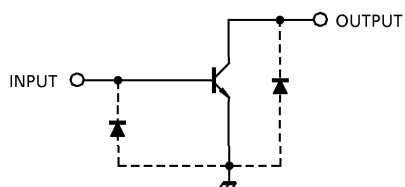
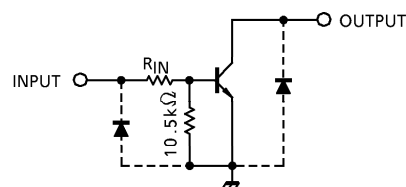


SCHEMATICS (EACH DRIVER)

TD62591AP

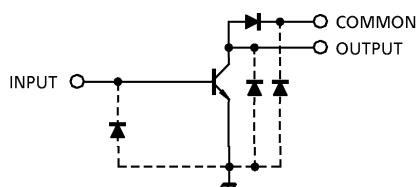


TD62592AP, TD62593AP, TD62594AP

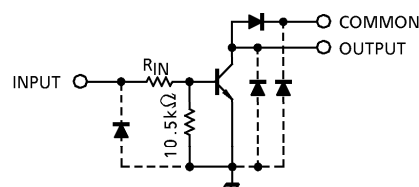


TD62592AP $R_{IN} = 10.5k\Omega + V_Z = 7V$
 TD62593AP $R_{IN} = 2.7k\Omega$
 TD62594AP $R_{IN} = 10.5k\Omega$

TD62595AP, TD62595AF



TD62596AP, TD62596AF, TD62597AP,
 TD62597AF, TD62598AP, TD62598AF



TD62596AP $R_{IN} = 10.5k\Omega + V_Z = 7V$
 TD62597AP $R_{IN} = 2.7k\Omega$
 TD62598AP $R_{IN} = 10.5k\Omega$

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

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	50	V
Collector-Base Voltage	V_{CBO}	50	V
Clamp Diode Reverse Voltage	V_R (Note 1)	50	V
Collector Current	I_C	200	mA / ch
Input Voltage	V_{IN} (Note 2)	- 0.5~30	V
Input Current	I_{IN} (Note 3)	25	mA
Power Dissipation	P_D (Note 4)	0.96 (Note 5) / 1.47	W
Operating Temperature	T_{opr}	- 40~85	$^\circ\text{C}$
Storage Temperature	T_{stg}	- 55~150	$^\circ\text{C}$

(Note 1) Except TD62591~TD62594AP

(Note 2) Except TD62591AP, TD62595AP, TD62595AF

(Note 3) Only TD62591AP, TD62595AP, TD62595AF

(Note 4) Delated above 25°C in the proportion of $11.7\text{mW}/^\circ\text{C}$ (AP-Type), $7.7\text{mW}/^\circ\text{C}$ (F, AF-Type)

(Note 5) SOP-18pin

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

CHARACTERISTIC		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Voltage		V_{CEO}	—	0	—	50	V
Collector-Base Voltage		V_{CBO}	—	0	—	50	V
Collector Current		I_C	—	0	—	150	mA / ch
Clamp Diode Reverse Voltage		V_R	(Note 1)	7	—	50	V
Input Voltage		V_{IN}	(Note 2)	0	—	25	V
Input Current		I_{IN}	(Note 3)	0	—	10	mA
Input Voltage (Output On)	TD62592 TD62596	$V_{IN} (ON)$	—	14.0	—	25	V
	TD62593 TD62597			2.4	—	25	
	TD62594 TD62598			7.0	—	25	
Power Dissipation	AP	P_D	—	—	—	0.52	W
	AF		—	—	—	0.355	

ELECTRICAL CHARACTERISTICS (Ta = 25°C unless otherwise noted)

