Ordering number : ENN7987

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 Ta=25°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	Tj		-55 to +150	°C
Storage Temperature	Tstg		-55 to +150	°C

Recommended Operating Conditions at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Operating Supply Voltage	V_{DD}		4.5 to 25	V
Operating Temperature	Topr		-40 to +125	°C

Electrical Characteristics (AC Characteristics) at Ta=25°C, V_{DD}=18V, V_{IN}=5V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Rise Time	t_r	C_L=1000pF		30	45	ns
Turn-Off Fall Time	t_f	C_L=1000pF		30	45	ns
Delay Time	$t_{D}1$	C_L=1000pF		25	40	ns
	$t_{D}2$	C_L=1000pF		45	60	ns

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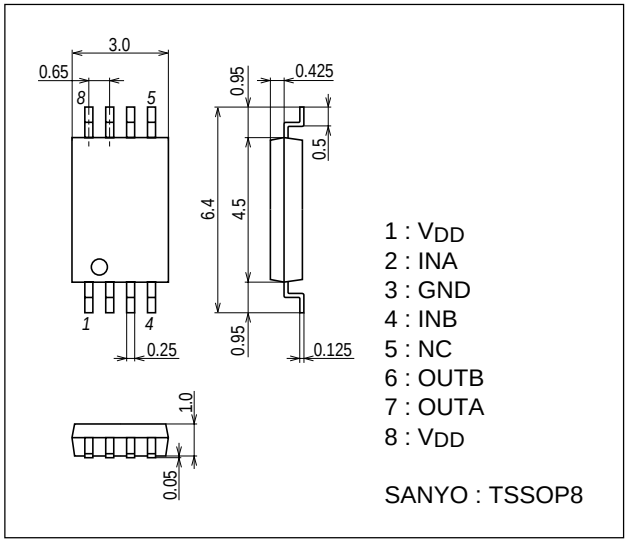
Electrical Characteristics (DC Characteristics) at Ta=25°C, V_{DD}=4.5 to 25V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic “1” Input Voltage	V_{IH}		2.6			V
Logic “0” Input Voltage	V_{IL}				0.8	V
Input Bias Current	I_{IN}	V_{IN}=0 or V_{DD}	-1		1	μA
High Level Output Voltage	V_{OH}	I_O=0	V_{DD}-0.1			V
Low Level Output Voltage	V_{OL}	I_O=0			0.1	V
V_{DD} Supply Current	Isupp	V_{DD}=10V, V_{IN}=3V, (both inputs)		1.0	4.5	mA
		V_{DD}=10V, V_{IN}=0, (both inputs)			0.2	mA
Output High Short Circuit Pulse Current	I_O+	V_{DD}=18V, PW≤10μs, V_{OUT}=0		1.0		A
Output Low Short Circuit Pulse Current	I_O-	V_{DD}=18V, PW≤10μs, V_{OUT}=18V		1.0		A
Output On Resistance	ROUT	V_{DD}=18V, Iload=10mA, V_{OUT}=“H”		8	12	Ω
		V_{DD}=18V, Iload=10mA, V_{OUT}=“L”		6	10	Ω

