1. DESCRIPTION

The XL62783/XD62783 Series are comprised of eight source current Transistor Array.

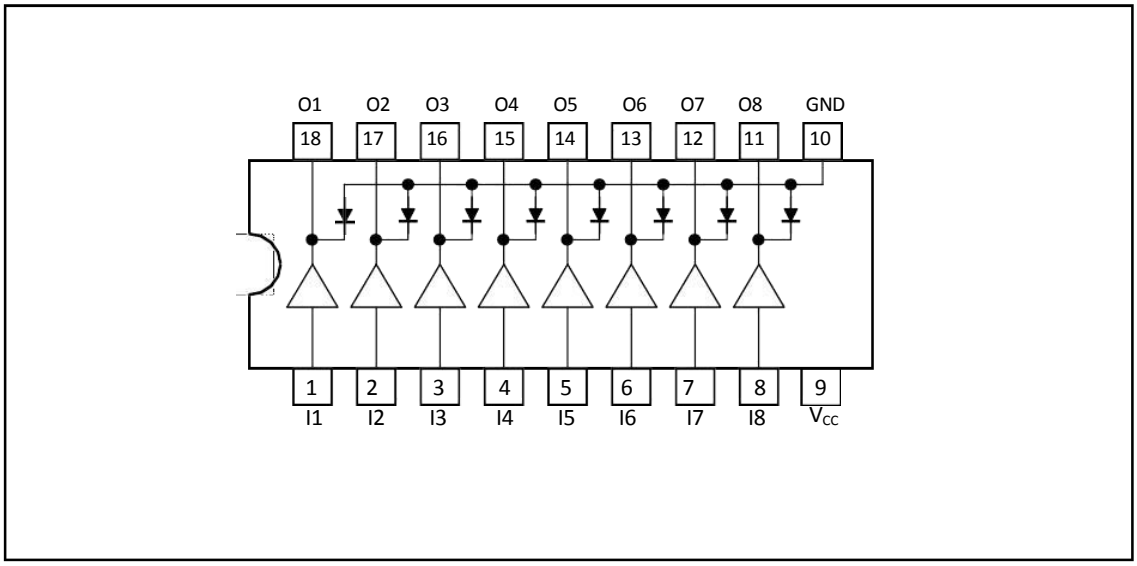
These drivers are specifically designed for fluorescent display applications.

Applications include relay, hammer and lamp drivers.

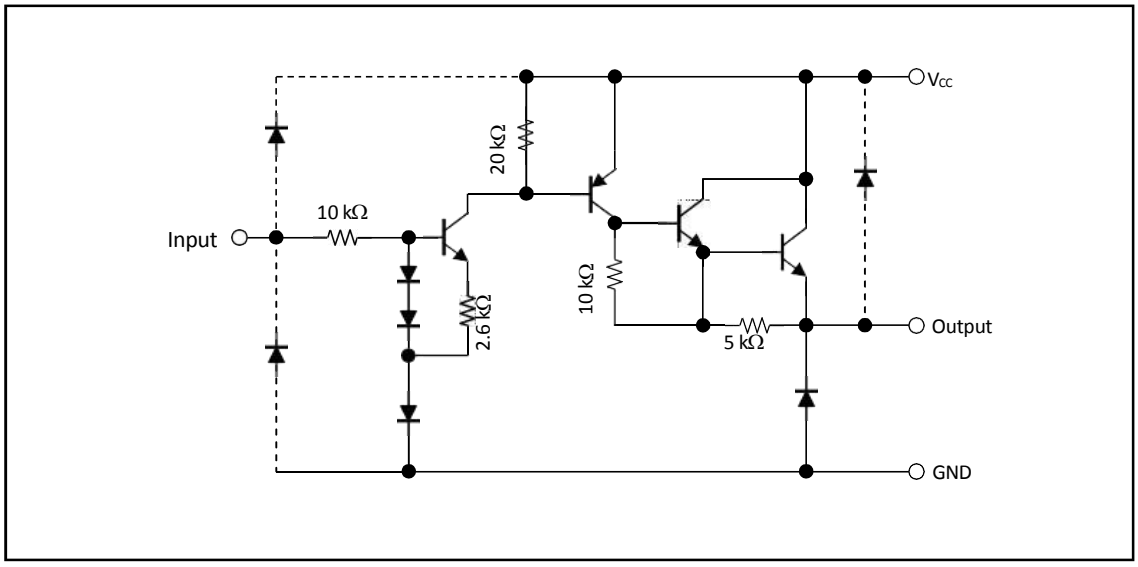
2. FEATURES

- High output voltage: VCC = 50 V (min)
- Output current (single output): IOUT= –500 mA (max)
- Output clamp diodes
- Single supply voltage
- Input compatible with various types of logic
- Designation: TTL, 5V CMOS

