

TD62502FN, TD62503FN, TD62504FN

7ch SINGLE DRIVER : COMMON EMITTER

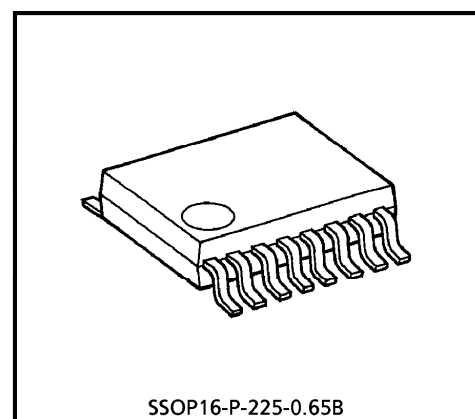
TD62502, 503, 504FN : COMMON EMITTER

The TD62502FN, TD62503FN and TD62504FN are comprised of seven or five NPN Transistor Arrays. For proper operation, the substrate (SUB) must be connected to the most negative voltage.

Applications include relay, hammer, Lamp and display (LED) drivers.

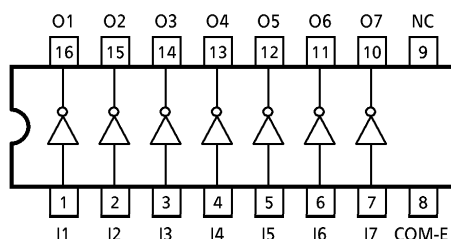
FEATURES

- Output Current (Single Output) 200mA MAX.
- High Sustaining Voltage Output 35V MIN.
- Inputs Compatible with Various Types of Logic.
- TD62502FN : $R_{IN} = 10.5k\Omega + 7V$ Zener Diode... 14~25V P-MOS
- TD62503FN : $R_{IN} = 2.7k\Omega$...TTL, 5V C-MOS
- TD62504FN : $R_{IN} = 10.5k\Omega$...6~15V P-MOS, C-MOS
- Package Type : SSOP-16 pin



Weight : 0.07g (Typ.)

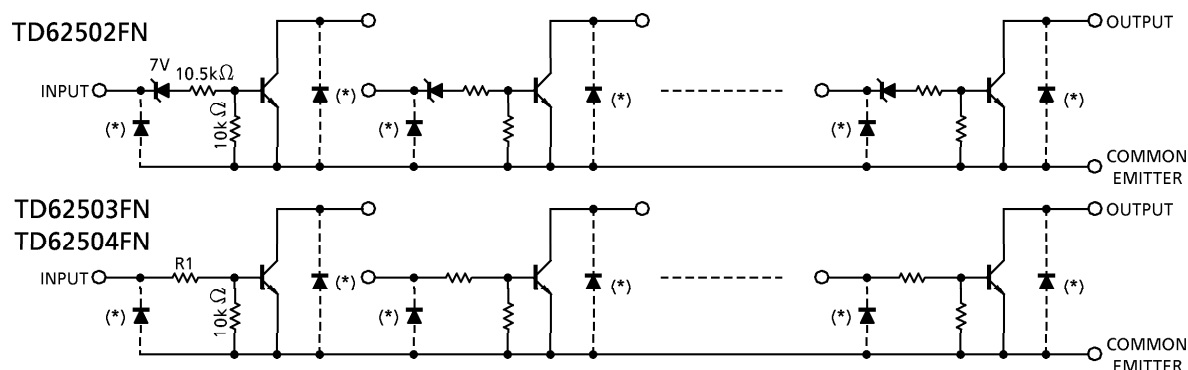
PIN CONNECTION (Top view)



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SCHEMATICS (Each driver)



TD62503FN R1 = 2.7k Ω
 TD62504FN R1 = 10.5k Ω

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

MAXIMUM RATINGS (Ta = 25°C Unless otherwise noted)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V _{CEO}	35	V
Collector-Base Voltage	V _{CBO}	50	V
Collector Current	I _C	200	mA / ch
Input Voltage	V _{IN}	-0.5~30	V
Power Dissipation	P _D (Note 1)	0.78	W
Operating Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~150	°C

(Note 1) On Glass Epoxy PCB (50 × 50 × 1.6mm, Cu 40%)

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

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Voltage	V _{CEO}		0	—	35	V
Collector-Base Voltage	V _{CBO}		0	—	50	V
Collector Current	I _C		0	—	150	mA / ch
Input Voltage	V _{IN}		0	—	25	V
Power Dissipation	P _D (Note 1)	On PCB	—	—	0.325	W

