

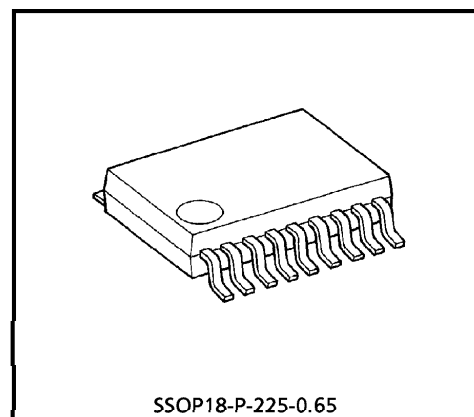
# TD62382AFN

## 8 LOW INPUT ACTIVE DARLINGTON SINK DRIVER

The TD62382AFN is non-inverting transistor array which is comprised of eight Low saturation output stages and PNP input stages.

This device is low level input active driver and is suitable for operation with TTL, 5V CMOS and 5V Microprocessor which have sink current output drivers.

Applications include relay, hammer, lamp and LED display drivers.

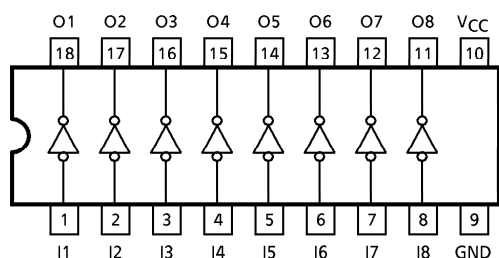


Weight : 0.09g (Typ.)

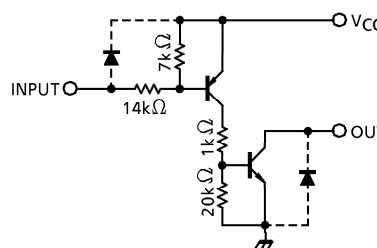
### FEATURES

- Low Saturation Output : 0.23V (MAX.)  
@ I<sub>out</sub> = 40mA (MAX.)
- Package Type : SSOP18 pin
- Output Rating : 50V (MIN.) / 50mA (MAX.)
- Low Level Active Input
- Input Compatible with TTL and 5V CMOS
- Standard Supply Voltage

### PIN CONNECTION (TOP VIEW)



### SCHEMATICS (EACH DRIVER)



(Note) The input and output parasitic diodes cannot be used as clamp diodes.

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**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	- 0.5~7.0	V
Output Sustaining Voltage	V <sub>CE (SUS)</sub>	- 0.5~50	V
Output Current	I <sub>OUT</sub>	50	mA / ch
Input Voltage	V <sub>IN</sub>	- 22~V <sub>CC</sub> + 0.5	V
Input Current	I <sub>IN</sub>	10	mA
Power Dissipation	P <sub>D</sub> *	0.96	W
Operating Temperature	T <sub>opr</sub>	- 40~85	°C
Storage Temperature	T <sub>stg</sub>	- 55~150	°C

\* On Glass Epoxy PCB (50 × 50 × 1.6mm Cu 40%)

**RECOMMENDED OPERATING CONDITIONS (Ta = - 40~85°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V <sub>CC</sub>		4.5	5.0	5.5	V
Output Sustaining Voltage	V <sub>CE (SUS)</sub>		0	—	50	V
Output Current	I <sub>OUT</sub>	DC 1 Circuit	0	—	40	mA / ch
		8 Circuits	0	—	40	
Input Voltage	V <sub>IN</sub>		- 20	—	V <sub>CC</sub>	V
	Output On	V <sub>IN (ON)</sub>	- 20	—	V <sub>CC</sub> - 3.5	
	Output Off	V <sub>IN (OFF)</sub>	V <sub>CC</sub> - 0.3	—	V <sub>CC</sub> + 0.5	
Power Dissipation	P <sub>D</sub> *		—	—	0.4	W

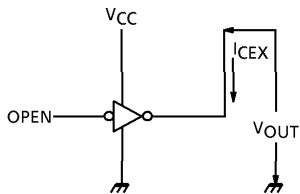
\* On Glass Epoxy PCB (50 × 50 × 1.6mm Cu 40%)

