

TD62381FN

8ch LOW SATURATION SINK DRIVER

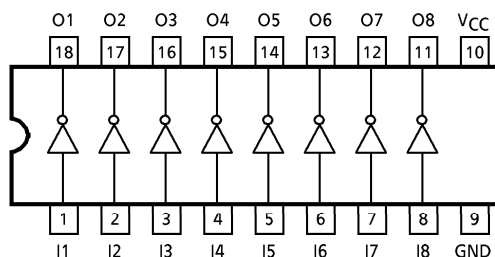
The TD62381FN is comprised of eight NPN low saturation drivers. This device are specifically designed for multiplexed eight driving of eight digit common-cathode LED and also can be employed as a sink driver for multiplexed LED displays using with the TD62785FN at standard supply voltage, 5V.

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

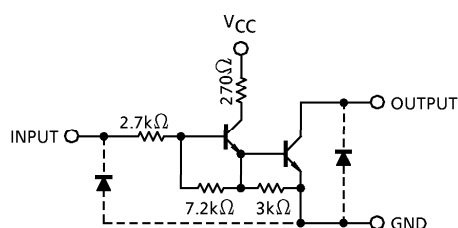
FEATURES

- Package Type : SSOP18 pin
- Low Saturation Output : $V_{CE(sat)} = 0.9V$ (MAX.)
@ $I_{OUT} = 500mA$
- Output Rating : $V_{OUT} = 15V$ (MIN.)
- Input Compatible with TTL and 5V CMOS
- Low Level Active Inputs
- Standard Supply Voltage

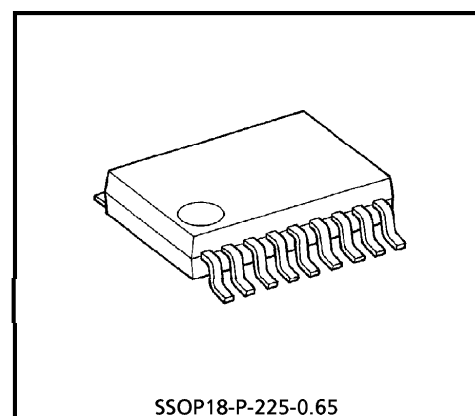
PIN CONNECTION (TOP VIEW)



SCHEMATICS (EACH DRIVER)



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



Weight : 0.09g (Typ.)

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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	7	V
Output Sustaining Voltage	V _{CE(SUS)}	15	V
Output Current	I _{OUT}	500	mA / ch
Input Voltage	V _{IN}	7	V
Input Current	I _{IN}	5	mA
Power Dissipation	P _D *	0.96	W
Operating Temperature	T _{opr}	– 40~85	°C
Storage Temperature	T _{stg}	– 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 _{CC}		4.5	5.0	5.5	V
Output Voltage	V _{OUT}		—	—	12	V
Output Current	I _{OUT} *	DC 1 Circuit	0	—	400	mA / ch
		T _{pw} = 25ms 8 Circuit On Ta = 85°C, T _j = 120°C	0	—	400	
		Duty = 10%	0	—	330	
		Duty = 50%	0	—	330	
Input Voltage		V _{IN}	0	—	V _{CC}	V
	Output On	V _{IN} (ON)	2.4	—	V _{CC}	
	Output Off	V _{IN} (OFF)	0	—	0.4	
Power Dissipation	P _D *		—	—	0.4	W

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

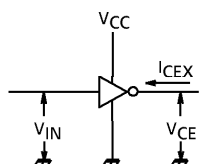
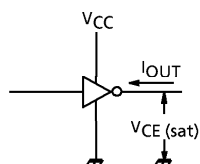
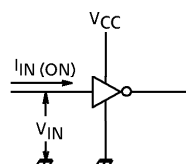
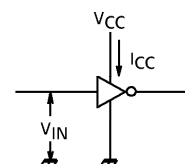
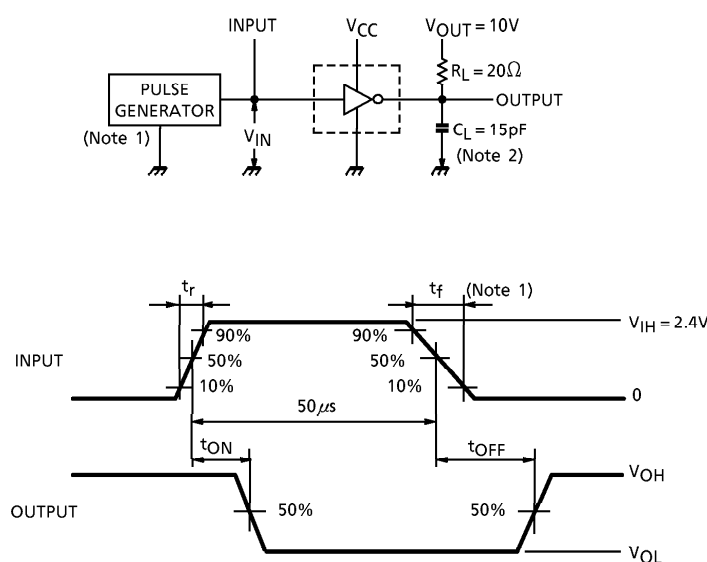
ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 5V)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current	I _{CEX}	1	V _{IN} = OPEN V _{OUT} = 12V, Ta = 85°C	—	—	100	μA
Output Saturation Voltage	V _{CE} (sat)	2	I _{OUT} = 500mA	—	—	0.9	V
			I _{OUT} = 350mA	—	—	0.7	
Input Current	I _{IN} (ON)	3	V _{CC} = 5V, V _{IN} = 2.4V	—	0.4	0.7	mA
Input Voltage (Output on)	V _{IN} (ON)	—	V _{CC} = 5V	—	—	2.4	V
Supply Current	I _{CC}	4	V _{CC} = V _{IN} = 5V	—	—	17	mA / ch
Turn-On Delay	t _{ON}	5	V _{OUT} = 10V, R _L = 25Ω C _L = 15pF	—	0.1	—	μs
Turn-Off Delay	t _{OFF}			—	1.2	—	