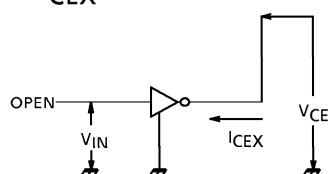
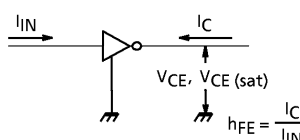
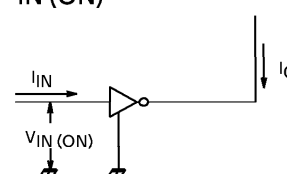
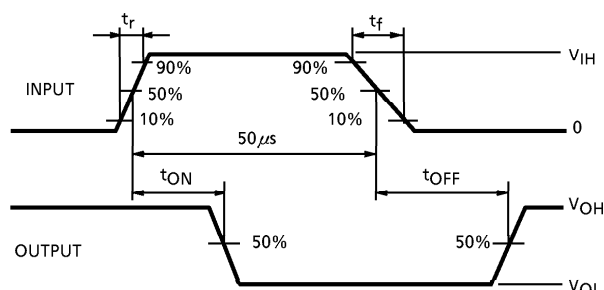
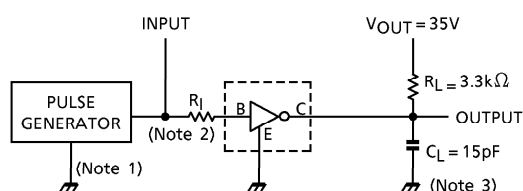
(Note 1) On Glass Epoxy PCB (50 × 50 × 1.6mm, Cu 40%)

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

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current	I_{CEX}	1	$V_{CE} = 35V, V_{IN} = 0V$	—	—	10	μA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	2	$I_{IN} = 1mA, I_C = 10mA$	—	—	0.2	V
			$I_{IN} = 3mA, I_C = 150mA$ (Note 1)	—	—	0.8	
DC Current Transfer Ratio	h_{FE}	2	$V_{CE} = 10V, I_C = 10mA$	50	—	—	
Input Voltage	TD62502FN	$V_{IN(ON)}$	$I_{IN} = 1mA, I_C = 10mA$	13	17	23	V
	TD62503FN			2.4	3.4	4.2	
	TD62504FN			7.5	11.5	15	
Turn-On Delay	t_{ON}	4	$V_{OUT} = 35V, R_L = 220\Omega$ $C_L = 15pF$	—	50	—	ns
Turn-Off Delay	t_{OFF}			—	200	—	

(Note 1) Except TD62502FN

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 μs , Duty Cycle 10%
Output Impedance 50 Ω , $t_r \leq 5ns$, $t_f \leq 10ns$

(Note 2) See below

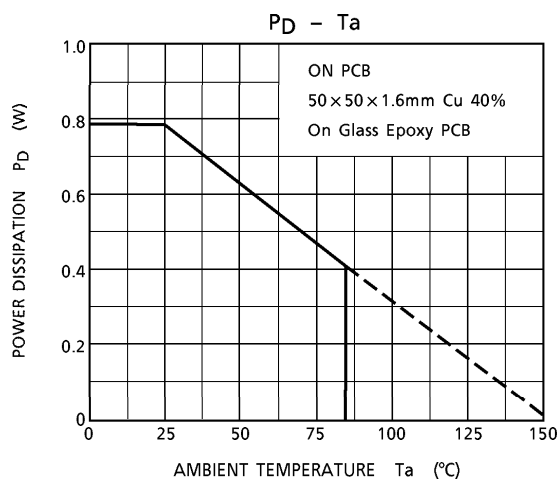
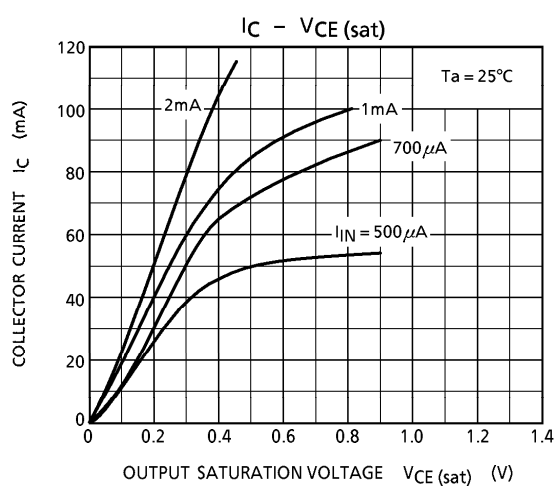
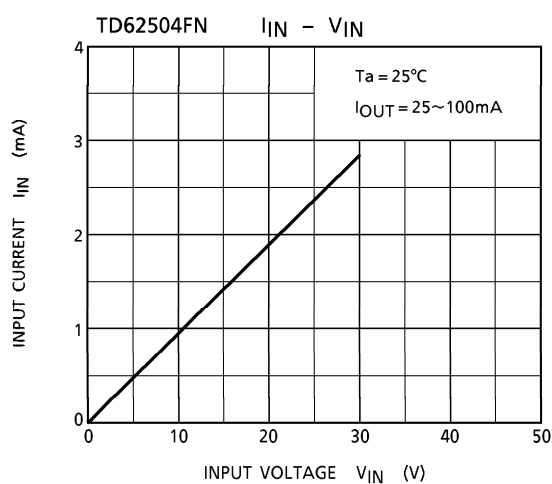
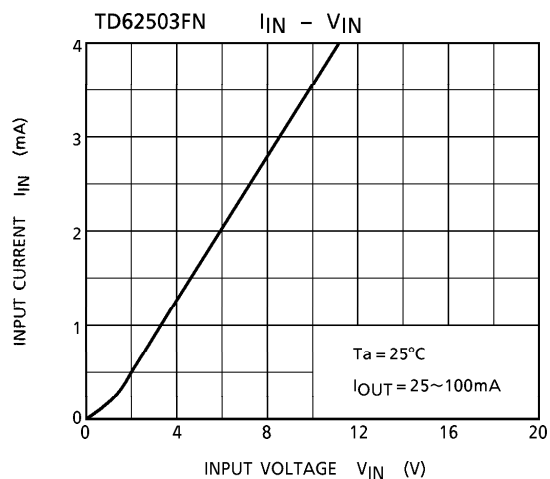
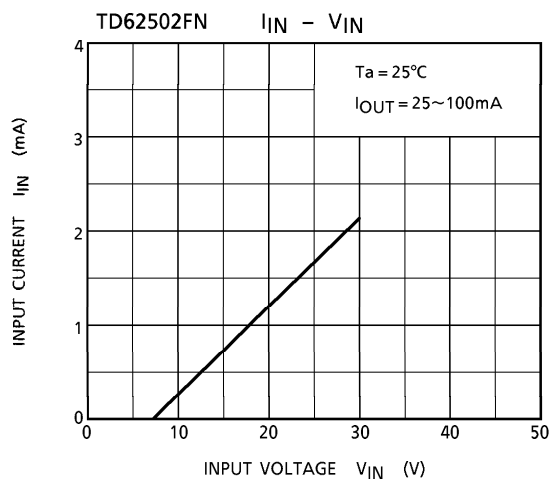
INPUT CONDITION

