

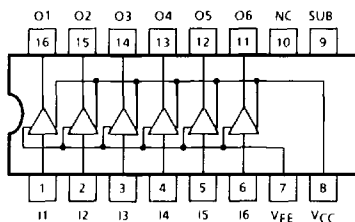
6CH HIGH-VOLTAGE SOURCE DRIVER

The TD62705P, TD62705F and TD62706P, TD62706F are comprised of six source current transistor array. These drivers are specifically designed for fluorescent display applications. For proper operation, the substrate (SUB) must be connected to the most negative voltage.

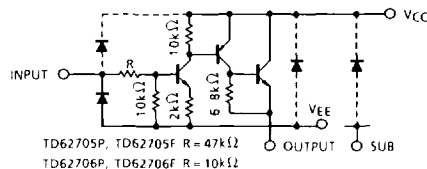
FEATURES

- High output voltage : $V_{CC} - V_{OUT} = 60V$ (Min.)
- Output current (single output) : $I_{OUT} = -50mA$ (Max.)
- Input compatible with various types of logic
 TD62705P, TD62705F $R_{IN} = 47k\Omega$: 6~25V PMOS, CMOS
 TD62706P, TD62706F $R_{IN} = 10k\Omega$: TTL, 5V CMOS
- Package type-P : DIP-16 pin
- Package type-F : SOP-16 pin

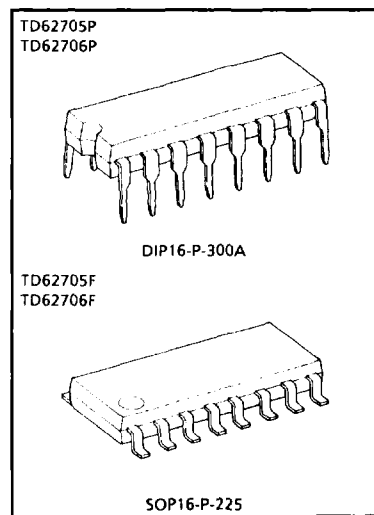
PIN CONNECTION (TOP VIEW)



SCHEMATICS (EACH DRIVER)



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



Weight DIP16-P-300A : 1.11g (Typ.)
 SOP16-P-225 : 0.16g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V _{CC-V_{EE}}	30	V
		V _{CC-V_{SUB}}	60	
Output Voltage		V _{CC-V_{OUT}}	- 60	V
Input Voltage		V _{IN-V_{EE}}	V _{CC - V_{EE}}	V
Output Current		I _{OUT}	- 50	mA / ch
Input Current		I _{IN}	± 10	mA
Power Dissipation	P	P _D (Note 2)	1.0	W
	F		0.625 (Note 1)	
Operating Temperature		T _{opr}	- 40~85	°C
Storage Temperature		T _{stg}	- 55~150	°C

(Note 1) On Glass Epoxy PCB (30×30×1.6mm Cu 50%)

(Note 2) Delated above 25°C in the proportion of 8.0mw/°C (P Type), 5.0mw/°C (F Type).

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

CHARACTERISTIC		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	TD62705P TD62705F	V _{CC}	V _{EE} = 0V	6.0	—	25	V
	TD62706P TD62706F			4.5	—	25	
		V _{SUB}	V _{CC} = 0V	V _{OUT}	—	- 55	V
Output Voltage		V _{OUT}	V _{CC} = 0V	0	—	- 55	V
Output Current		I _{OUT}	—	0	—	- 40	mA / ch
Input Voltage	TD62705P TD62705F	V _{IN}	V _{EE} = 0V, V _{CC} = 25V	0	—	25	V
	TD62706P TD62706F			0	—	7	
Power Dissipation	P	P _D	—	—	—	0.36	W
	F		On PCB (Note)	—	—	—	

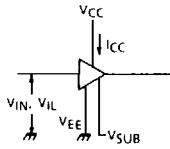
(Note) On Glass Epoxy PCB (30×30×1.6mm, Cu 50%)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

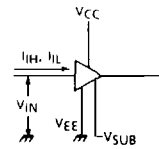
CHARACTERISTIC			SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Voltage	"H" Level	TD62705P	V_{IH}	1	$V_{EE} = 0V$	6.0	—	—	V
		TD62705F			$V_{EE} = 0V$	2.2	—	—	
	"L" Level	TD62706P	V_{IL}	1	$V_{EE} = 0V$	—	—	2.2	
		TD62706F			$V_{EE} = 0V$	—	—	0.8	
Input Current	"H" Level	TD62705P	I_{IH}	2	$V_{EE} = 0V, V_{IN} = 6.0V$	—	0.11	0.16	mA
		TD62705F			$V_{EE} = 0V, V_{IN} = 2.4V$	—	0.12	0.18	
	"L" Level	TD62706P	I_{IL}	2	$V_{EE} = V_{IN} = 0V, V_{CC} = 25V$	—	—	± 1	μA
Output Leakage Current			I_{CEX}	3	$V_{EE} = 0V, V_{CC} = 25V$ $V_{IN} = V_{IL} \text{ MAX. } I_{OUT} = -30V$	—	—	-100	μA
Collector-Emitter Saturation Voltage			$V_{CE(sat)}$	4	$V_{EE} = 0V, V_{CC} = V_{CC} \text{ MIN.}$ $V_{IN} = V_{IH} \text{ MIN. } I_{OUT} = -40mA$	—	—	$V_{CC} - 2.5$	V
Supply Current (Output On)	TD62705P	I_{CC}	1	1	$V_{EE} = 0V, V_{CC} = 25V$ $V_{IN} = V_{IN} \text{ MAX. } I_{OUT} = 0mA$	—	—	32	mA
	TD62705F					—	—	25	
	TD62706P					—	—	—	
Turn-On Delay			t_{ON}	5	$R_L = 1.4k\Omega, C_L = 15pF$	—	0.2	—	μs
Turn-Off Delay			t_{OFF}			—	1.5	—	μs

TEST CIRCUIT

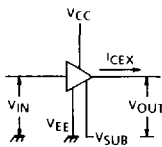
1. V_{IH} , V_{IL} , I_{CC}



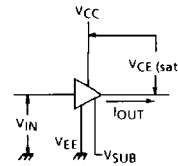
2. I_{IH} , I_{IL}



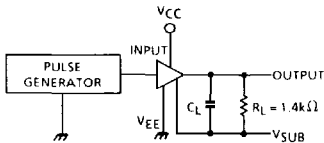
3. I_{CEX}



4. $V_{CE(sat)}$



5. t_{ON} , t_{OFF}



$C_L = 15\text{pF}$
(Includes probe and jig capacitance)

INPUT CONDITION

TYPE NAME	V_{IN}	V_{CC}	V_{SUB}
TD62705P, TD62705F	0-9V	25V	-30
TD62706P, TD62706F	0-3V	25V	-30

V_{IN} : Pulse Width $50\mu\text{s}$
Duty Cycle 50%
 $t_r \leq 5\text{ns}$
 $t_f \leq 10\text{ns}$

