Recommend 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

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

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

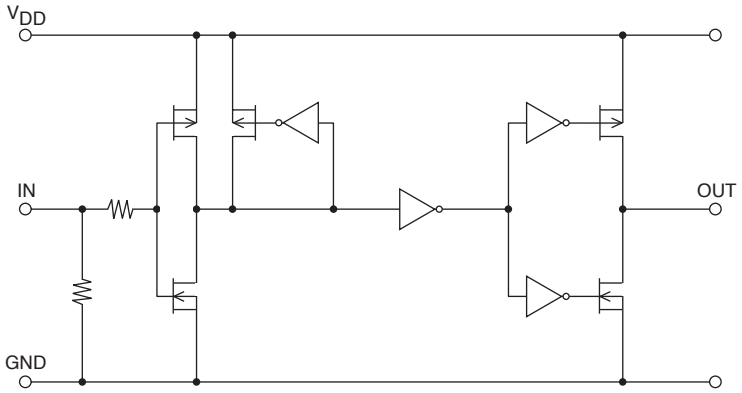
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-On Rise Time	t_r	CL=1000pF		35	50	ns
Turn-Off Fall Time	t_f	CL=1000pF		30	45	ns
Delay Time	$t_{D}1$	CL=1000pF		30	45	ns
	$t_{D}2$	CL=1000pF		45	60	ns

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

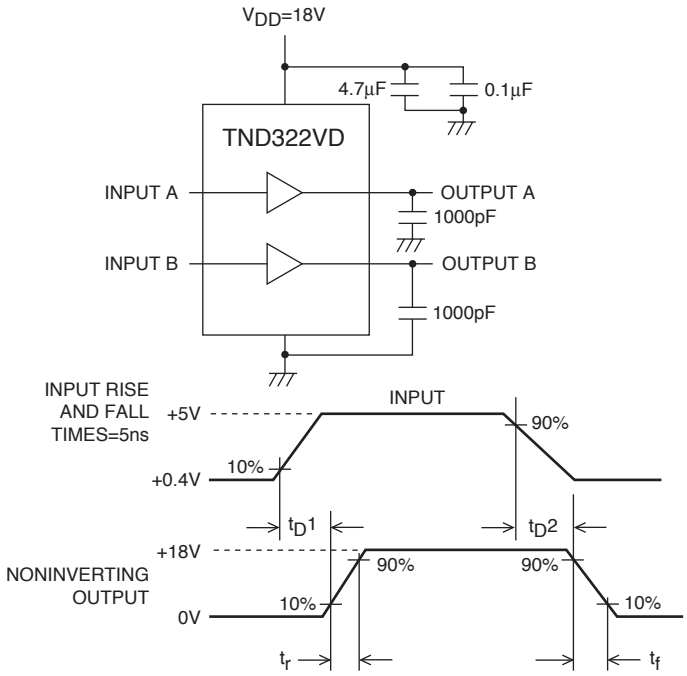
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Logic “1” Input Voltage	V_{IH}		2.6			V
Logic “0” Input Voltage	V_{IL}				0.8	V
Logic “1” Input Bias Current	I_{IN}+	V_{IN}=V_{DD}=25V		40	100	μA
Logic “0” Input Bias Current	I_{IN}−	V_{IN}=0V	−1		1	μA
High-level Output Voltage	V_{OH}	I_O=0A	V_{DD}−0.1			V
Low-level Output Voltage	V_{OL}	I_O=0A			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}=0V, (both inputs)			0.2	mA
Output High Short Circuit Pulsed Current	I_O+	V_{DD}=18V, PW≤10μs, V_{OUT}=0V		0.8		A
Output Low Short Circuit Pulsed 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”		11	16.5	Ω
		V_{DD}=18V, Iload=10mA, V_{OUT}=“L”		6	10	Ω