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current		I_{CEX}	1	$V_{CE} = 50V, V_{IN} = 0$	—	—	10	μA
Collector-Emitter Saturation Voltage		$V_{CE} (sat)$	2	$I_C = 10mA, I_{IN} = 0.4mA$	—	—	0.2	V
				$I_C = 150mA, I_{IN} = 3.0mA$	—	—	0.8	
DC Current Transfer Ratio		h_{FE}	2	$V_{CE} = 10V, I_C = 10mA$	(Note 3) 70	—	—	—
					(Note 2) 50	—	—	
Input Current	TD62591 TD62595	$I_{IN} (ON)$	3	$I_C = 50mA$	—	—	0.65	mA
	TD62592 TD62596			$V_{IN} = 14V, I_C = 50mA$	—	—	0.9	
	TD62593 TD62597			$V_{IN} = 2.4V, I_C = 50mA$	—	—	0.9	
	TD62594 TD62598			$V_{IN} = 7.0V, I_C = 50mA$	—	—	0.9	
Turn-On Delay		t_{ON}	4	$V_{OUT} = 50V, R_L = 330\Omega$	—	0.1	—	μs
Turn-Off Delay		t_{OFF}			—	0.3	—	μs

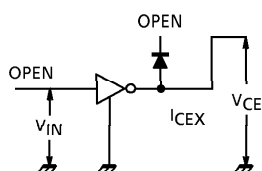
(Note 1) Except TD62591~TD62594AP

(Note 2) Except TD62591AP, TD62595AP, TD62595AF

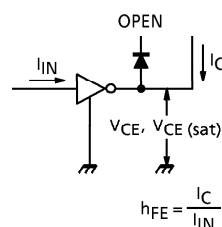
(Note 3) Only TD62591AP, TD62595AP, TD62595AF

TEST CIRCUIT

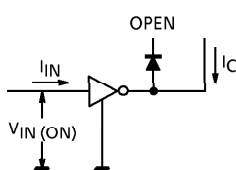
1. I_{CEX}



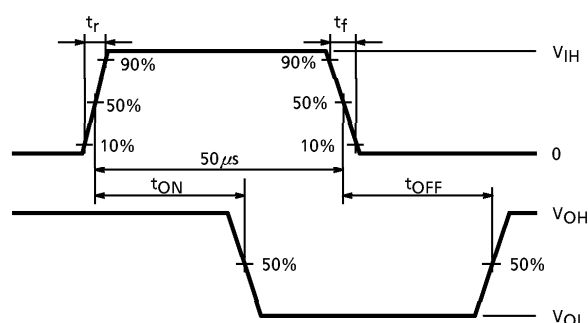
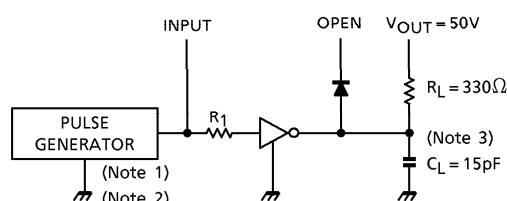
2. h_{FE} , $V_{CE(sat)}$