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TEST CIRCUIT

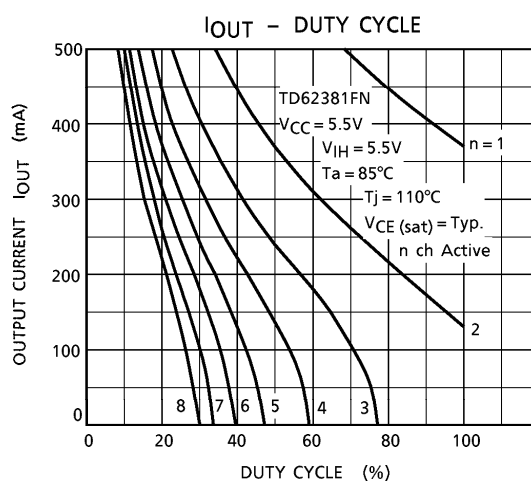
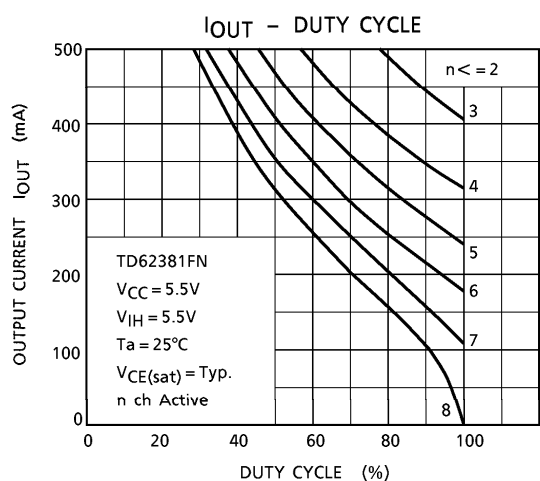
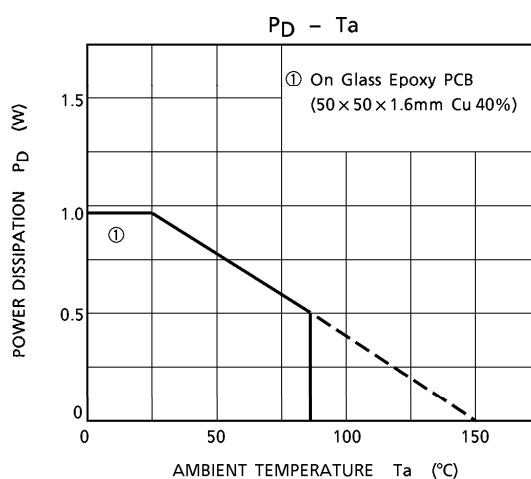
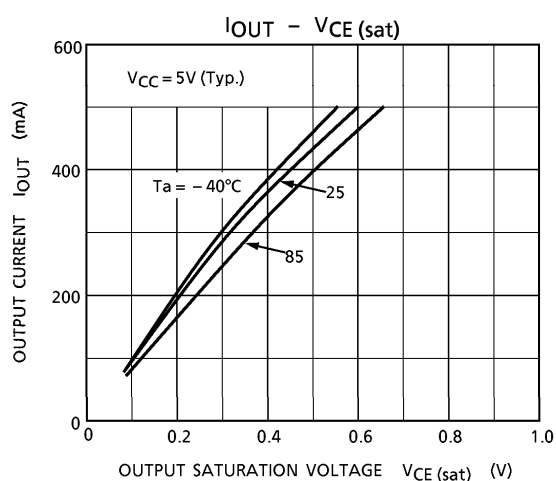
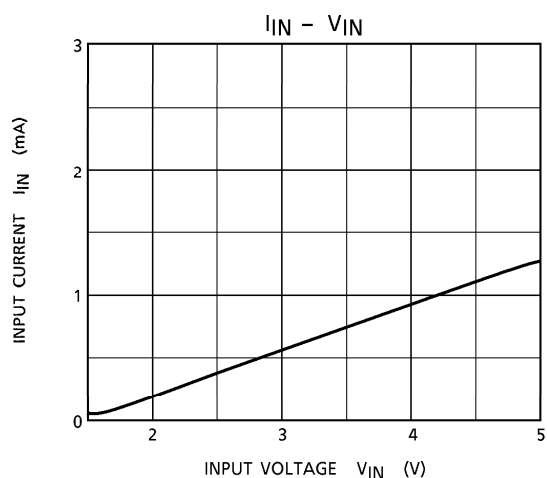
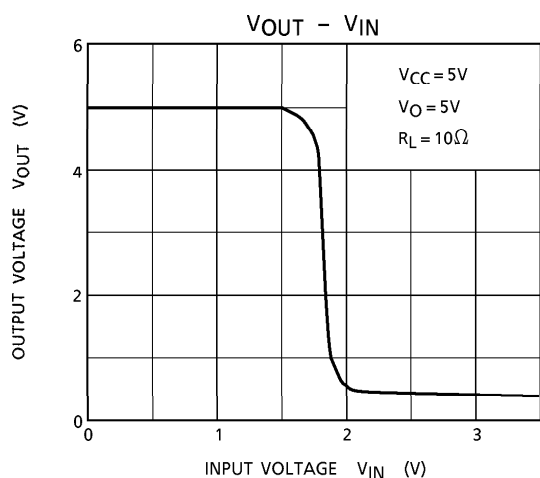
 1. I_{CEX}