**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

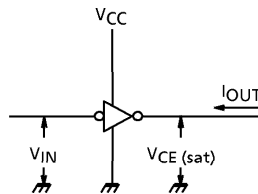
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Leakage Current	I <sub>CEX</sub>	1	V <sub>CC</sub> = 5.5V, I <sub>IN</sub> = 0 V <sub>OUT</sub> = 35V, Ta = 75°C	—	—	100	μA	
Output Saturation Voltage	V <sub>CE (sat)</sub>	2	V <sub>CC</sub> = 4.5V, V <sub>IN</sub> = 0.8V I <sub>OUT</sub> = 40mA	—	—	0.23	V	
Input Current	Output On	I <sub>IN (ON)</sub>	3	V <sub>CC</sub> = 5.5V, V <sub>IN</sub> = 0.4V V <sub>CC</sub> = 5.5V, V <sub>IN</sub> = - 20V	—	- 0.32	- 0.45	mA
	Output Off	I <sub>IN (OFF)</sub>	4		—	—	- 40	
Input Voltage (Output On)	V <sub>IN (ON)</sub>	5		- 20	—	V <sub>CC</sub> - 3.5	V	
Supply Current	Output On	I <sub>CC (ON)</sub>	6	V <sub>CC</sub> = 5.5V, V <sub>IN</sub> = 0V	—	—	6	mA / ch
	Output Off	I <sub>CC (OFF)</sub>		V <sub>CC</sub> = V <sub>IN</sub> = 5.5V, Ta = 75°C	—	—	100	
Turn-On Delay	t <sub>ON</sub>	7	V <sub>CC</sub> = 5V C <sub>L</sub> = 15pF	—	0.1	—	μs	
Turn-Off Delay	t <sub>OFF</sub>		V <sub>OUT</sub> = 50V, R <sub>L</sub> = 1kΩ V <sub>OUT</sub> = 50V, R <sub>L</sub> = 1kΩ					3.0