3. $V_{IN(ON)}$



4. 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) See below

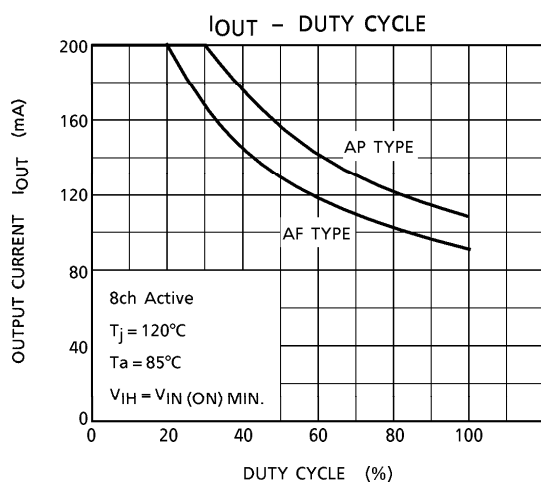
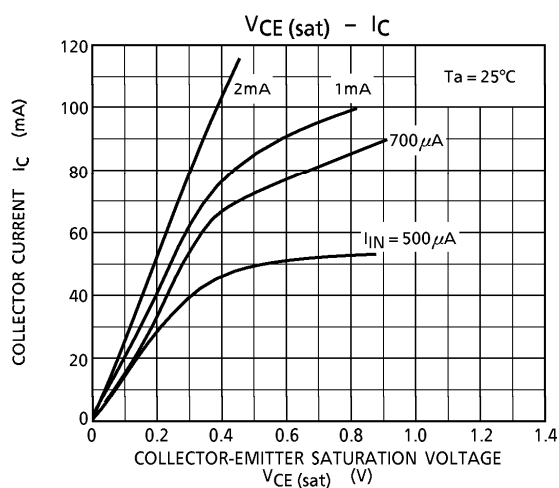
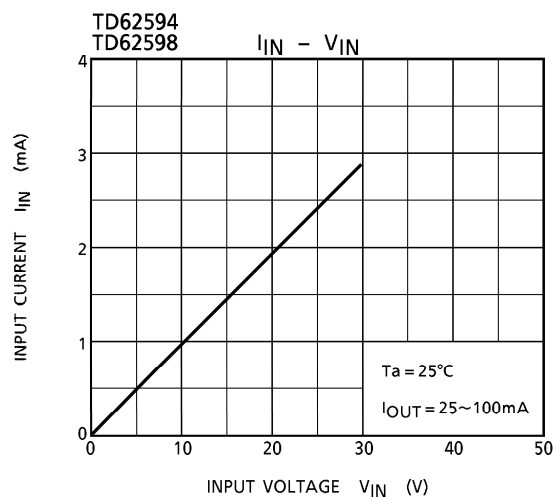
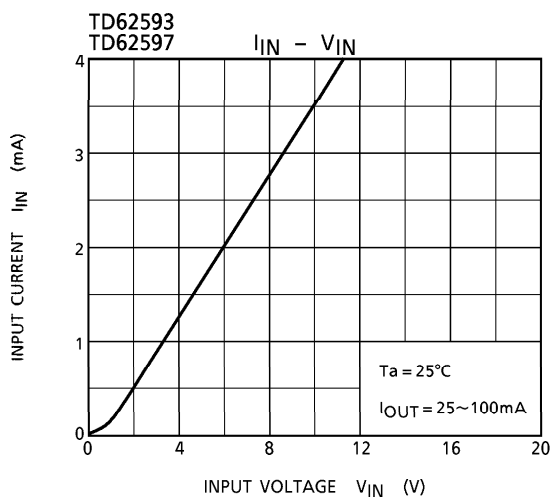
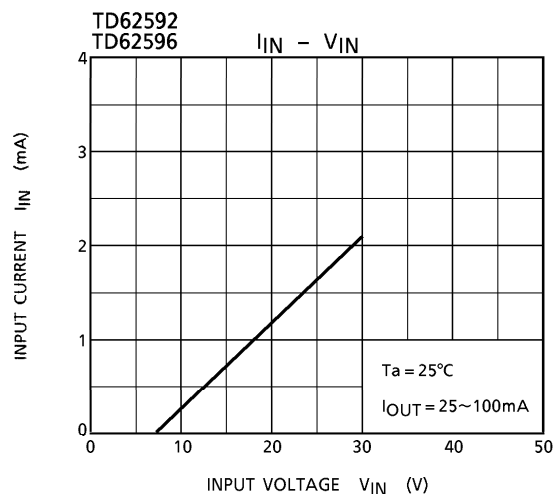
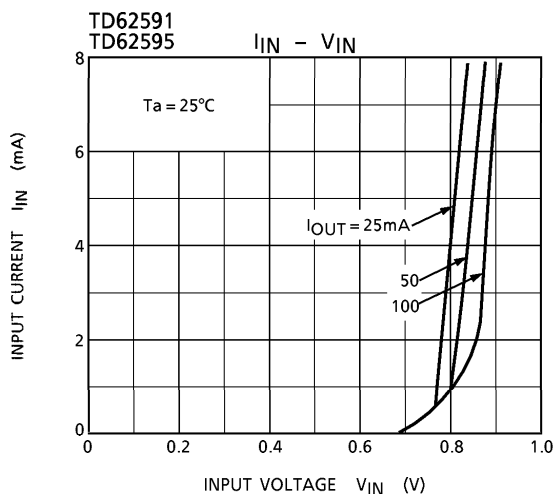
Input Condition

TYPE NUMBER	R_{IN}	V_{IH}
TD62591AP, TD62595AP, TD62595AF	$2.7k\Omega$	3V
TD62592AP, TD62596AP, TD62596AF	0Ω	15V
TD62593AP, TD62597AP, TD62597AF	0Ω	3V
TD62594AP, TD62598AP, TD62598AF	0Ω	10V

