TTL/CMOS( $V_{IH}$ =not more than to 2.6V, at  $V_{DD}$ =4.5 to 25V).

### Specifications

#### Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply Voltage	$V_{DD}$		0 to 25	V
Input Voltage	$V_{IN}$		$GND-0.3$ to $V_{DD}+0.3$	V
Allowable Power Dissipation	$P_D$ max		0.25	W
Junction Temperature	$T_J$		-55 to +150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

#### Recommended Operating Conditions at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Operating Supply Voltage	$V_{DD}$		4.5 to 25	V
Operating Temperature	$T_{opr}$		-40 to +125	$^\circ\text{C}$

#### Electrical Characteristics (AC Characteristics) at $T_a=25^\circ\text{C}$ , $V_{DD}=18\text{V}$ , $V_{IN}=5\text{V}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Rise Time	$t_r$	$C_L=1000\text{pF}$		30	45	ns
Turn-Off Fall Time	$t_f$	$C_L=1000\text{pF}$		30	45	ns
Delay Time	$t_{D1}$	$C_L=1000\text{pF}$		25	40	ns
	$t_{D2}$	$C_L=1000\text{pF}$		45	60	ns

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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

**SANYO Electric Co.,Ltd. Semiconductor Company**

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# TND307TD

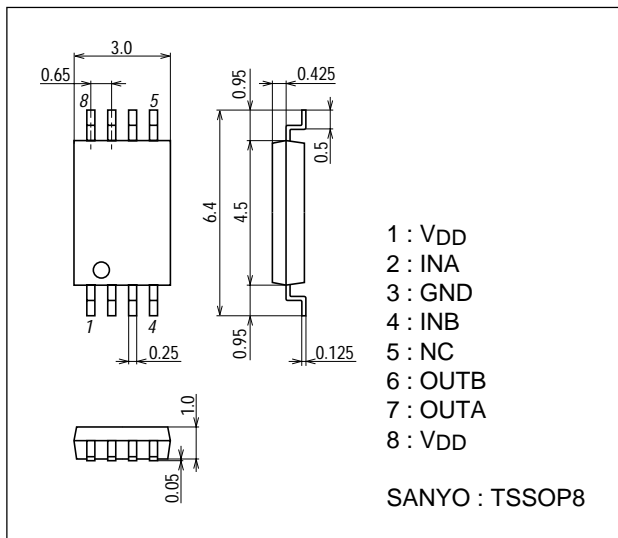
## Electrical Characteristics (DC Characteristics) at Ta=25°C, VDD=4.5 to 25V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic "1" Input Voltage	V <sub>IH</sub>		2.6			V
Logic "0" Input Voltage	V <sub>IL</sub>				0.8	V
Input Bias Current	I <sub>IN</sub>	V <sub>IN</sub> =0 or V <sub>DD</sub>	-1		1	μA
High Level Output Voltage	V <sub>OH</sub>	I <sub>O</sub> =0	V <sub>DD</sub> -0.1			V
Low Level Output Voltage	V <sub>OL</sub>	I <sub>O</sub> =0			0.1	V
V <sub>DD</sub> Supply Current	I <sub>supp</sub>	V <sub>DD</sub> =10V, V <sub>IN</sub> =3V, (both inputs)		1.0	4.5	mA
		V <sub>DD</sub> =10V, V <sub>IN</sub> =0, (both inputs)			0.2	mA
Output High Short Circuit Pulse Current	I <sub>O+</sub>	V <sub>DD</sub> =18V, PW≤10μs, V <sub>OUT</sub> =0		1.0		A
Output Low Short Circuit Pulse Current	I <sub>O-</sub>	V <sub>DD</sub> =18V, PW≤10μs, V <sub>OUT</sub> =18V		1.0		A
Output On Resistance	R <sub>OUT</sub>	V <sub>DD</sub> =18V, I <sub>load</sub> =10mA, V <sub>OUT</sub> ="H"		8	12	Ω
		V <sub>DD</sub> =18V, I <sub>load</sub> =10mA, V <sub>OUT</sub> ="L"		6	10	Ω

