

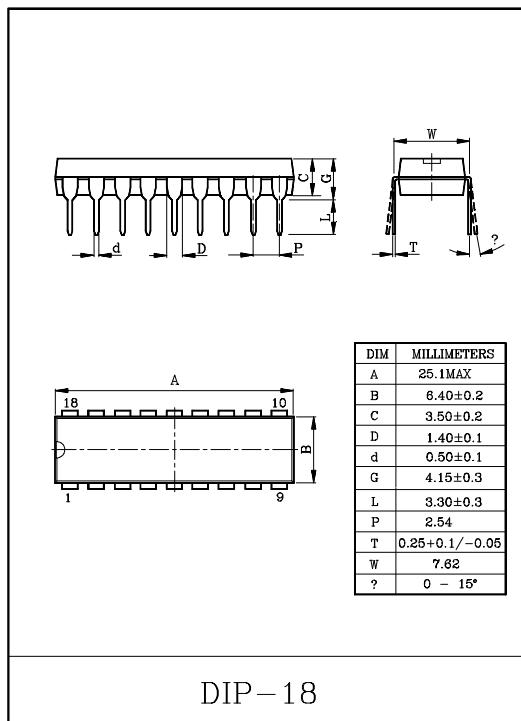
## 8CH HIGH-VOLTAGE SOURCE DRIVER

The KID65783AP/AF is comprised of eight source current transistor array. This driver is specifically designed for fluorescent display applications. Applications include relay, hammer and lamp drivers.

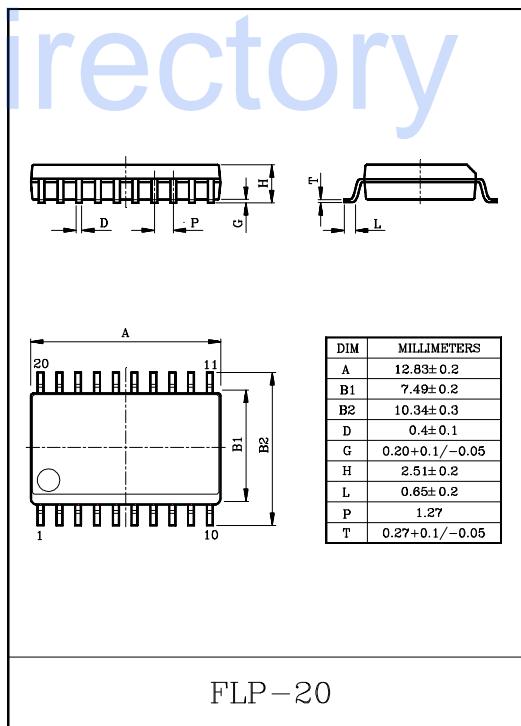
## FEATURES

- High Output Voltage :  $V_{CC}=50V$ (Min.).
- Output Current (Single Output)  $I_{OUT} : -500mA$ (Min.).
- Output Clamp Diodes.
- Single Supply Voltage.
- Input Compatible With Various Types of Logic.
- Package Type-AP : DIP-18pin.
- Package Type AF : FLP-20pin.