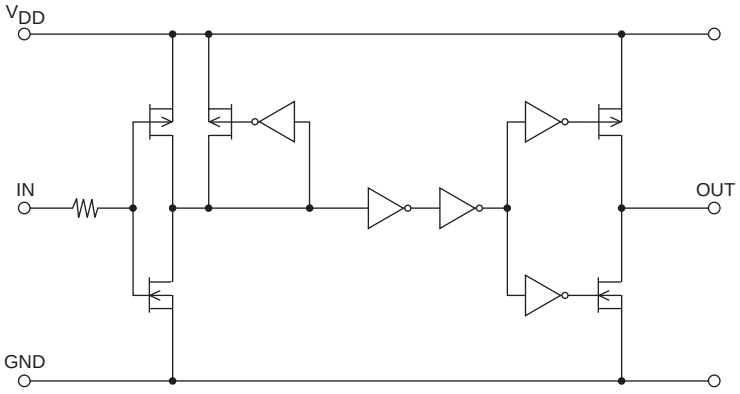
Package Dimensions

unit : mm

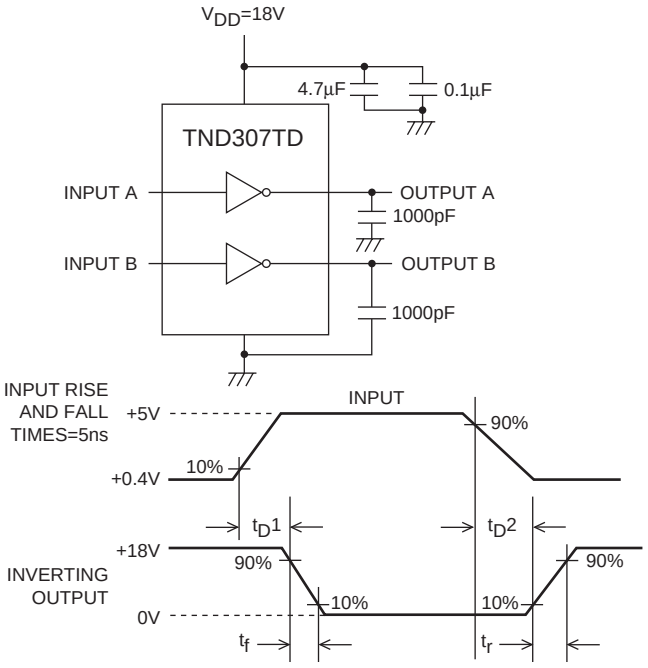
2234

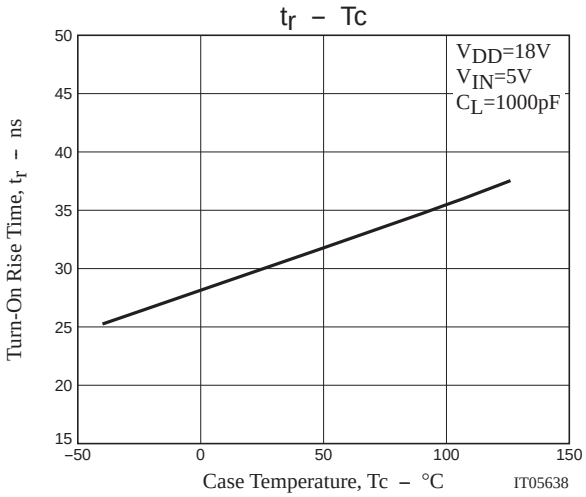


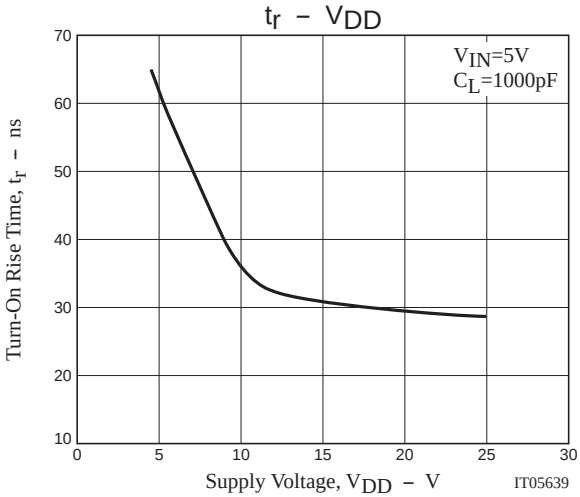
Block Diagram

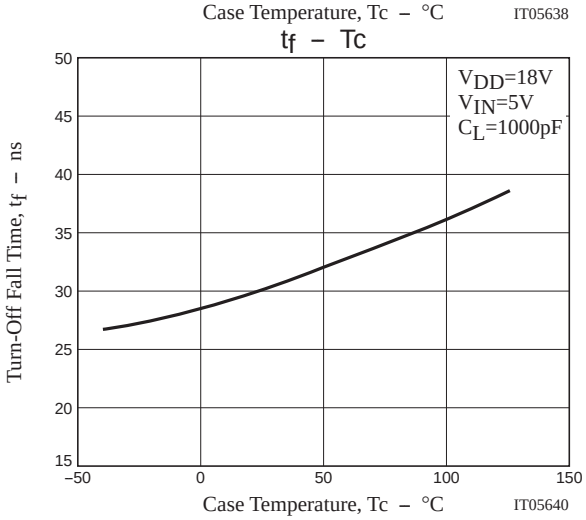