 2. $V_{CE(sat)}$

 3. $I_{IN(ON)}$

 4. I_{CC}

 5. t_{ON} , t_{OFF}


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

(Note 2) C_L includes probe and jig capacitance.

PRECAUTIONS for USING

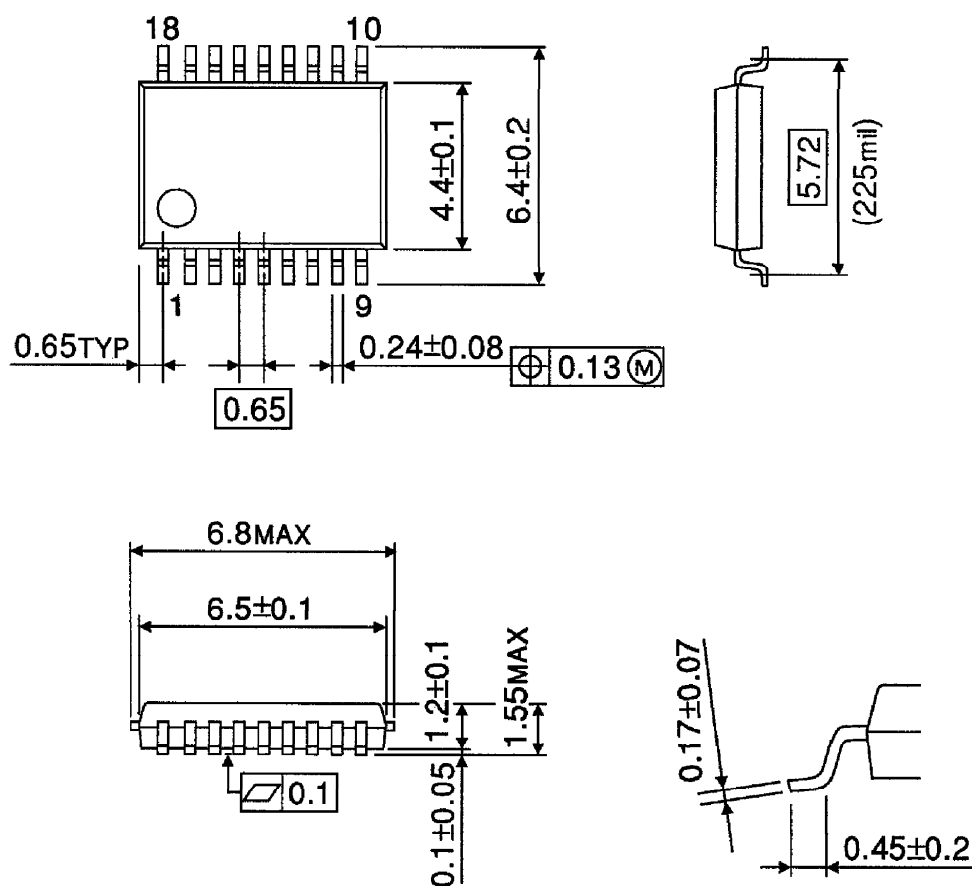
Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



OUTLINE DRAWING

SSOP18-P-225-0.65

Unit : mm



Weight : 0.09g (Typ.)