TYPE	DESIGNATION
KID65783AP/AF	TTL, 5V CMOS

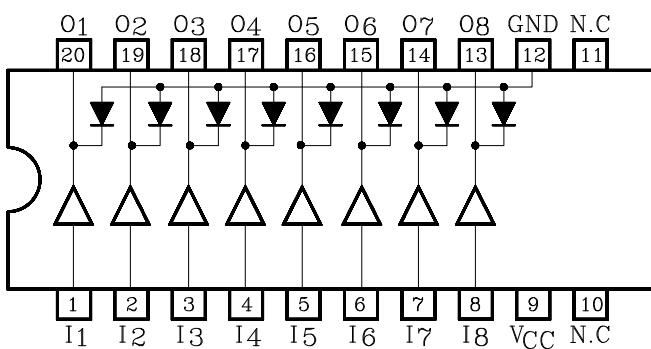


DIP-18

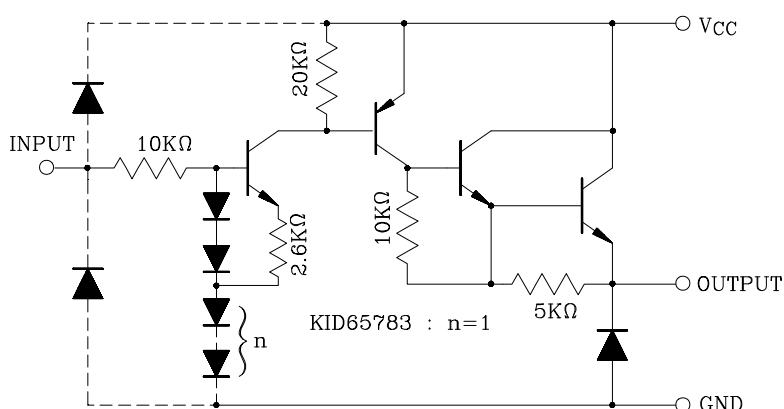


FLP-20

## PIN CONNECTION (TOP VIEW)



## SCHEMATICS (EACH DRIVER)



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

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## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V <sub>CC</sub>	50	V
Output Current		I <sub>OUT</sub>	-500	mA/ch
Input Voltage		V <sub>IN</sub>	15	V
Clamp Diode Reverse Voltage		V <sub>R</sub>	50	V
Clamp Diode Forward Current		I <sub>F</sub>	500	mA
Power Dissipation	AP	P <sub>D</sub> (Note)	1.47	W
	AF		0.96	
Operating Temperature		T <sub>opr</sub>	-40~85	°C
Storage Temperature		T <sub>stg</sub>	-55~150	°C

Note) Delayed above 25°C in the proportion of 11.7W/°C(AP Type),  
7.7W/°C(AF Type).

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

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT		
Supply Voltage		V <sub>CC</sub>	-		-	-	50	V		
Output Current	AP	I <sub>OUT</sub>	Ta=85°C Tj=120°C Tpw=25mS	Duty=10% 8 Circuits	-	-	-260	mA/ch		
				Duty=50% 8 Circuits	-	-	-59			
	AF			Duty=10% 8 Circuits	-	-	-180			
				Duty=50% 8 Circuits	-	-	-38			
Input Voltage		V <sub>IN</sub>	-		-	-	12	V		
Input Voltage	Output ON	V <sub>IN</sub> (ON)	-		2.0	5.0	15	V		
	Output OFF	V <sub>IN</sub> (OFF)	-		0	-	0.8			
Clamp Diode Reverse Voltage	AP	V <sub>R</sub>	-	-	-	-	50	V		
	AF				-	-	35			
Clamp Diode Forward Current		I <sub>F</sub>	-		-	-	400	mA		
Power Dissipation	AP	P <sub>D</sub>	-	-	-	-	0.52	W		
	AF				-	-	0.35			