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

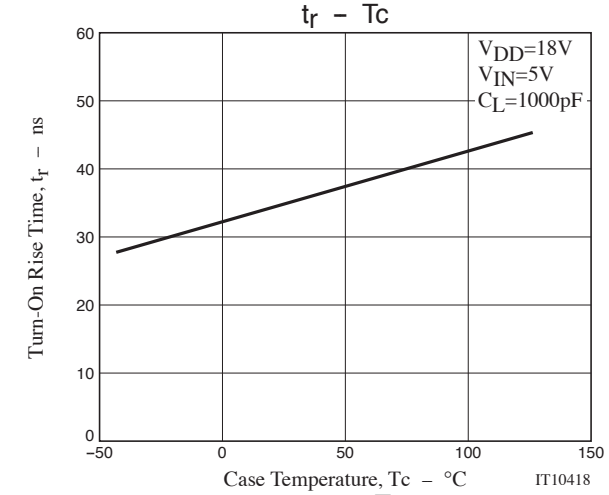
Block Diagram



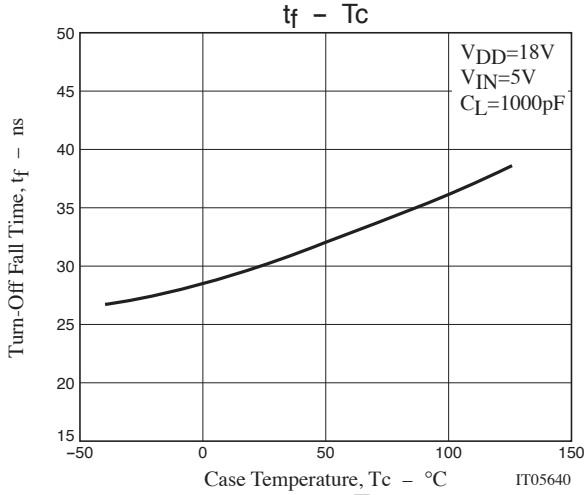
Switching Time Test Circuit



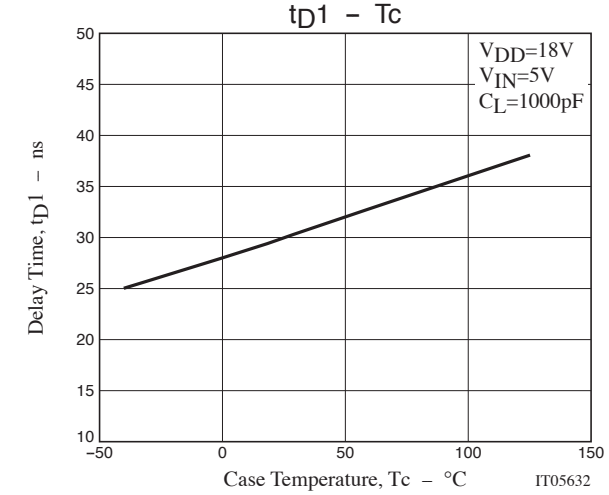
t_r – Tc



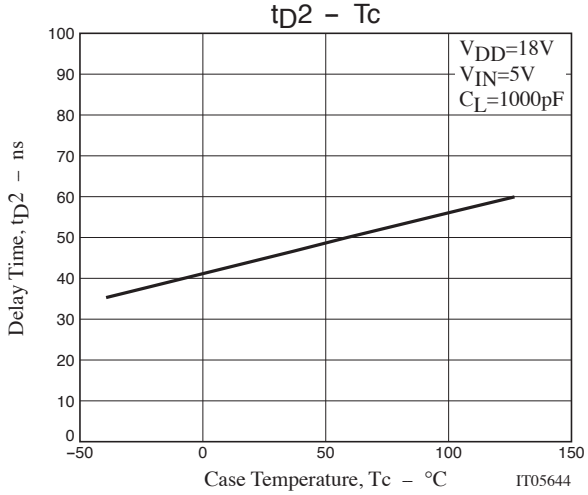
t_f – Tc