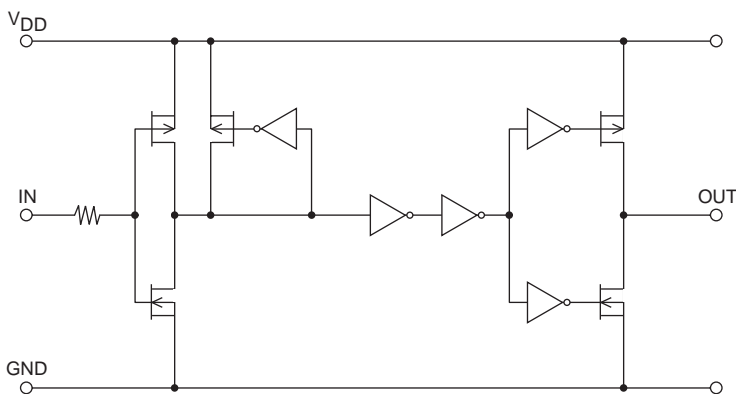
## Package Dimensions

unit : mm

2234

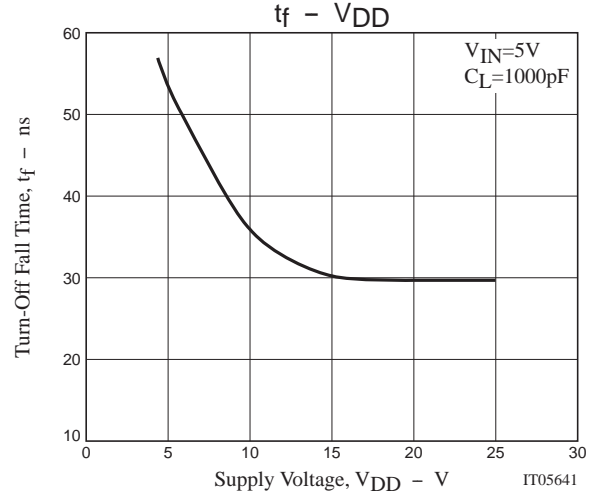
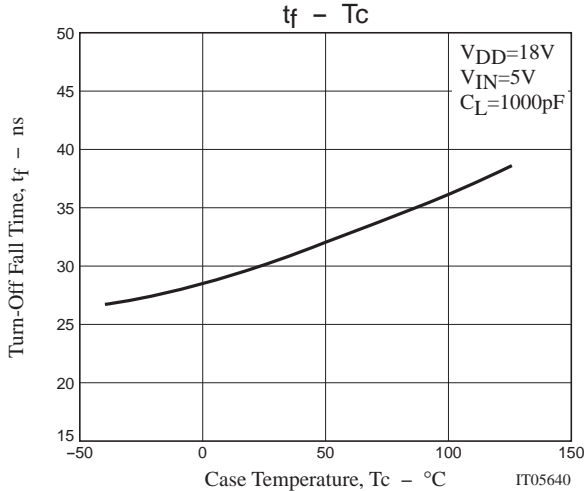
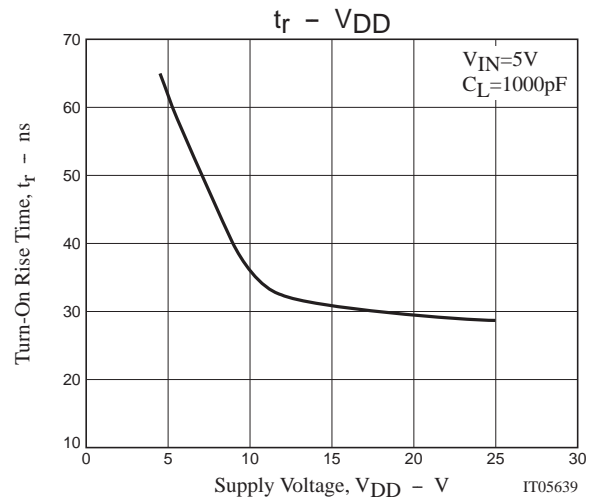
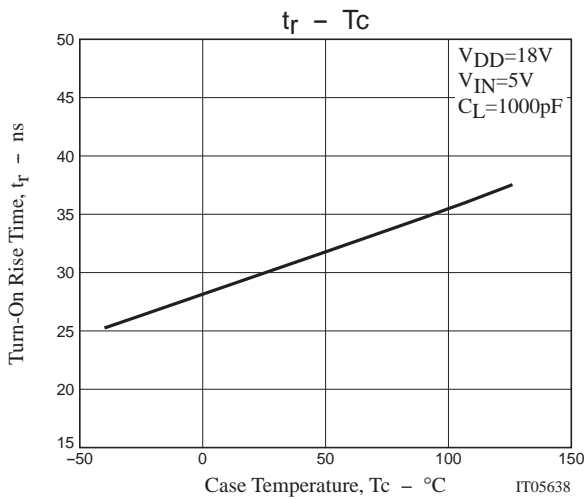
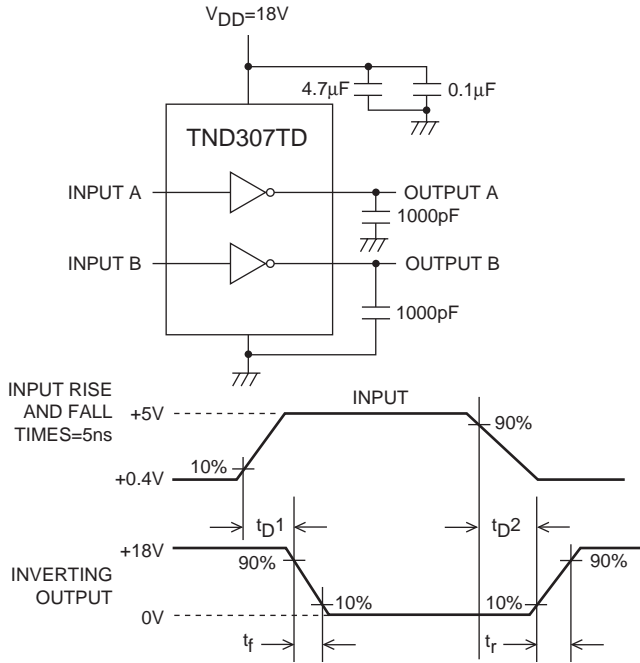


