

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TD62382AP, TD62382F, TD62382AF**8CH LOW INPUT ACTIVE SINK DRIVER**

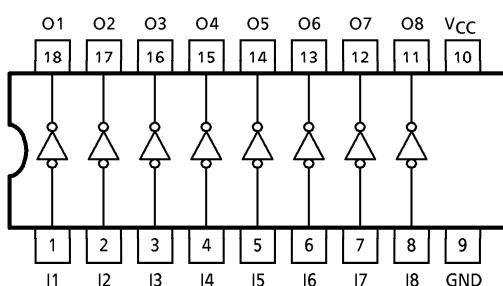
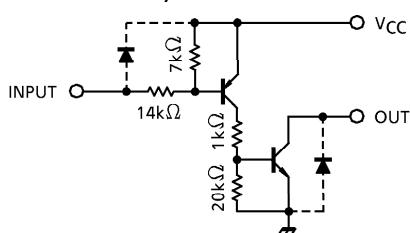
The TD62382AP / F / AF are non-inverting transistor array which are comprised of eight Low saturation output stages and PNP input stages.

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.

FEATURES

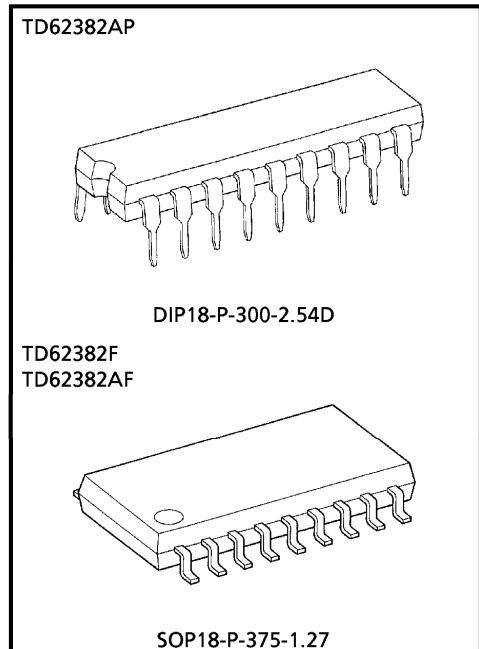
- Low saturation output 0.23V MAX. @ $I_{OUT} = 40mA$ MAX.
- Output rating 35V MIN. / 50mA MAX. (TD62382F)
50V MIN. / 50mA MAX. (TD62382AP,
TD62382AF)
- Input compatible with TTL and 5V CMOS
- Low level active inputs
- Standard supply voltage
- Package type-AP : DIP-18pin
- Package type-F, AF : SOP-18pin

PIN CONNECTION (TOP VIEW)**SCHEMATICS (EACH DRIVER)**

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

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Weight
DIP18-P-300-2.54D : 1.47g (Typ.)
SOP18-P-375-1.27 : 0.41g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V _{CC}	- 0.5~7.0	V
Output Sustaining Voltage	AP, AF	V _{CE} (SUS)	- 0.5~50	V
	F		- 0.5~35	
Output Current		I _{OUT}	50	mA / ch
Input Voltage		V _{IN}	- 22~V _{CC} + 0.5	V
Input Current		I _{IN}	10	mA
Power Dissipation	AP	P _D (Note)	1.47	W
	F, AF		0.96	
Operating Temperature		T _{opr}	- 40~85	°C
Storage Temperature		T _{stg}	- 55~150	°C

(Note) Delated above 25°C in the proportion of 11.7mW / °C (AP-Type), 7.7mW / °C (F, AF-Type).

