

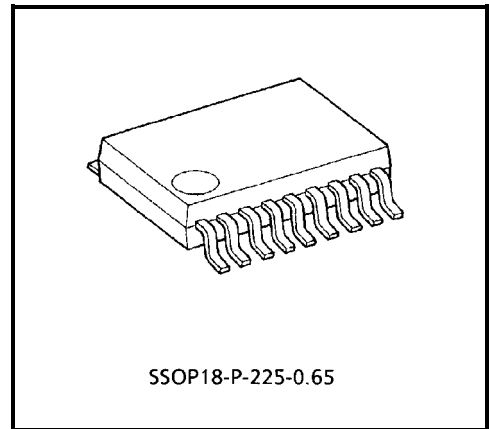
TD62786AFN

8CH HIGH-VOLTAGE SOURCE-CURRENT DRIVER

The TD62786AFN is eight Channel Non-Inverting Source current Transistor Array. All units feature integral clamp diodes for switching inductive loads. Applications include relay, hammer and lamp drivers.

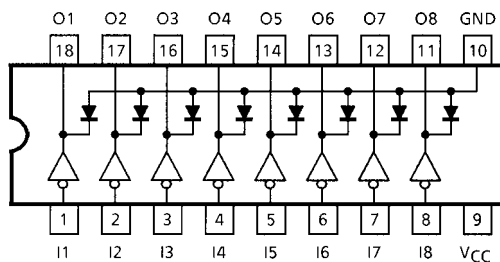
FEATURES

- Package Type : SSOP18 pin (0.65 mm pitch)
- High Output Voltage : $V_{CE(SUS)} = 50\text{ V}$ (Min)
- Output Current (Single Output) : $I_{OUT} = -500\text{ mA / ch}$ (Max)
- Low Level Active Input
- Output Clamp Diodes
- Input Compatible with TTL, 5 V CMOS
- Single Supply Voltage

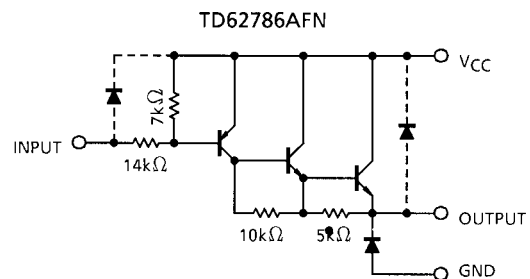


Weight: 0.09 g (Typ.)

PIN CONNECTION (TOP VIEW)



SCHEMATICS (EACH DRIVER)



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

MAXIMUM RATING (Ta = 25°C, Vcc = 0 V)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}-V_{GND}$	50	V
Output Sustaining Voltage	$V_{CE(SUS)}$	-50	V
Output Current	I_{OUT}	-500	mA / ch
Input Voltage	V_{IN}	-30 ~ 0.5	V
Clamp Diode Reverse Voltage	V_R	50	V
Clamp Diode Forward Current	I_F	500	mA
Power Dissipation	P_D (Note)	0.96	W
Operating Temperature	T_{opr}	-40 ~ 85	°C
Storage Temperature	T_{stg}	-55 ~ 150	°C

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

RECOMMENDED OPERATING CONDITIONS (Ta = -40~85°C, VCC = 0 V)

CHARACTERISTIC	SYMBOL	CONDITION	MIN	TYP.	MAX	UNIT	
Supply Voltage	V _{CC} -V _{GND}		—	—	50	V	
Output Sustaining Voltage	V _{CE (SUS)}		—	—	-50	V	
Output Current	I _{OUT} (Note)	DC 1 Circuit	—	—	-350	mA / ch	
		T _{pw} = 25 ms, T _r = 120°C, Ta = 85°C, 8 Circuits	Duty = 10%	0	—		-180
		Duty = 50%	0	—	-38		
Input Voltage	V _{IN}		-30	—	0	V	
Clamp Diode Reverse Voltage	V _R		—	—	50	V	
Clamp Diode Forward Current	I _F		—	—	350	mA	
Power Dissipation	P _D (Note)		—	—	0.4	W	