3. PIN CONFIGURATIONS AND FUNCTIONS



4. SCHEMATICS(each driver)



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

5. SPECIFICATIONS

5.1. Absolute Maximum Ratings （Ta = 25℃）

Characteristics		Symbol	Rating	Unit
Supply voltage		V_{CC}	50	V
Output current		I_{OUT}	–500	mA/ch
Input voltage		V_{IN}	15	V
Clamp diode reverse voltage		V_R	50	V
Clamp diode forward current		I_F	500	mA
Power dissipation	XD	P_D (Note)	1.47	W
	XL		0.96	
Operating temperature		T_{opr}	–40 to 85	°C
Storage temperature		T_{stg}	–55 to 150	°C

5.2. Operating Ratings

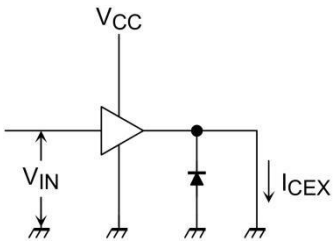
Characteristics		Symbol	Rating	Unit
Supply voltage		V_{CC}	50	V
Output current		I_{OUT}	–500	mA/ch
Input voltage		V_{IN}	15	V
Clamp diode reverse voltage		V_R	50	V
Clamp diode forward current		I_F	500	mA
Power dissipation	XD	P_D (Note)	1.47	W
	XL		0.96	
Operating temperature		T_{opr}	–40 to 85	°C
Storage temperature		T_{stg}	–55 to 150	°C

5.3. Electrical Characteristics（Ta = 25℃）

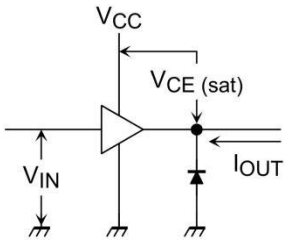
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Output leakage current	I_{CEX}	1	$V_{CC} = V_{CC}$ max V_{IN} = 0.4 V Ta = 25°C	—	—	100	μA
Output saturation voltage	$V_{CE\ (sat)}$	2	$V_{IN} = V_{IN\ (ON)}$, I_{OUT} = −350 mA	—	—	2.0	V
			$V_{IN} = V_{IN\ (ON)}$, I_{OUT} = −225 mA	—	—	1.9	
			$V_{IN} = V_{IN\ (ON)}$, I_{OUT} = −100 mA	—	—	1.8	
Input current	$I_{IN\ (ON)}$	3	V_{IN} = 2.4 V	—	36	52	μA
			V_{IN} = 3.85 V	—	180	260	
Input voltage	$V_{IN\ (ON)}$	4	V_{CE} = 2.0 V, I_{OUT} = −350 mA	—	—	2.0	V
	$V_{IN\ (OFF)}$		I_{OUT} = −500 μA	0.8	—	—	
Supply current	$I_{CC\ (ON)}$	3	$V_{IN} = V_{IN\ (ON)}$, V_{CC} = 50 V	—	—	2.5	mA/ch
Clamp diode reverse current	I_R	5	V_R = 50 V	—	—	50	μA
Clamp diode forward voltage	V_F	6	I_F = 350 mA	—	—	2.0	V
Turn-ON delay	t_{ON}	7	$V_{CC} = V_{CC}$ max R_L = 125 Ω C_L = 15 pF	—	0.15	—	μs
Turn-OFF delay	t_{OFF}	7	$V_{CC} = V_{CC}$ max R_L = 125 Ω C_L = 15 pF	—	1.8	—	μs

5.4. Test Circuit

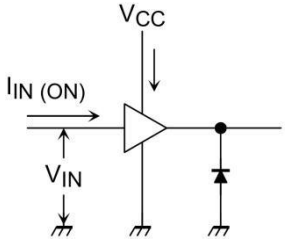
1.ICEX



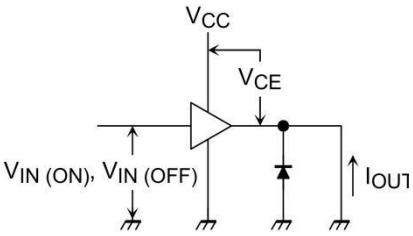
2. VCE (sat)