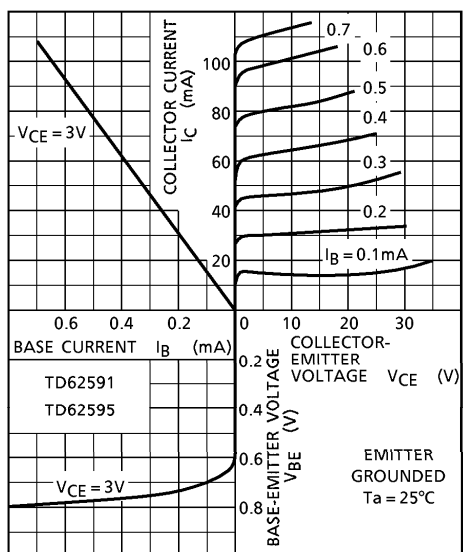
(Note 3) C_L includes probe and jig capacitance

PRECAUTIONS for USING

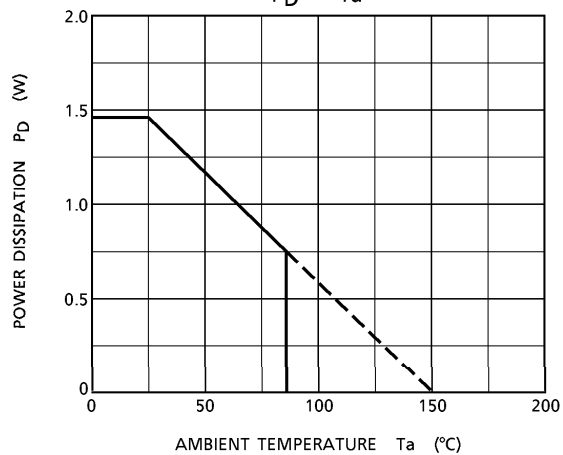
Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