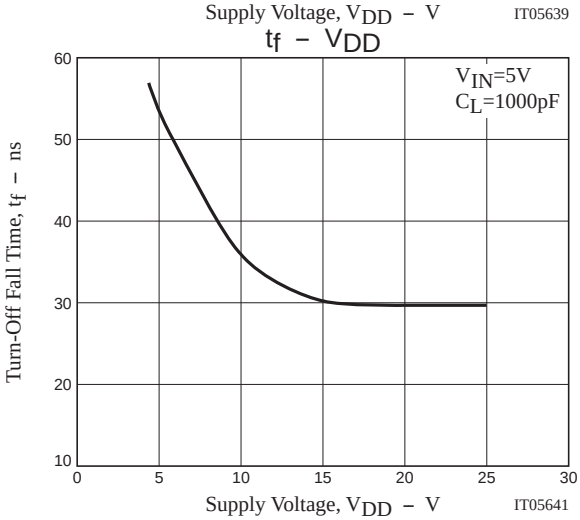
Switching Time Test Circuit



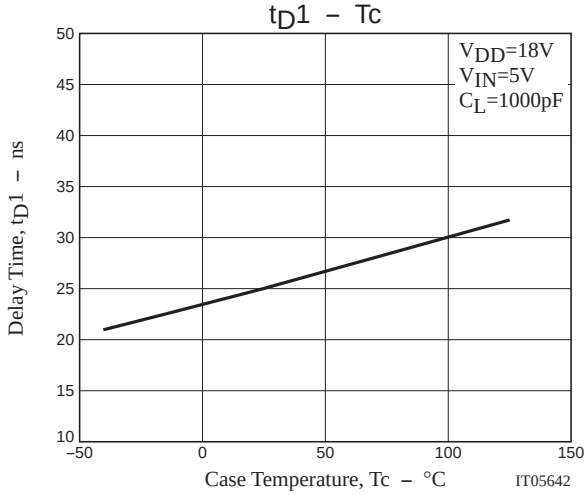




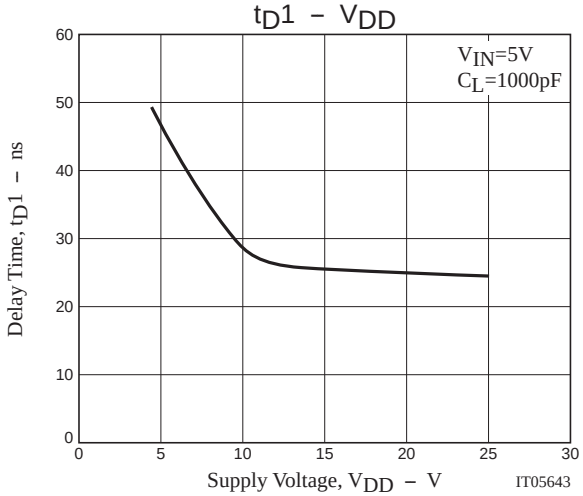




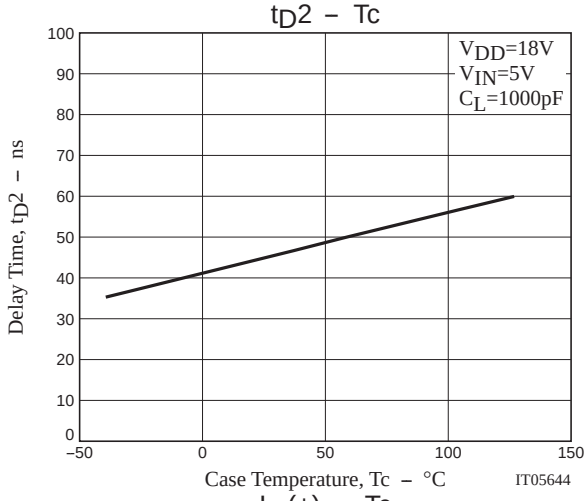
$t_{D}1$ – Tc



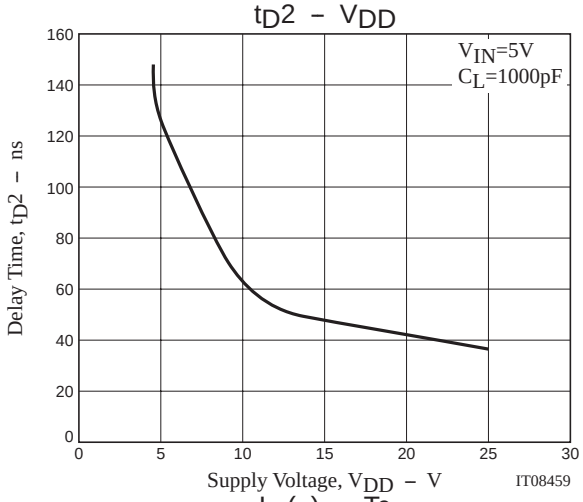
$t_{D}1$ – V_{DD}



