

TD62383PG

8 ch Low Input Active Sink Driver

The TD62383PG is non-inverting transistor array which is comprised of eight Low saturation output stages and PNP input stages.

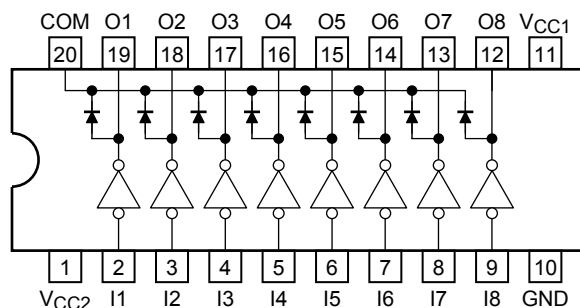
This device is low level input active driver and is suitable for operation with TTL, 5 V CMOS and 5 V Microprocessor which have sink current output drivers.

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

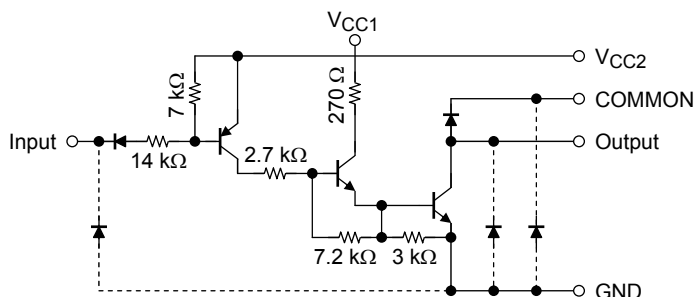
Features

- Low saturation output 0.4 V (max) @ $I_{OUT} = 350$ mA
- Output rating 10 V (min)/500 mA (max)
- Input compatible with TTL and 5 V CMOS
- Low level active inputs
- Standard supply voltage
- Output clamp diodes
- Package type: DIP20 pin

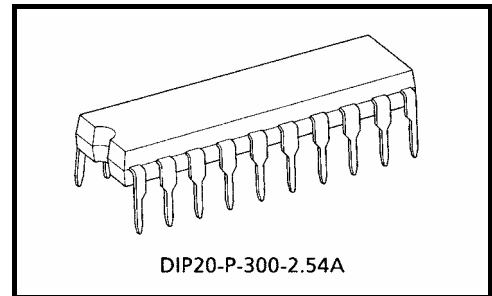
Pin Assignment (top view)



Schematics (each driver)



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



Weight: 2.25 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Supply voltage	V _{CC1, 2}	−0.5 to 7.0	V
Output sustaining voltage	V _{CE (SUS)}	−0.5 to 10.0	V
Output current	I _{OUT}	500	mA/ch
Input voltage	V _{IN}	−22 to V _{CC} +0.5	V
Input current	I _{IN}	10	mA
Power dissipation	P _D (Note 1)	1.47	W
Operating temperature	T _{opr}	−40 to 85	°C
Storage temperature	T _{stg}	−55 to 150	°C

Note 1: Delated above 25°C in the proportion of 11.7 mW/°C.

Recommended Operating Conditions (Ta = −40 to 80°C)

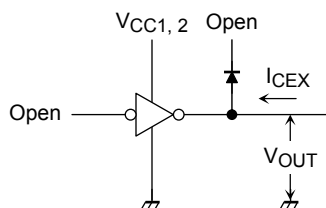
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Supply voltage	V _{CC1, 2}	—	4.5	5.0	5.5	V
Output sustaining voltage	V _{OUT}	—	0	—	10	V
Output current	I _{OUT}	—	—	—	350	mA/ch
Input voltage	V _{IN}	—	0	—	5.5	V
Power dissipation	P _D	—	—	—	0.52	W

Electrical Characteristics (Ta = 25°C)

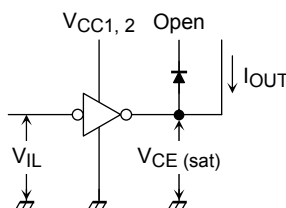
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Output leakage current	I _{CEX}	1	V _{CC} = V _{CC2} = 5.5 V, V _{OUT} = 10 V I _{IN} = 0 A, Ta = 85°C	—	—	100	μA
Output saturation voltage	V _{CE (sat)}	2	V _{CC1} = V _{CC2} = 4.5 V I _{OUT} = 350 mA, V _{IN} = V _{IL} MAX	—	—	0.4	V
Input current	I _{IN (ON)}	3	V _{CC1} = V _{CC2} = 5.5 V, V _{IN} = 0.4 V	—	−0.32	−0.45	mA
Input voltage	V _{IL}	—	I _{OUT} = 350 mA	—	—	V _{CC} −3.7	V
Clamp diode forward voltage	V _F	4	I _F = 350 mA	0	—	2.0	V
Clamp diode reverse current	I _R	5	V _R = 10 V, Ta = 25°C	—	—	50	μA
			V _R = 10 V, Ta = 85°C	—	—	100	
Turn-ON delay	t _{ON}	6	V _{CC1} = V _{CC2} = 5 V, V _{OUT} = 10 V R _L = 28 Ω, C _L = 15 pF	—	0.2	—	μs
Turn-OFF delay	t _{OFF}	6	V _{CC1} = V _{CC2} = 5 V, V _{OUT} = 10 V R _L = 28 Ω, C _L = 15 pF	—	3.0	—	μs