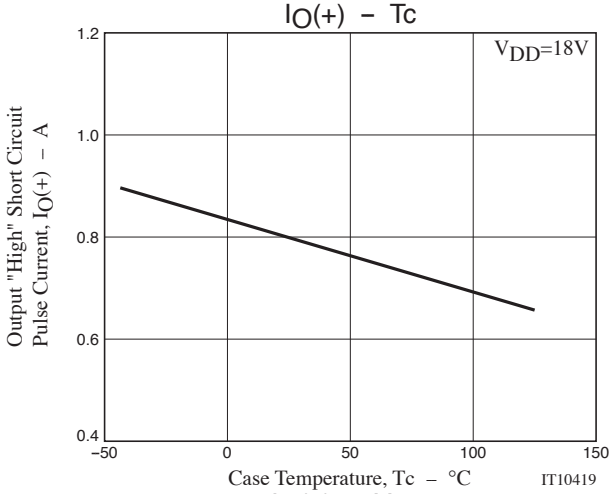
t_{D1} – Tc



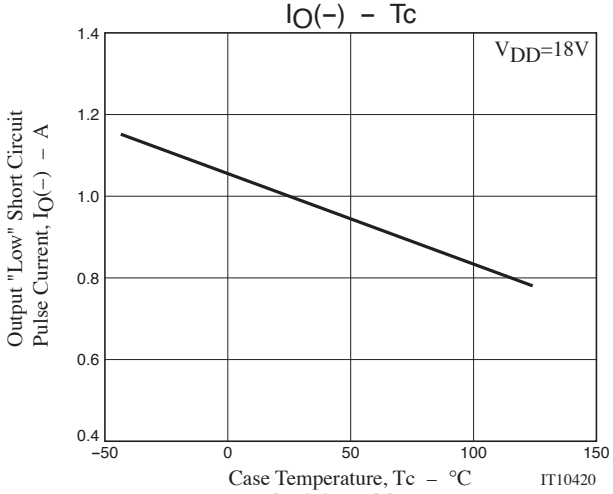
t_{D2} – Tc



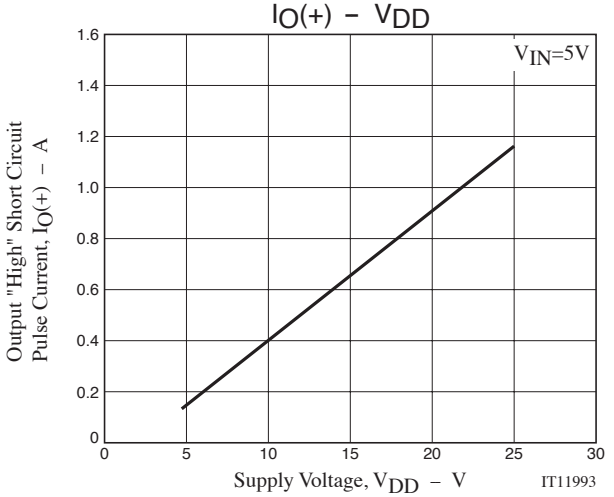
$I_{O(+)}$ – Tc



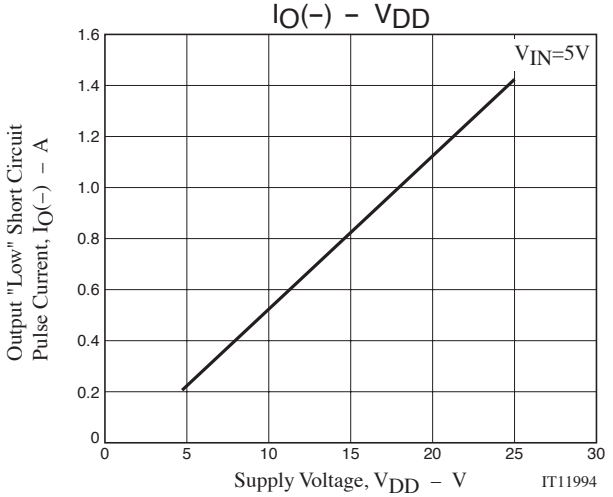
$I_{O(-)}$ – Tc

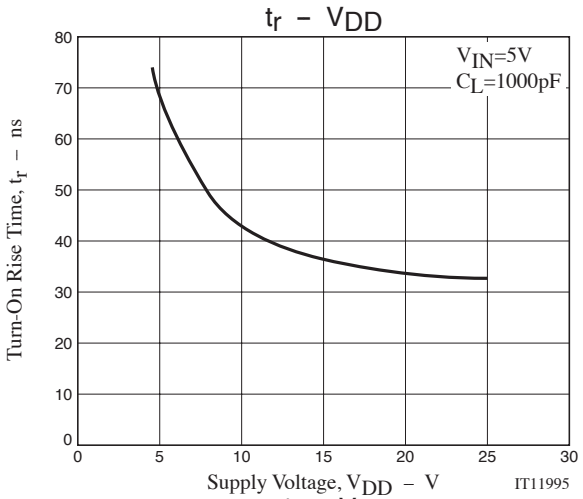