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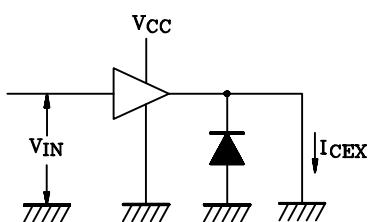
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current	I <sub>CEx</sub>	1	V <sub>CC</sub> =V <sub>CC MAX.</sub> , V <sub>IN</sub> =0.4V Ta=25°C	-	-	100	μA
Output Saturation Voltage	V <sub>CE(sat)</sub>	2	V <sub>IN</sub> =V <sub>IN(ON)</sub> , I <sub>OUT</sub> =-350mA	-	-	2.0	V
			V <sub>IN</sub> =V <sub>IN(ON)</sub> , I <sub>OUT</sub> =-225mA	-	-	1.9	
			V <sub>IN</sub> =V <sub>IN(ON)</sub> , I <sub>OUT</sub> =-100mA	-	-	1.8	
Input Current	I <sub>IN(ON)</sub>	3	V <sub>IN</sub> =2.4V	-	36	52	μA
			V <sub>IN</sub> =3.85V	-	180	260	
Input Voltage	V <sub>IN(ON)</sub>	4	V <sub>CE</sub> =2.0V, I <sub>OUT</sub> =-350mA	-	-	2.0	V
	V <sub>IN(OFF)</sub>		I <sub>OUT</sub> =-500μA	0.8	-	-	
Supply Current	I <sub>CC(ON)</sub>	3	V <sub>IN</sub> =V <sub>IN(ON)</sub> , V <sub>CC</sub> =50V	-	-	2.5	mA/ch
Clamp Diode Reverse Current	I <sub>R</sub>	5	V <sub>R</sub> =50V	-	-	50	μA
Clamp Diode Forward Voltage	V <sub>F</sub>	6	I <sub>F</sub> =350mA	-	-	2.0	V
Turn-On Delay	t <sub>ON</sub>	7	V <sub>CC</sub> =V <sub>CC MAX.</sub> , R <sub>L</sub> =125Ω C <sub>L</sub> =15pF	-	0.15	-	μS
Turn-Off Delay	t <sub>OFF</sub>			-	1.8	-	

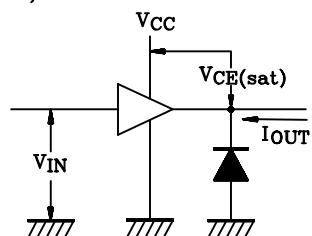
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## TEST CIRCUIT

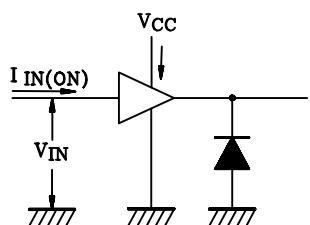
1.  $I_{CEX}$



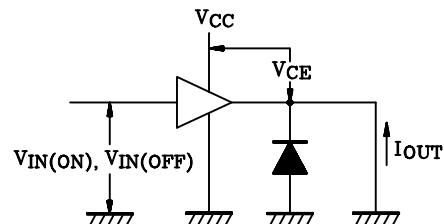
2.  $V_{CE(sat)}$



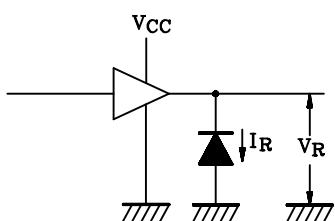
3.  $I_{IN(ON)}, I_{CC}$



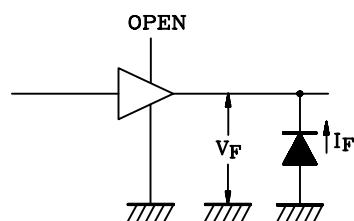
4.  $V_{IN(ON)}, V_{IN(OFF)}$



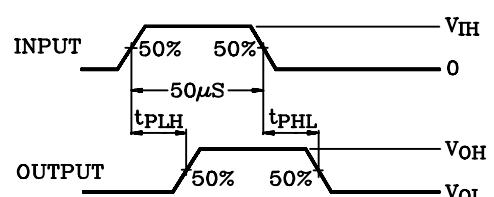
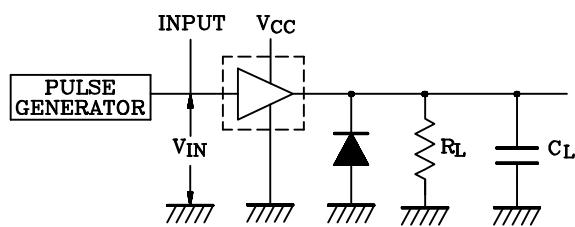
5.  $I_R$



6.  $V_F$



7.  $t_{ON}, t_{OFF}$



(Note 1) Pulse width  $50\mu s$ , duty cycle 10%  
 Output impedance  $50\Omega$ ,  $t_r \leq 5\text{ns}$ ,  $t_f \leq 10\text{ns}$   
 (Note 2)  $C_L$  includes probe and jig capacitance

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