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

CHARACTERISTIC		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Supply Voltage		V _{CC}	—	4.5	5.0	5.5	V	
Output Sustaining Voltage	AP, AF	V _{CE} (SUS)	—	0	—	50	V	
	F		—	0	—	35		
Output Current		I _{OUT}	DC 1 Circuit	0	—	40	mA / ch	
AP	8 Circuits		0	—	40			
AF, F	8 Circuits		0	—	40			
Input Voltage	Output On		V _{IN} (ON)	—	- 20	—	V _{CC}	
	Output Off		V _{IN} (OFF)	—	- 20	—	V _{CC} - 3.5	
	Output On		V _{IN} (ON)	—	V _{CC} - 0.3	—	V _{CC} + 0.5	
Power Dissipation	AP	P _D	—	—	—	0.52	W	
	F, AF		—	—	—	0.35		

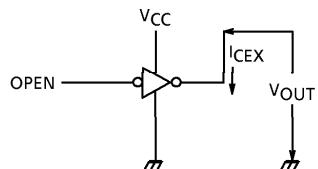
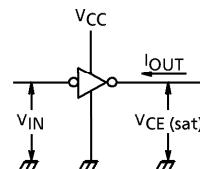
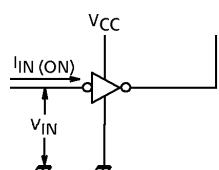
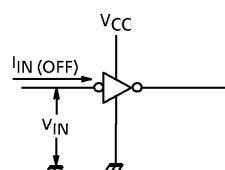
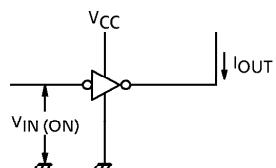
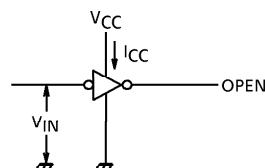
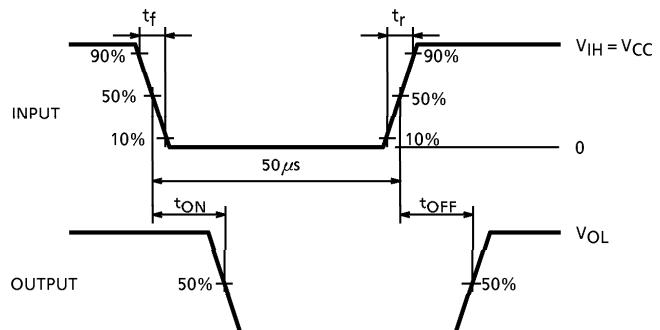
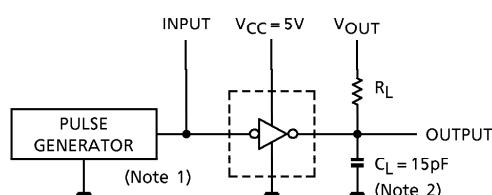
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- The information contained herein is subject to change without notice.

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Output Leakage Current		I_{CEX}	1	$V_{CC} = 5.5\text{V}$, $I_{IN} = 0$ $V_{OUT} = 35\text{V}$, $T_a = 75^\circ\text{C}$		—	—	100	μA
Output Saturation Voltage		$V_{CE}(\text{sat})$	2	$V_{CC} = 4.5\text{V}$, $V_{IN} = 0.8\text{V}$ $I_{OUT} = 40\text{mA}$		—	—	0.23	V
Input Current	Output On	$I_{IN}(\text{ON})$	3	$V_{CC} = 5.5\text{V}$, $V_{IN} = 0.4\text{V}$	—	—	-0.32	-0.45	mA
	Output Off	$I_{IN}(\text{OFF})$		$V_{CC} = 5.5\text{V}$, $V_{IN} = -20\text{V}$	—	—	—	-2.6	
Input Voltage	Output On	$V_{IN}(\text{ON})$	5	—		-20	—	$V_{CC} - 3.5$	V
Supply Current	Output On	$I_{CC}(\text{ON})$	6	$V_{CC} = 5.5\text{V}$, $V_{IN} = 0\text{V}$		—	—	6	mA / ch
	Output Off	$I_{CC}(\text{OFF})$		$V_{CC} = V_{IN} = 5.5\text{V}$, $T_a = 75^\circ\text{C}$		—	—	100	μA
Turn-On Delay		AP, AF F	t_{ON}	$V_{CC} = 5\text{V}$ $C_L = 15\text{pF}$	$V_{OUT} = 35\text{V}$, $R_L = 82\Omega$	—	0.1	—	μs
Turn-Off Delay		AP, AF F			$V_{OUT} = 50\text{V}$, $R_L = 1\text{k}\Omega$	—	0.1	—	
					$V_{OUT} = 35\text{V}$, $R_L = 82\Omega$	—	3.0	—	
					$V_{OUT} = 50\text{V}$, $R_L = 1\text{k}\Omega$	—	3.0	—	