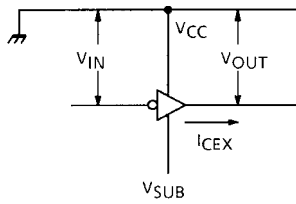
Note: On Class Epoxy PCB (50 × 50 × 1.6 mm Cu 40%)

ELECTRICAL CHARACTERISTICS (Ta = 25°C, VCC = 0 V)

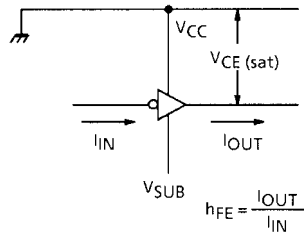
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN	TYP.	MAX	UNIT
Output Leakage Current	I _{CEX}	1	V _{OUT} = V _{GND} = -50 V Ta = 85°C	—	—	-100	μA
Output Saturation Voltage	V _{CE (sat)}	2	V _{IN} = V _{IL} MAX. I _{OUT} = -100 mA	—	—	-1.8	V
			V _{IN} = V _{IL} MAX. I _{OUT} = -350 mA	—	—	-2.0	
DC Current transfer Ratio	h _{FE}	2	V _{CC} = 0 V, V _{CE} = 3 V I _{OUT} = -350 mA	1000	—	—	
Input Voltage	"H" Level	4		-1.2	—	0	V
	"L" Level			-30	—	-2.8	
Input Current	I _{IN (ON)}	3	V _{CC} = 5.5 V, V _{IN} = 0.4 V	—	—	-0.4	mA
Clamp Diode Reverse Current	I _R	—	V _R = V _R MAX., Ta = 85°C	—	—	100	μA
Clamp Diode Forward Voltage	V _F	—		—	—	2.0	V
Turn-On Delay	t _{ON}	5	V _{OUT} = -50 V, R _L = 125 Ω C _L = 15 pF	—	0.2	—	μs
Turn-Off Delay	t _{OFF}			—	1.0	—	