## Block Diagram

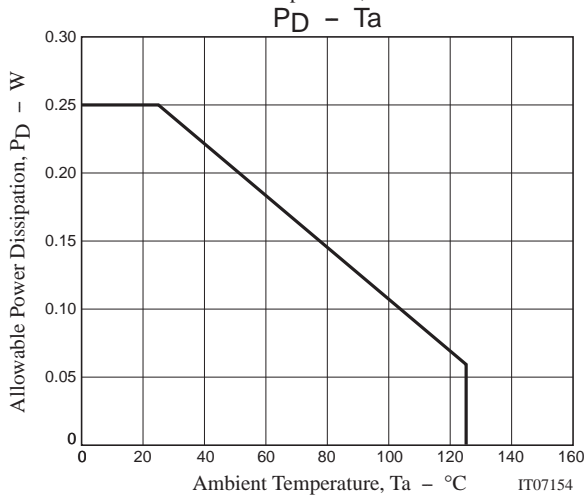
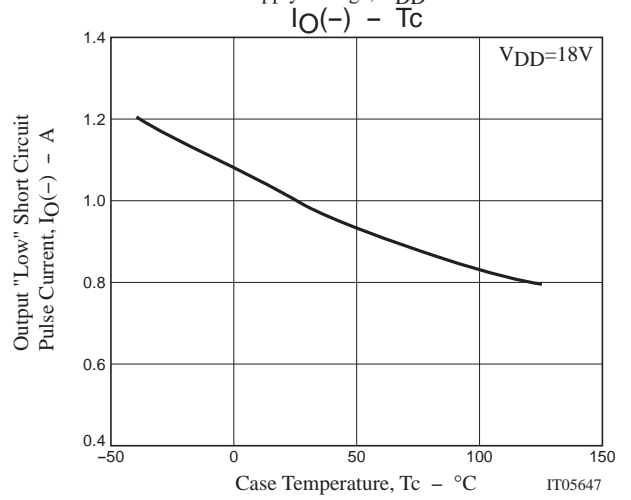
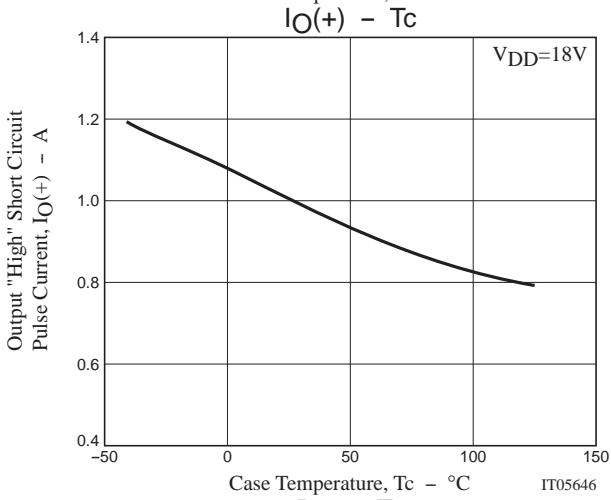
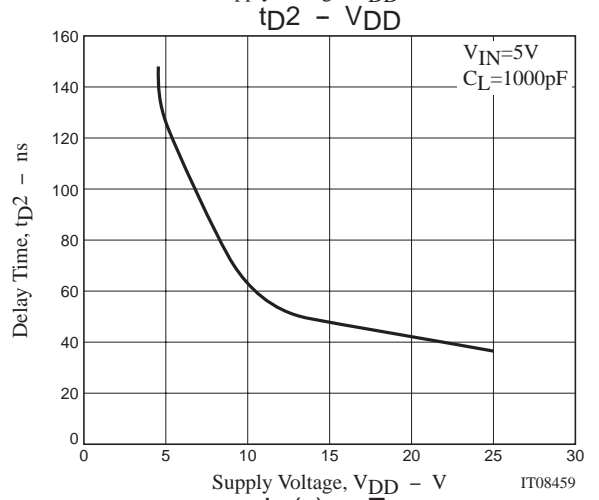
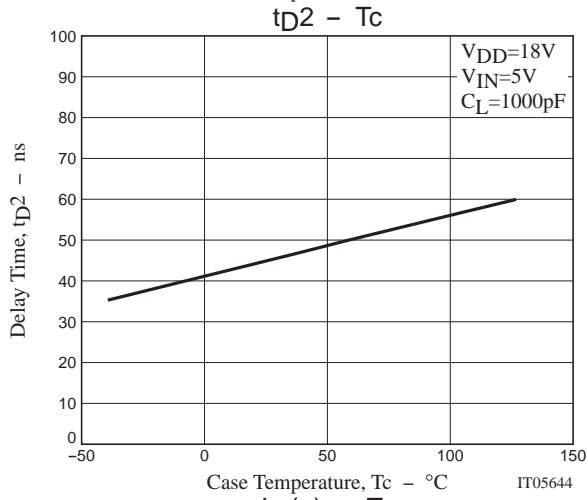