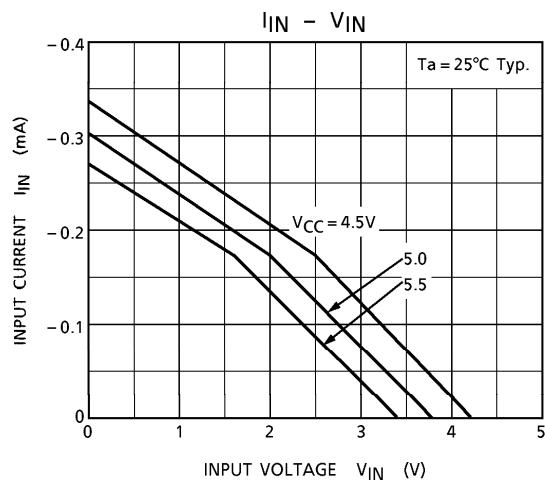
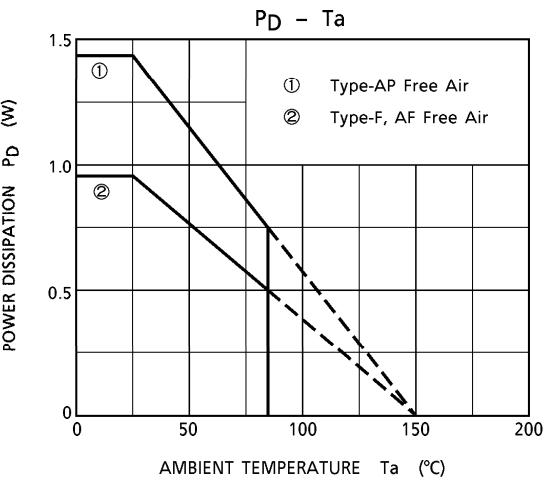
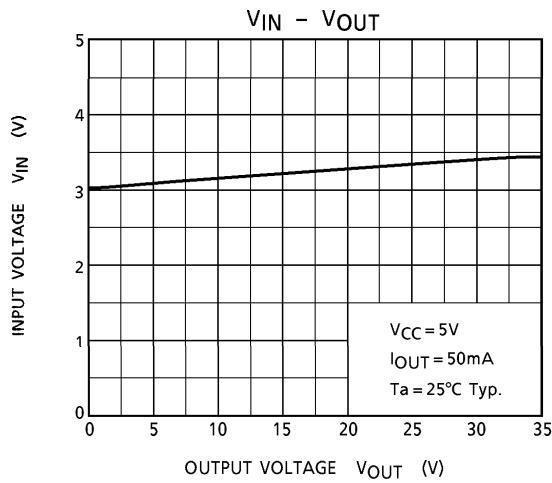
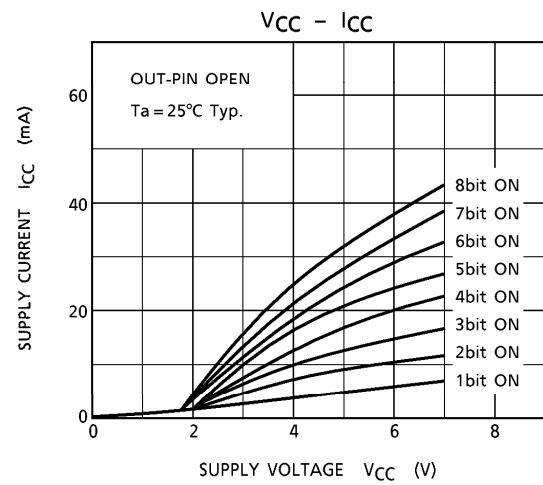
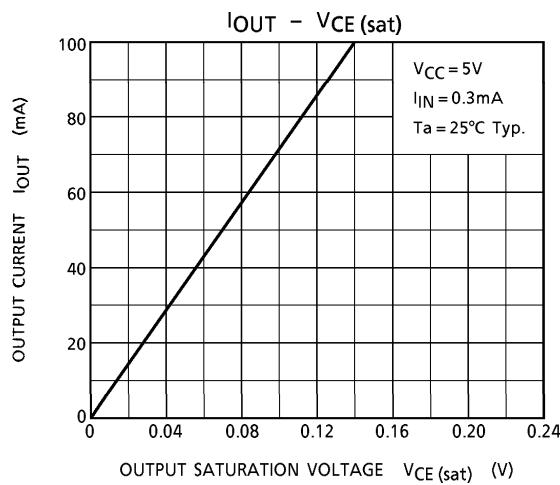
TEST CIRCUIT