TEST CIRCUIT

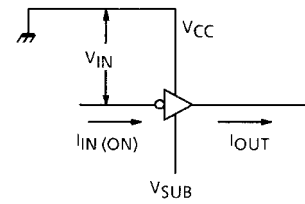
1. I_{CEX}



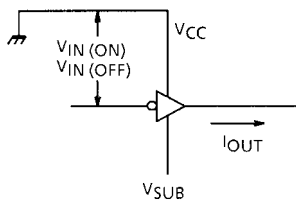
2. $V_{CE(sat)}$, h_{FE}



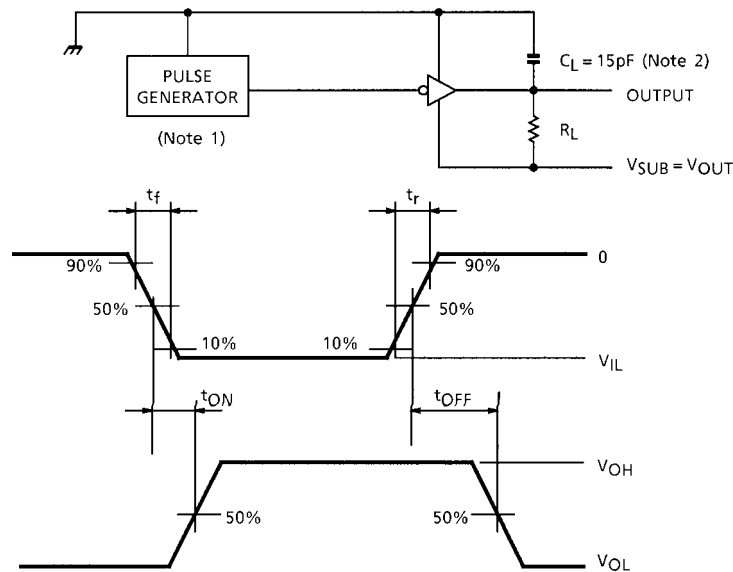
3. $I_{IN(ON)}$



4. $V_{IN(ON)}$, $V_{IN(OFF)}$



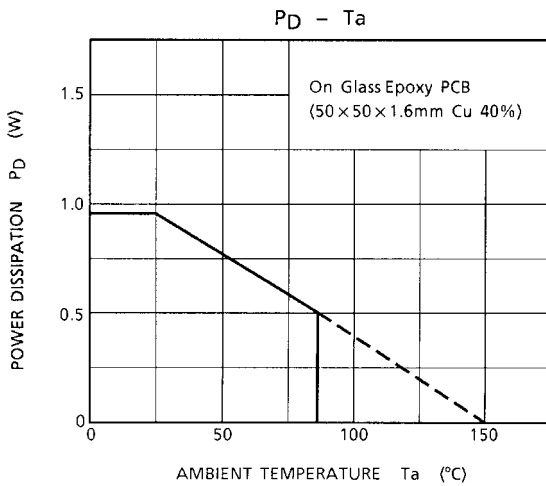
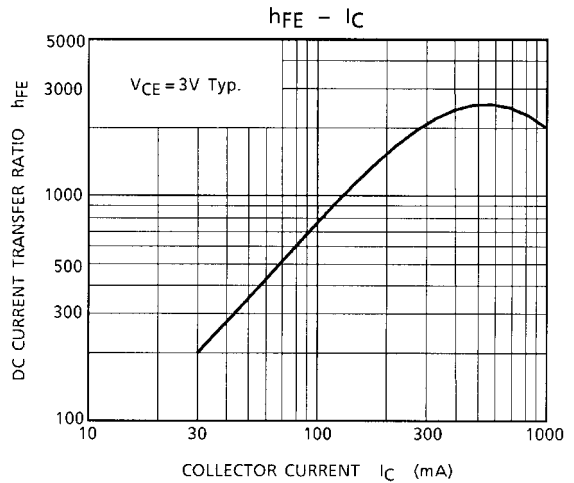
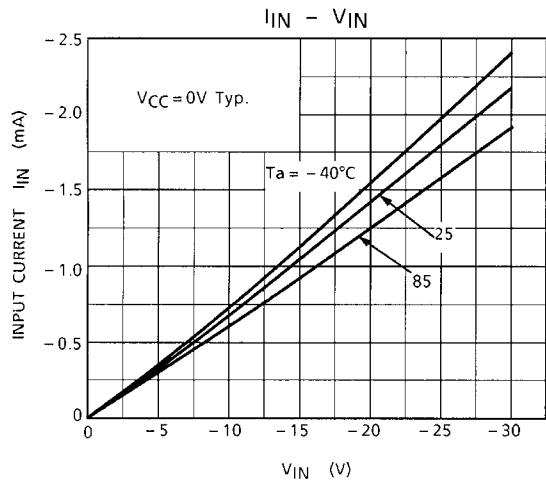
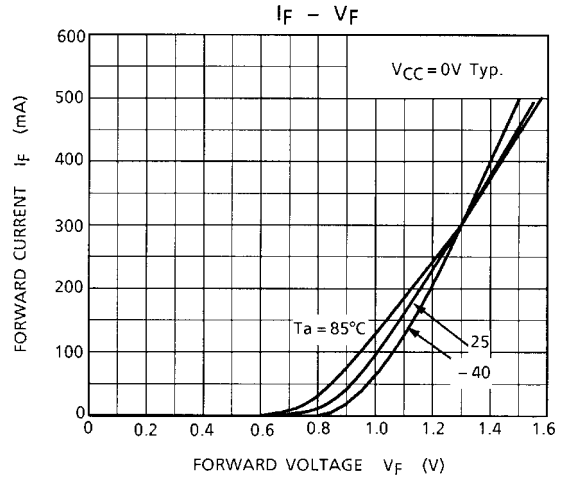
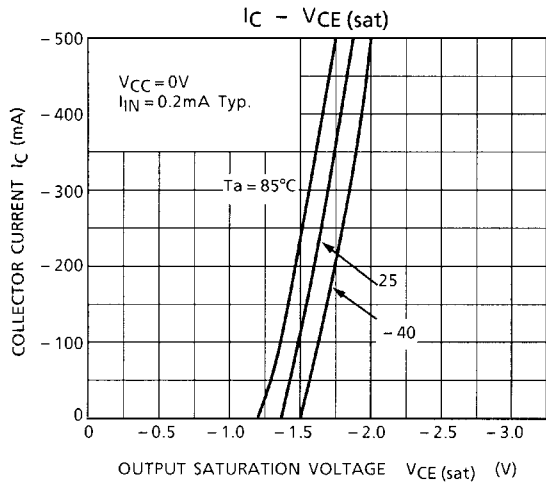
5. t_{ON} , t_{OFF}