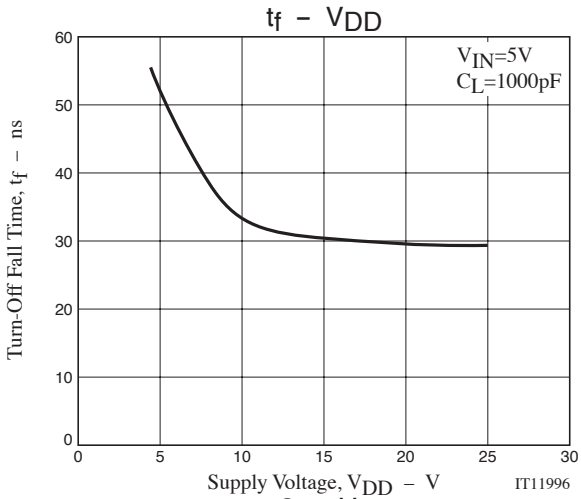
$I_{O(+)}$ – V_{DD}

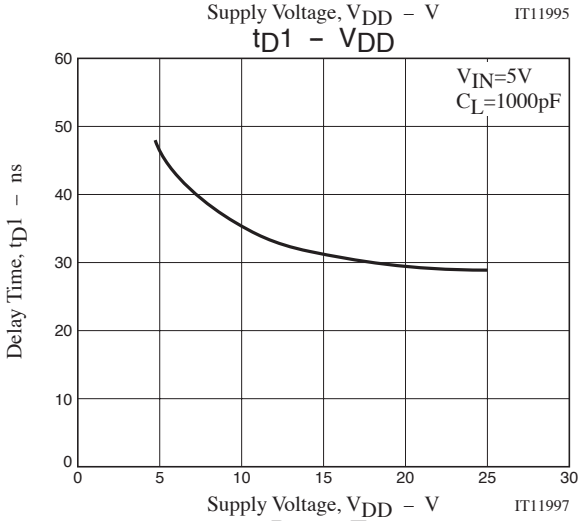


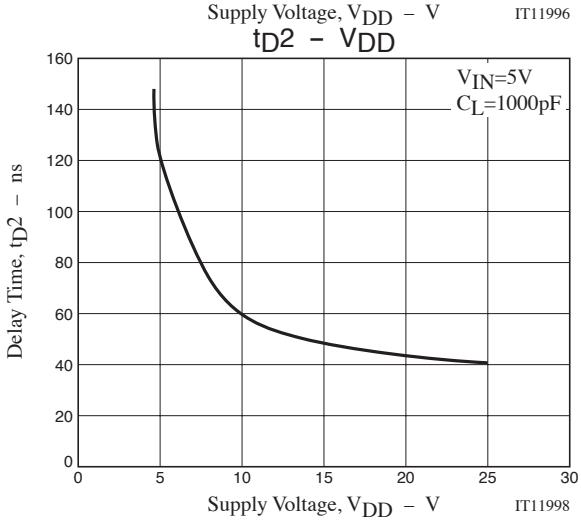
$I_{O(-)}$ – V_{DD}

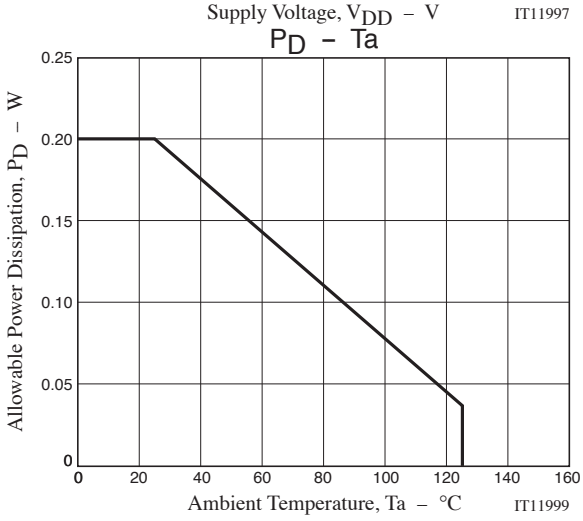










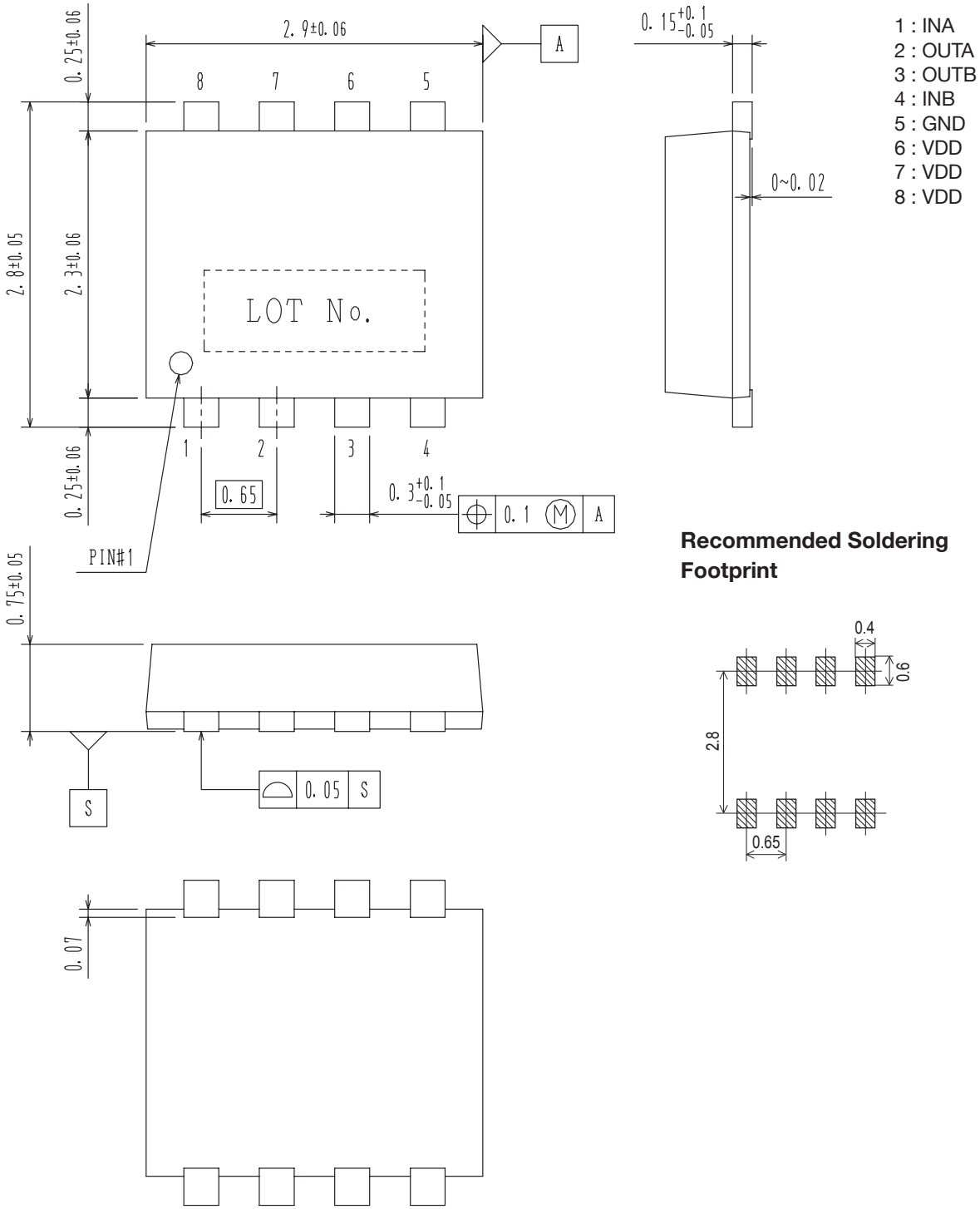


Package Dimensions

unit : mm

TND322VD-TL-E, TND322VD-TL-H

SOT-28FL / VEC8
CASE 318AH
ISSUE O



Recommended Soldering Footprint

ORDERING INFORMATION

Device	Package	Shipping	memo
TND322VD-TL-E	SOT-28FL / VEC8	3,000pcs. / Tape and Reel	Pb-Free
TND322VD-TL-H	SOT-28FL / VEC8	3,000pcs. / Tape and Reel	Pb-Free and Halogen Free