1. I_{CEX} 2. $V_{CE}(\text{sat})$ 3. $I_{IN}(\text{ON})$ 4. $I_{IN}(\text{OFF})$ 5. $V_{IN}(\text{ON})$ 6. I_{CC} 7. t_{ON}, t_{OFF} 

(Note 1) Pulse Width $50\mu s$, Duty Cycle 10%
 Output Impedance 50Ω , $t_r \leq 10\text{ns}$, $t_f \leq 5\text{ns}$
 (Note 2) C_L includes probe and jig capacitance

PRECAUTIONS for USING

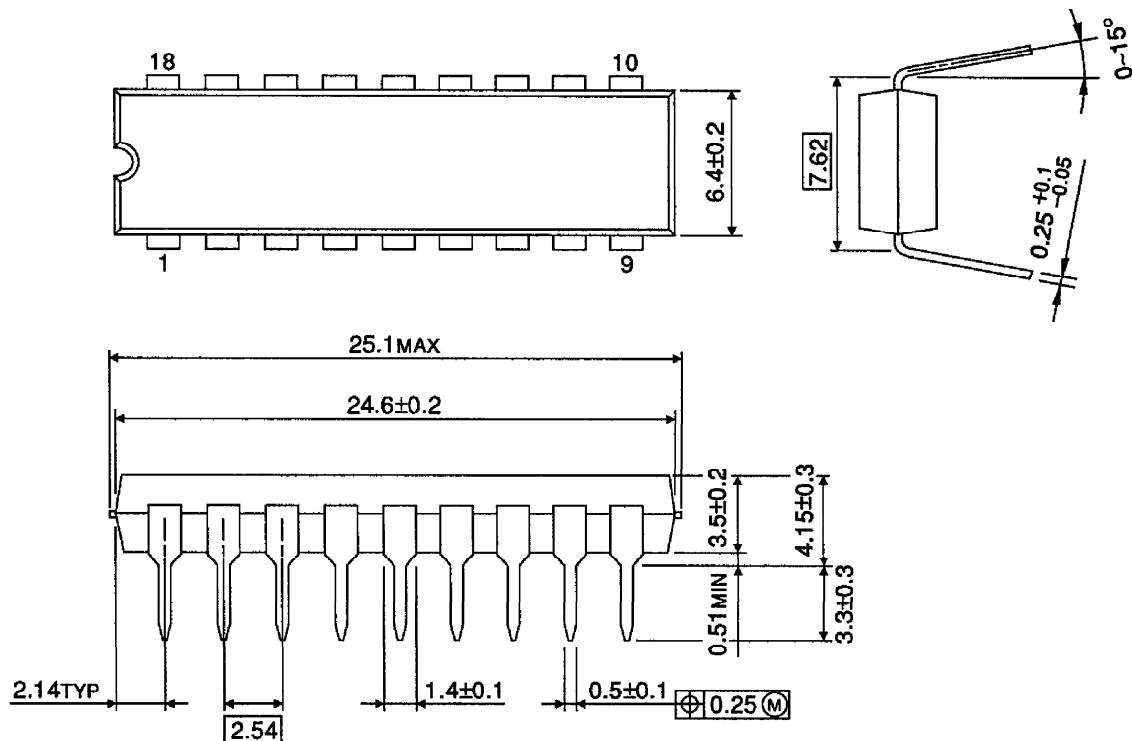
Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