**TEST CIRCUIT**

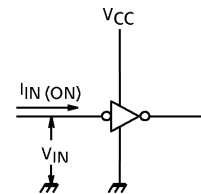
1.  $I_{CEX}$



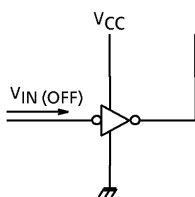
2.  $V_{CE(sat)}$



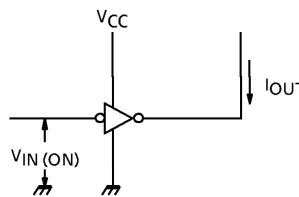
3.  $I_{IN(ON)}$



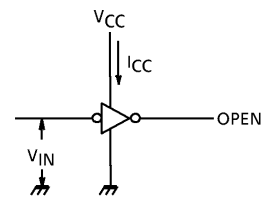
4.  $I_{IN(OFF)}$



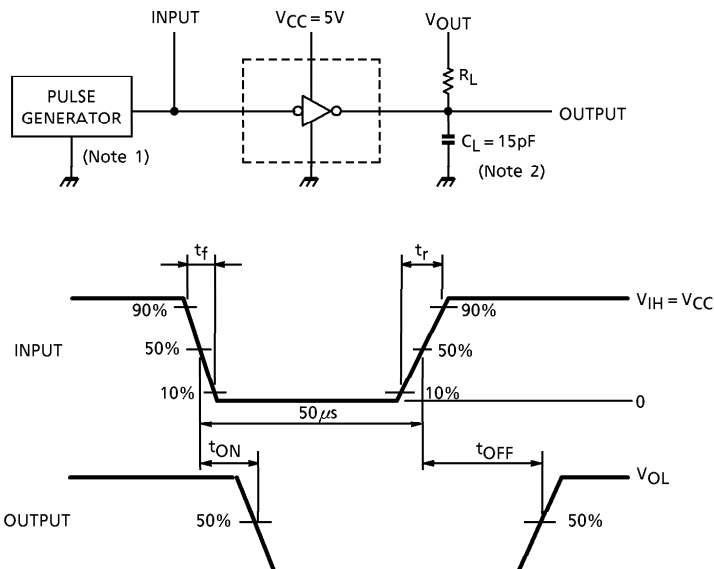
5.  $V_{IN(ON)}$



6.  $I_{CC}$



7.  $t_{ON}, t_{OFF}$

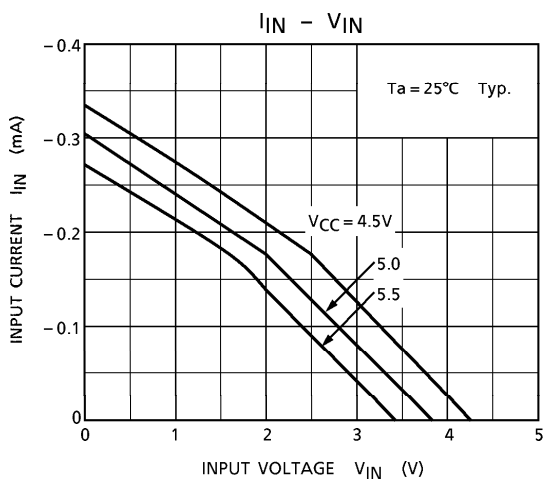
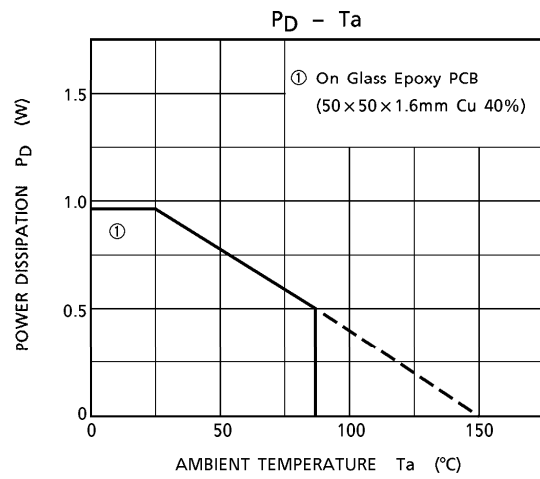
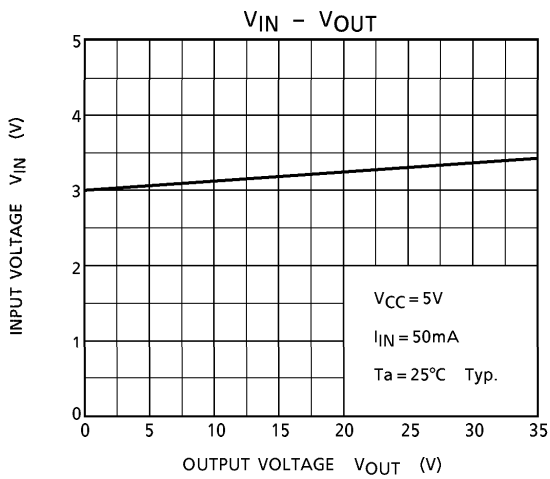
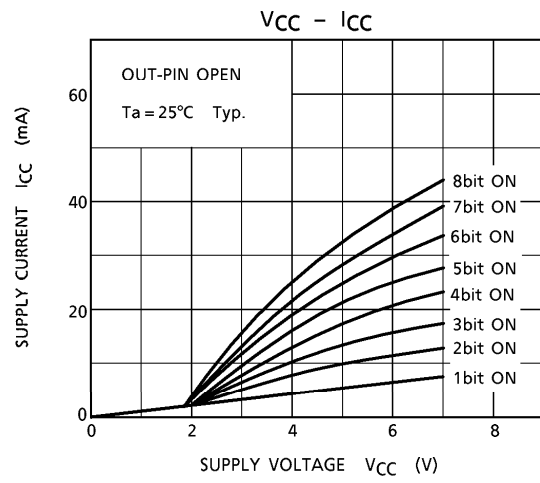
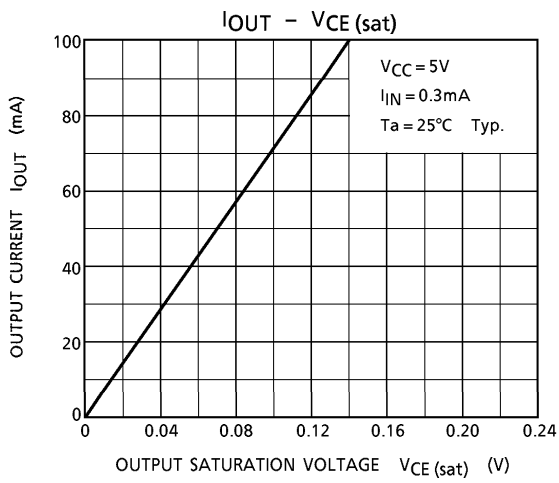