Note 1: Pulse Width 50 μ s, Duty Cycle 10%
 Output Impedance 50 Ω , $t_r \leq 10$ ns, $t_f \leq 5$ ns
 Note 2: C_L includes probe and jig capacitance

PRECAUTIONS for USING

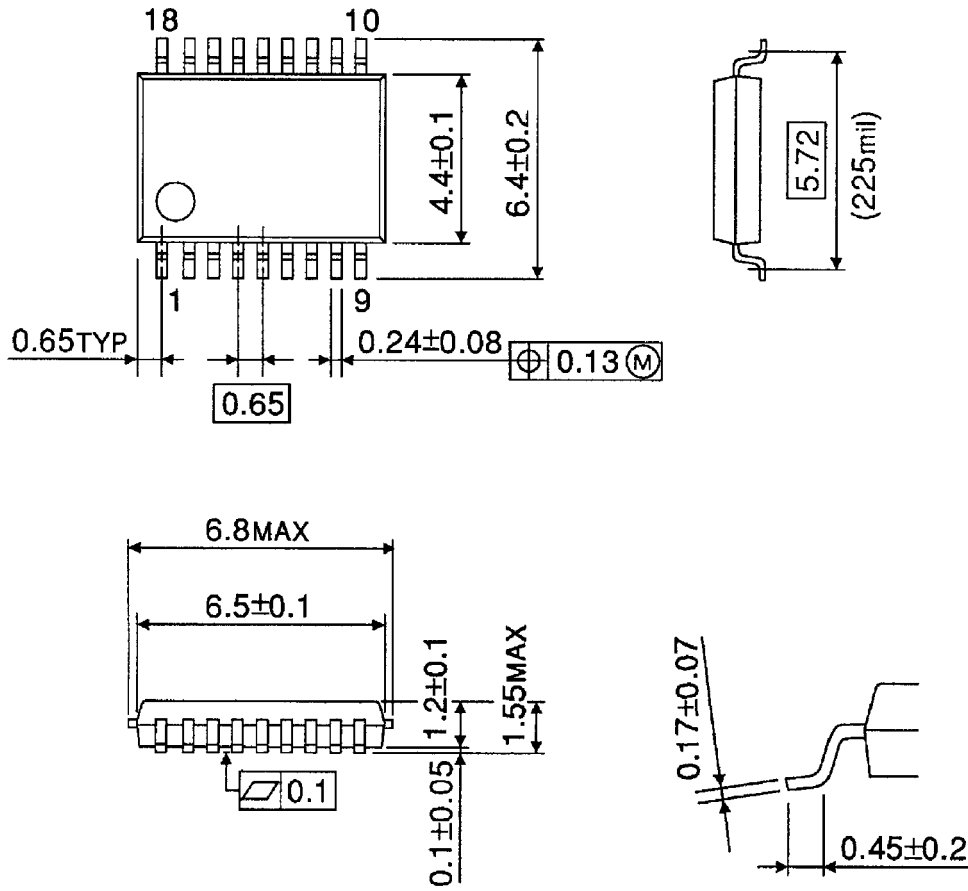
This IC does not integrate protection circuits such as overcurrent and overvoltage protectors. Thus, if excess current or voltage is applied to the IC, the IC may be damaged. Please design the IC so that excess current or voltage will not be applied to the IC. Utmost care is necessary in the design of the output line, VCC and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.



PACKAGE DIMENSIONS

SSOP18-P-225-0.65

Unit: mm



Weight: 0.09 g (Typ.)

RESTRICTIONS ON PRODUCT USE

000707EBA

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