OUTLINE DRAWING

DIP18-P-300-2.54D

Unit : mm

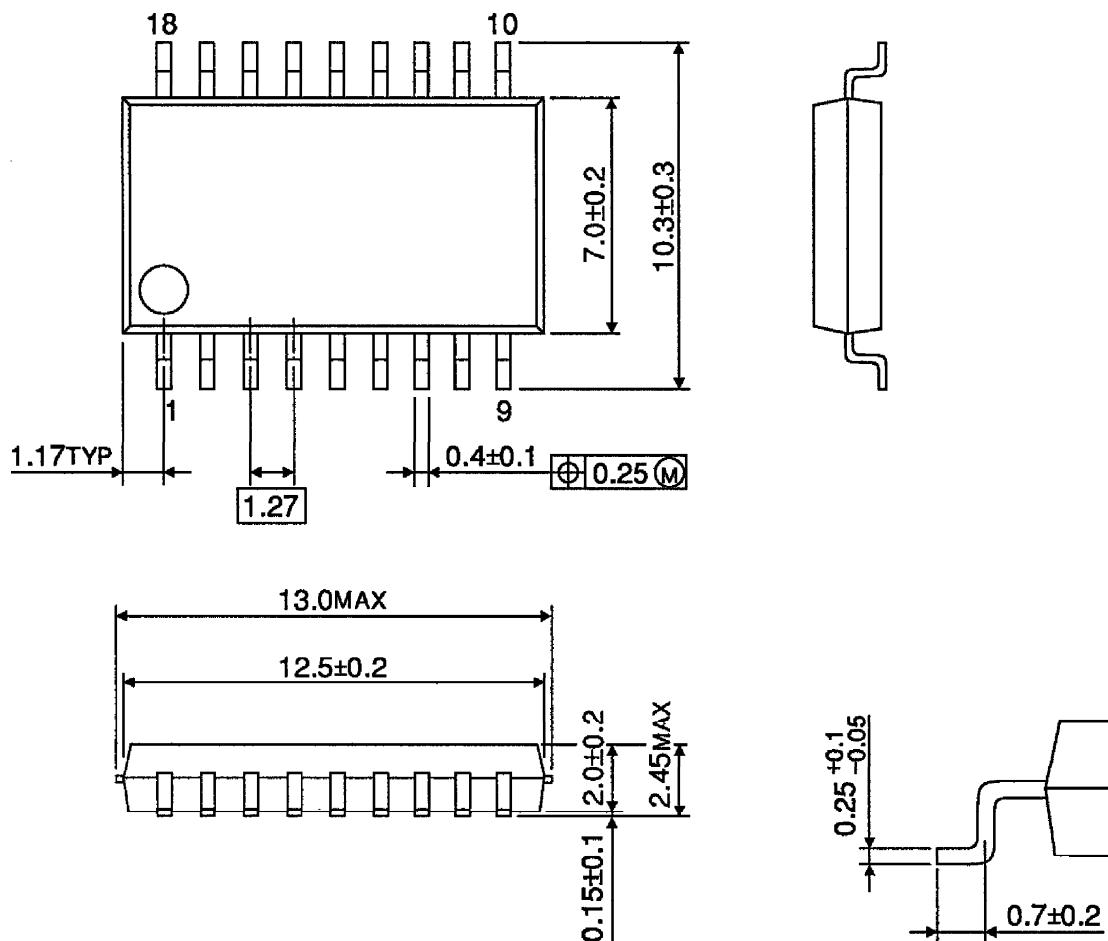


Weight : 1.47g (Typ.)

OUTLINE DRAWING

SOP18-P-375-1.27

Unit : mm



Weight : 0.41g (Typ.)