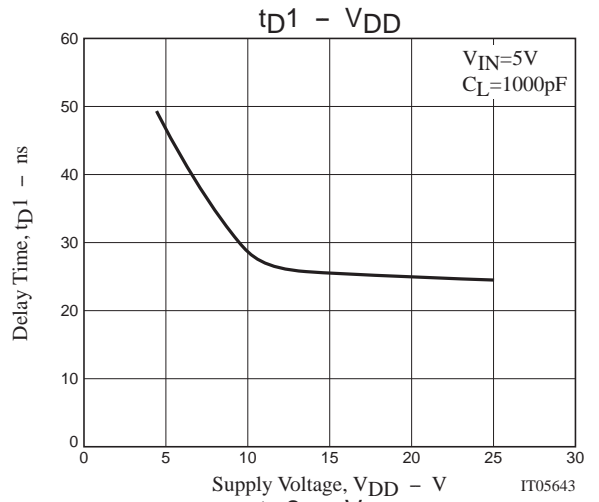
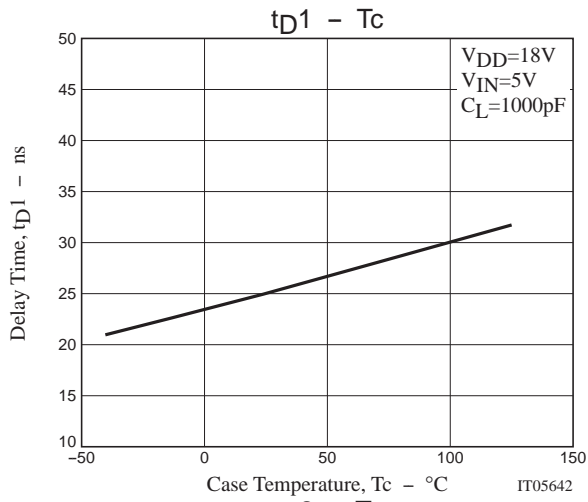


# TND307TD

## Switching Time Test Circuit



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