(Note 1) Pulse Width  $50\mu s$ , Duty Cycle 10%  
Output Impedance  $50\Omega$ ,  $t_r \leq 10ns$ ,  $t_f \leq 5ns$

(Note 2)  $C_L$  includes probe and jig capacitance.

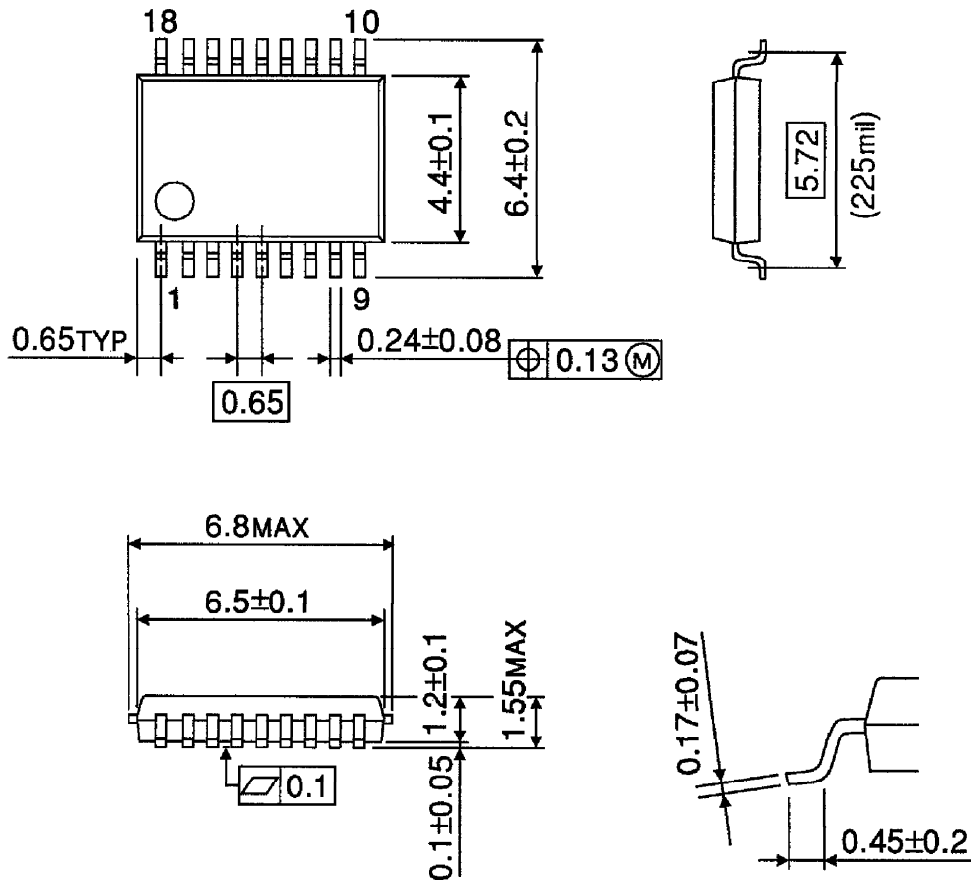
**PRECAUTIONS for USING**

Utmost care is necessary in the design of the output line,  $V_{CC}$  and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



OUTLINE DRAWING  
SSOP18-P-225-0.65

Unit : mm



Weight : 0.09g (Typ.)