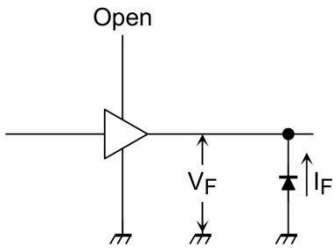
3. IIN (ON), ICC



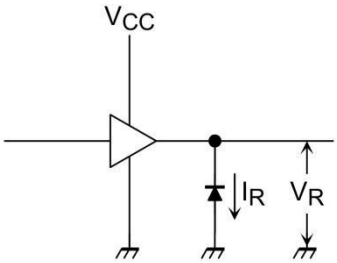
4. VIN (ON), VIN (OFF)



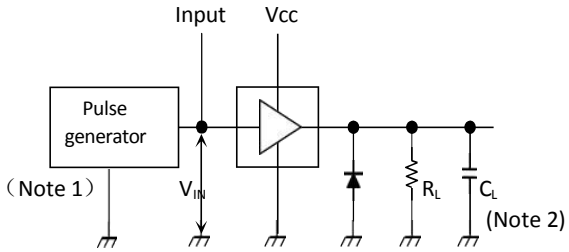
5. IR

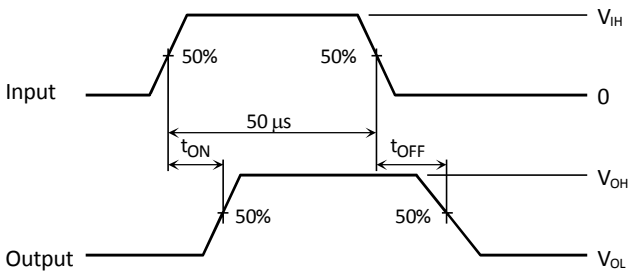


6. VF



7. tON, tOFF





Note 1: Pulse Width 50 μs, Duty Cycle 10%
Output Impedance 50 Ω, $t_r \leq 5$ ns, $t_f \leq 10$ ns

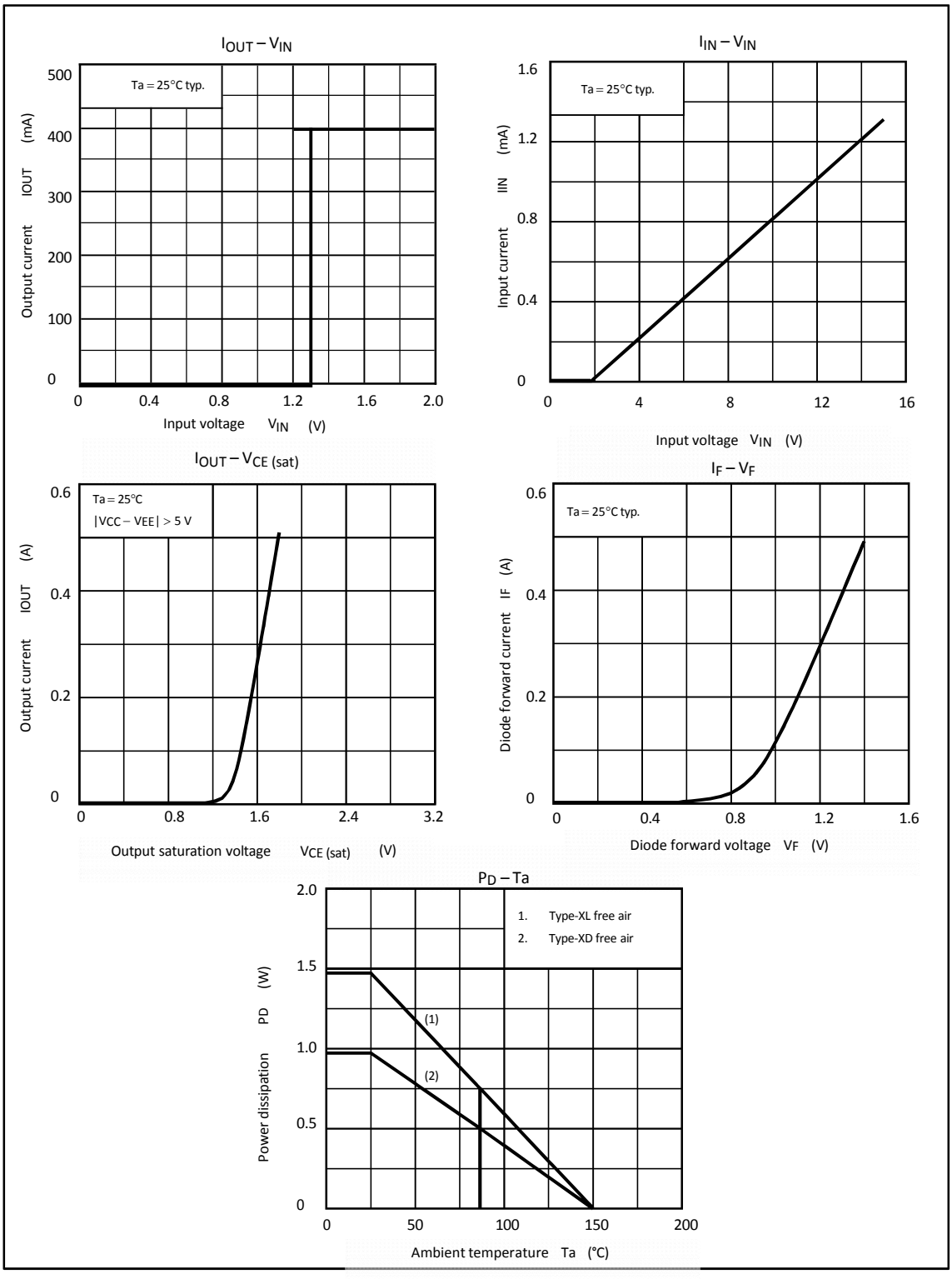
Note 2: C_L includes probe and jig capacitance.