Test Circuit

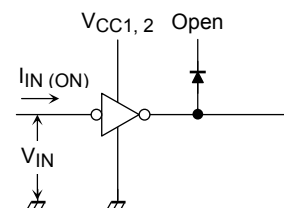
1. I_{CEX}



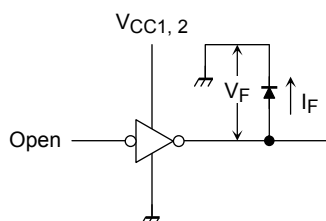
2. $V_{CE(sat)}$



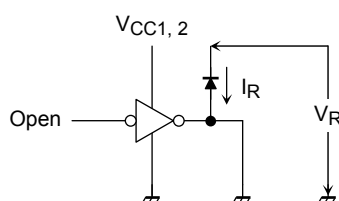
3. $I_{IN(ON)}$



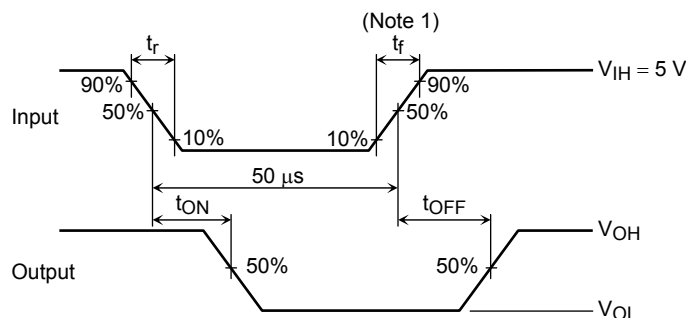
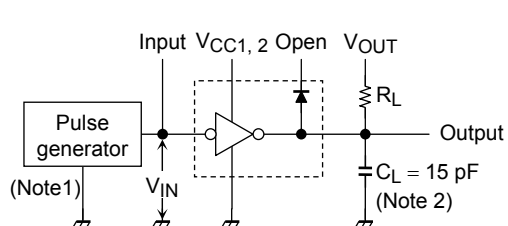
4. V_F



5. I_R



6. t_{ON} , t_{OFF}



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

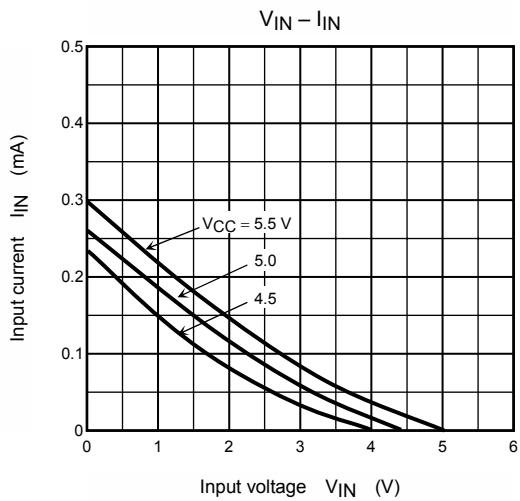
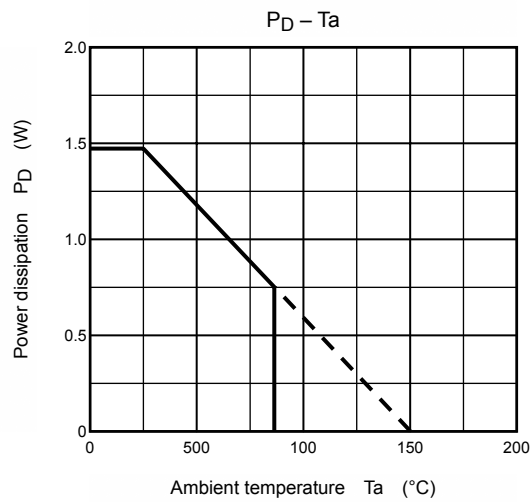
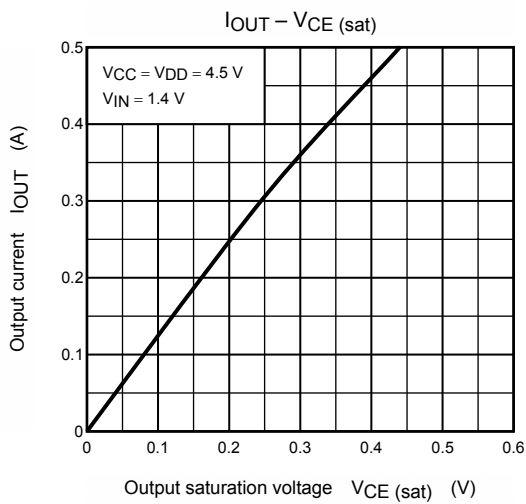
Note 2: C_L includes probe and jig capacitance.