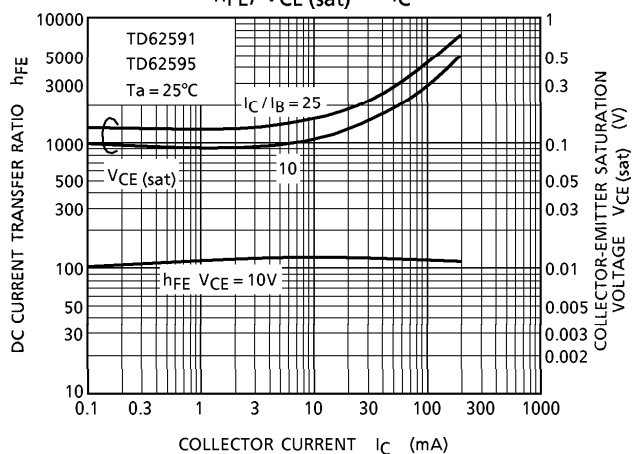
STATIC CHARACTERISTICS



$P_D - T_a$



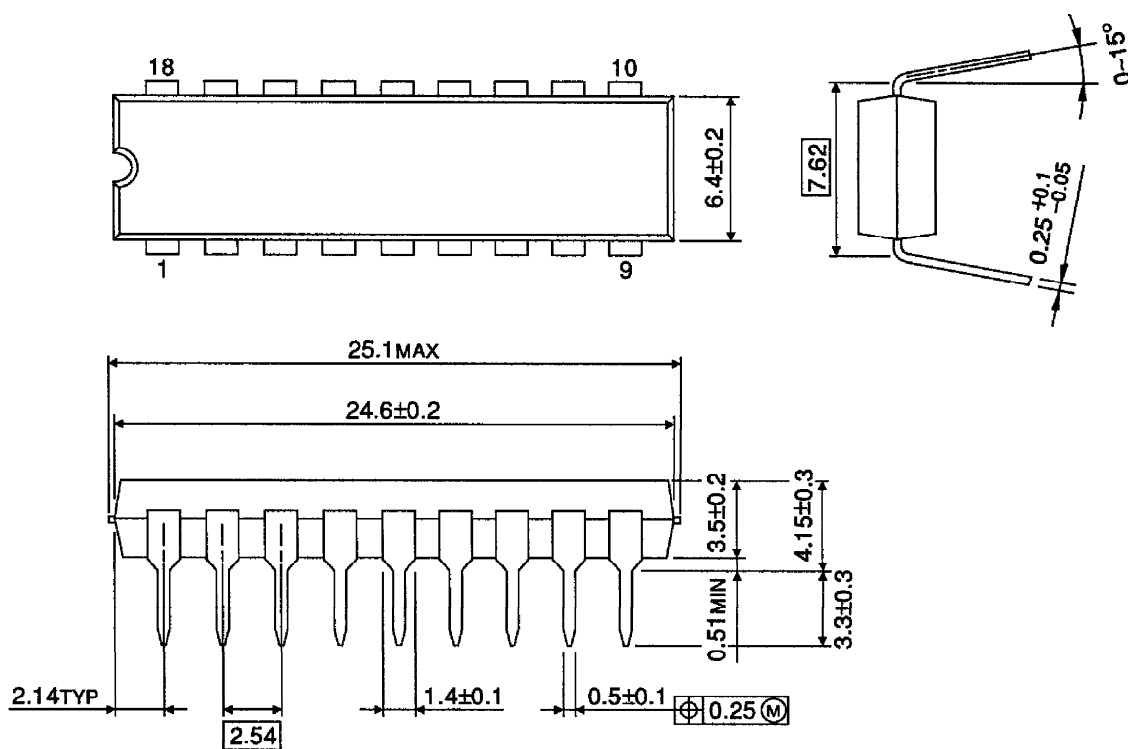
$h_{FE}, V_{CE(sat)} - I_C$



OUTLINE DRAWING

DIP18-P-300-2.54D

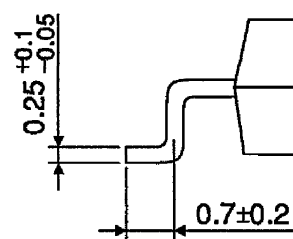
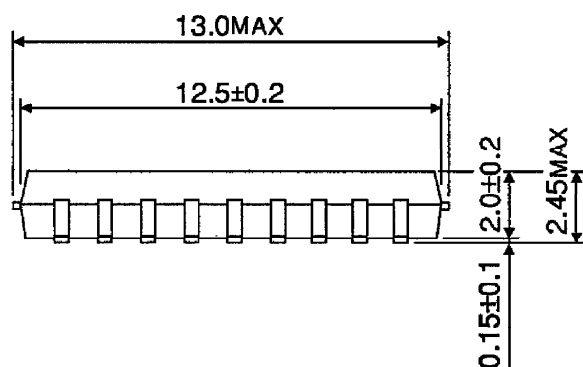
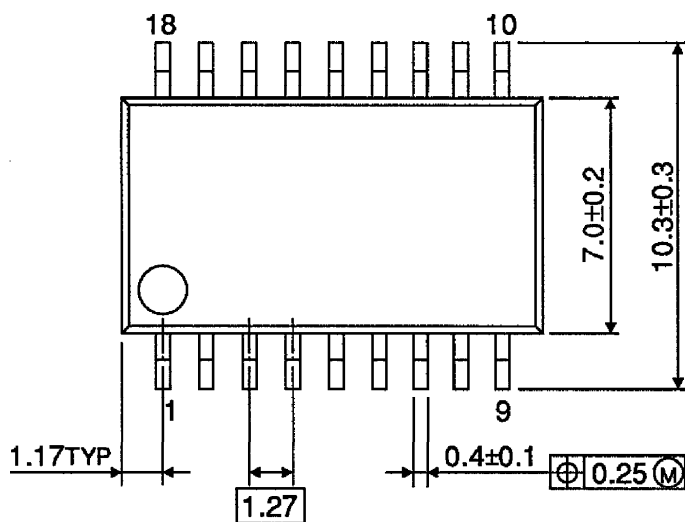
Unit : mm



Weight : 1.47g (Typ.)

OUTLINE DRAWING
SOP18-P-375-1.27

Unit : mm



Weight : 0.50g (Typ.)