5.5. 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.



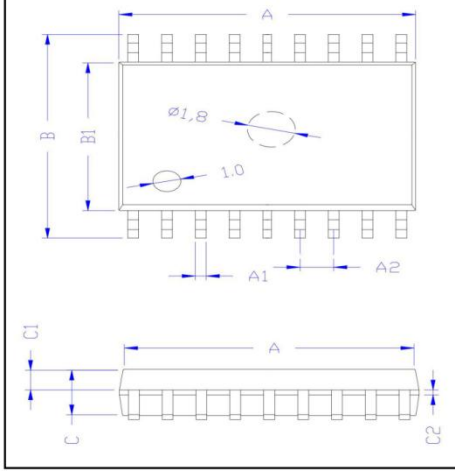
6. ORDERING INFORMATION

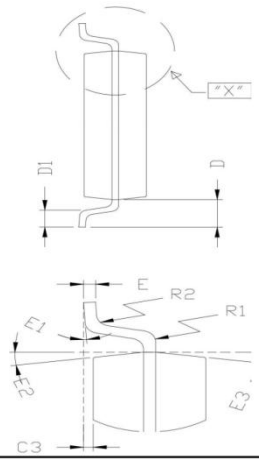
Ordering Information

Part Number	Device Marking	Package Type	Body size (mm)	Temperature (°C)	MSL	Transport Media	Package Quantity
XD62783	XD62783	DIP18	22.90 * 6.50	- 40 to 85	MSL3	Tube 20	800
XL62783	XL62783	SOP18	11.45 * 7.50	- 40 to 85	MSL3	T&R	1000

7. DIMENSIONAL DRAWINGS

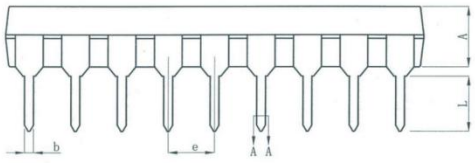
SOP18

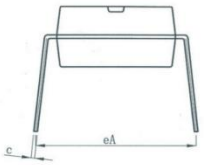




SYMBOL	MIN	NOM	MAX
A	11.25	11.45	11.65
A1		0.40TYP	
A2		1.27 TYP	
B	10.10	10.30	10.50
B1	7.30	7.50	7.70
C	2.24	2.34	2.44
C1		1.05TYP	
C2	0.20	0.26	0.33
C3	0.10	0.15	0.25
D	1.30	1.40	1.50
D1	0.70	0.80	1.00
E	0.20	0.25	0.30
E1	0°	4°	8°
E2		7° TYP	
E3		5° TYP	
R1			
R2			

DIP18





symbol	millimeter		
	Min	Nom	Max
A	3.20	3.30	3.40
b	0.44	——	0.53
b1	0.43	0.46	0.49
c	0.25	——	0.30
c1	0.24	0.25	0.26
D	22.80	22.90	23.00
E	6.40	6.50	6.60
e	2.54BSC		
eA	8.30	8.80	9.30
L	3.00	——	——