Precautions for Using

This IC does not integrate protection circuits such as overcurrent and overvoltage protectors.

Thus, if excess current or voltage is applied to the IC, the IC may be damaged. Please design the IC so that excess current or voltage will not be applied to the IC.

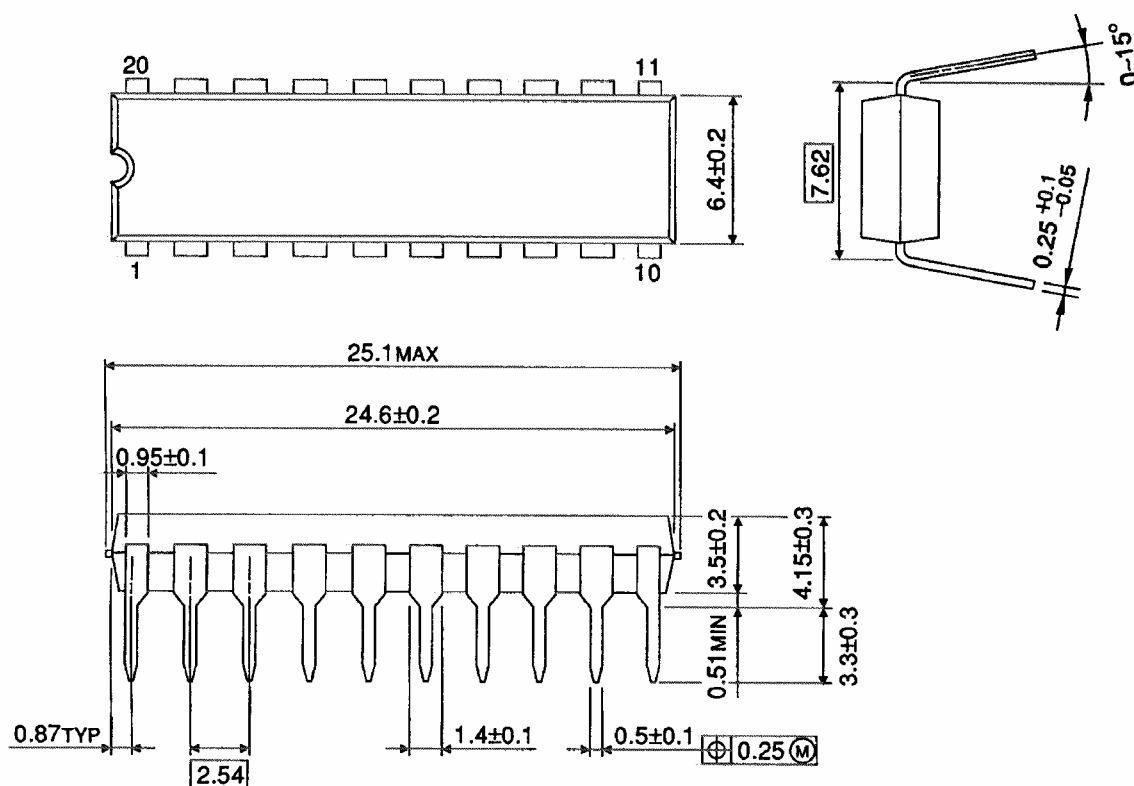
Utmost care is necessary in the design of the output line, VCC (V_{CC1} , V_{CC2}) and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



Package Dimensions

DIP20-P-300-2.54A

Unit : mm



Weight: 2.25 g (typ.)

About solderability, following conditions were confirmed

- Solderability

- (1) Use of Sn-63Pb solder Bath

- solder bath temperature = 230°C
 - dipping time = 5 seconds
 - the number of times = once
 - use of R-type flux

- (2) Use of Sn-3.0Ag-0.5Cu solder Bath

- solder bath temperature = 245°C
 - dipping time = 5 seconds
 - the number of times = once
 - use of R-type flux

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030619EBA

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