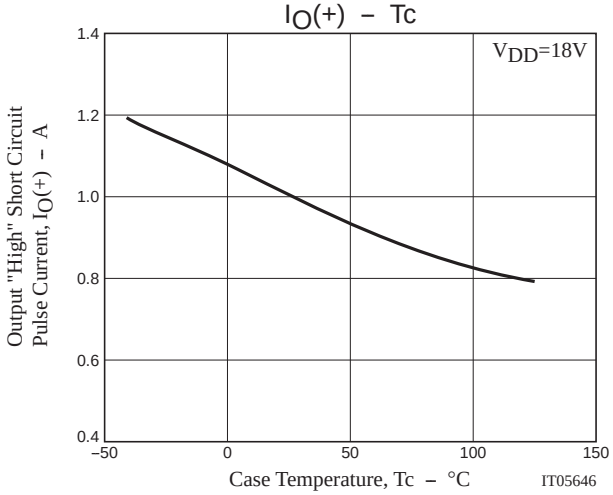
$t_{D}2$ – Tc



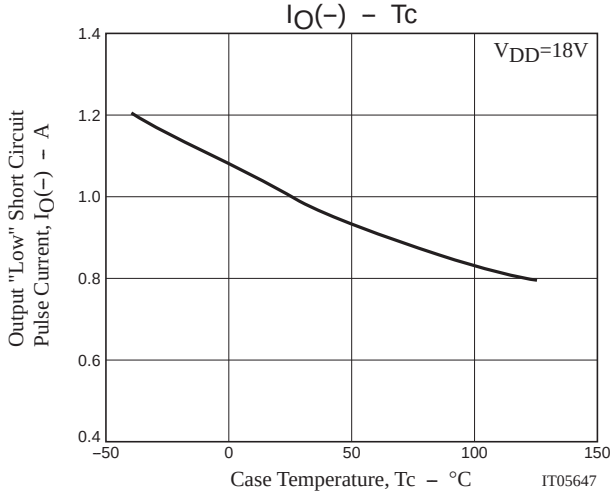
$t_{D}2$ – V_{DD}



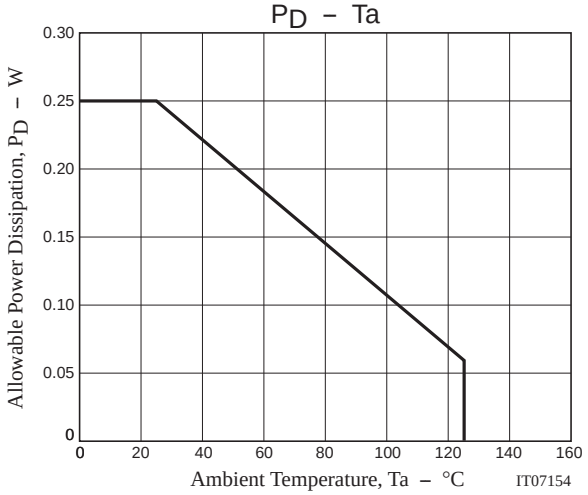
$I_{O}(+)$ – Tc



$I_{O}(-)$ – Tc



P_D – Ta



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