TYPE NUMBER	R_I	V_{IH}
TD62502FN	0 Ω	15V
TD62503FN	0 Ω	3V
TD62504FN	0 Ω	10V

(Note 3) C_L includes probe and jig capacitance

PRECAUTIONS for USING

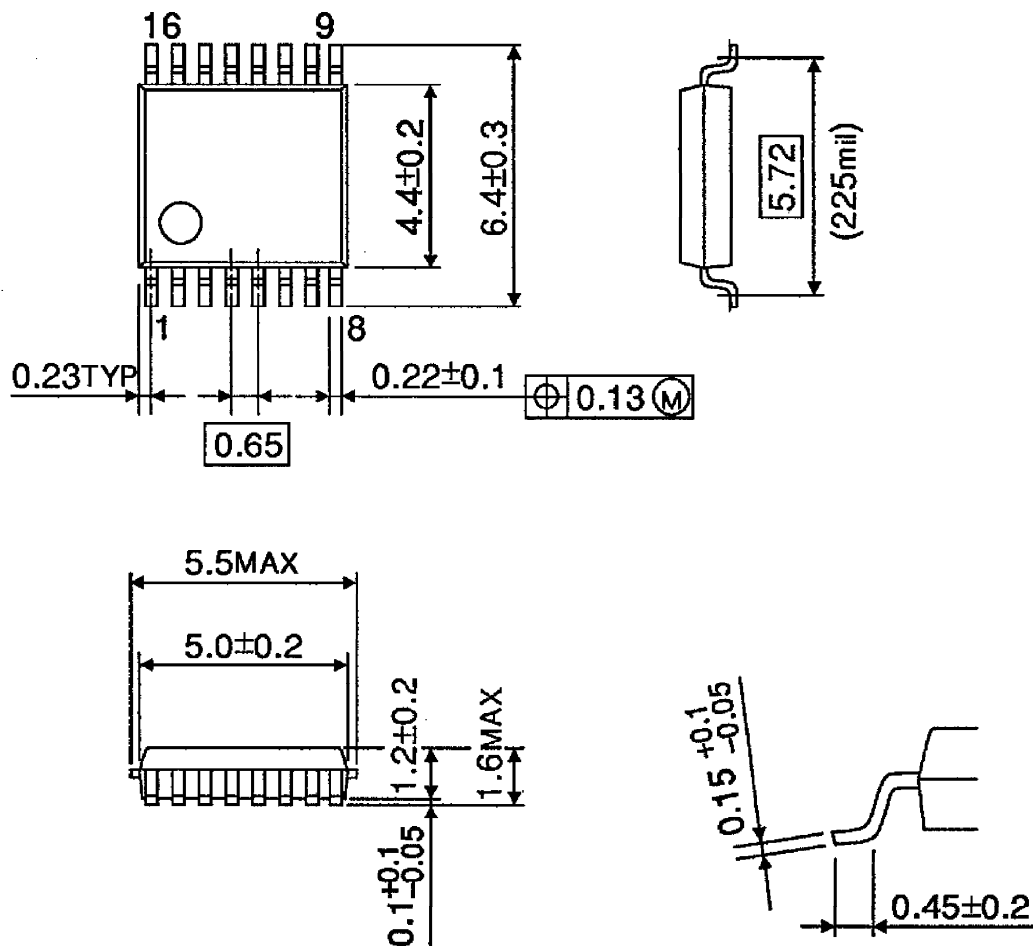
Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



OUTLINE DRAWING

SSOP16-P-225-0.65B

Unit : mm



Weight : 0.07g (Typ.)