

4 CIRCUIT TRANSISTOR ARRAY

SINGLE DRIVER

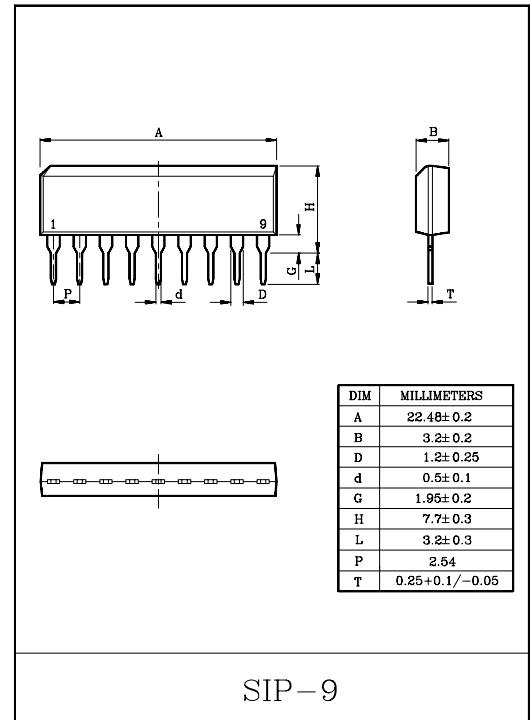
- KID65551S COMMON EMITTER.
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FEATURES

- Output Current : 150mA Max.
- High Voltage Outputs : 25V
- Input Compatible With Various Types of Logic
 - KID65551S Using External Resistor : General Purpose
 - KID65553S $R_{IN}=2.7k\Omega$: TTL, 5V C-MOS
 - KID65554S $R_{IN}=10.5k\Omega$: 6~15V P-MOS, C-MOS
 - KID65555S $R_{IN}=20k\Omega$: 14~20V P-MOS

DESCRIPTION:

The KID65551S Series are comprised of four NPN transistor Arrays. These devices are specifically designed for LED and lamp drive.

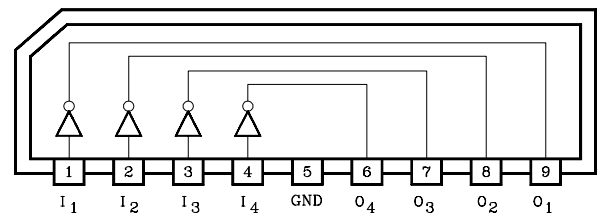


MAXIMUM RATINGS (Ta=25°C, unless otherwise noted)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	25	V
Collector-Base Voltage	V_{CBO}	35	V
Collector Current	I_C	150	mA
Input Voltage	V_{IN}^*	20	V
Input Current	I_{IN}^{**}	10	mA
GND Terminal Voltage	I_{GND}	400	mA
Power Dissipation	P_D	0.75	W
Operating Temperature	T_{opr}	-30~75	°C
Storage Temperature	T_{stg}	-55~150	°C

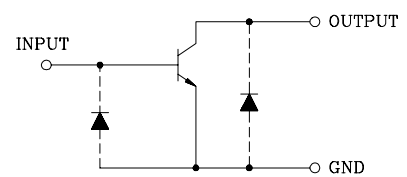
* Except KID65551S
** Only KID65551S

PIN CONNECTION

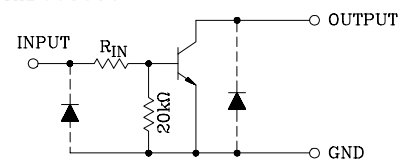


SCHEMATICS (EACH DRIVER)

KID65551S



KID65553S , KID65554S
KID65555S



KID65553S $R_{IN} = 2.7k\Omega$
KID65554S $R_{IN} = 10.5k\Omega$
KID65555S $R_{IN} = 20k\Omega$

KID65551S ~ KID65555S

RECOMMENDED OPERATING CONDITIONS (Ta=-30~75°C)

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Voltage	V_{CEO}		0	-	25	V
Collector-Base Voltage	V_{CBO}		0	-	35	V
Collector Current	I_C	KID65551S, KID65553S	0	-	100	mA
		KID65554S	0	-	80	
		KID65555S	0	-	60	
Input Voltage	V_{IN}	KID65553S	0	-	20	V
		KID65554S				
		KID65555S				
Input Current	I_{IN}	KID65551S	0	-	5	mA
Power Dissipation	P_D		0	-	0.33	W

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTICS	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Output Leak Current	I_{CEX}	1	$V_{CE}=25V, V_{IN}=0$	-	-	10	μA	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	2	$I_{IN}=0.5mA, I_C=10mA$	-	0.15	0.2	V	
			$I_{IN}=2.5mA, I_C=50mA$	-	0.35	0.5		
DC Forward Current Transfer Ratio	h_{FE}	2	$V_{CE}=5V$ $I_C=10mA$	*	60	-		
				**	50	-		
Input Voltage (Output ON)	$V_{IN(ON)}$	3	$I_{IN}=0.5mA$ $I_C=10mA$	KID65553S	1.7	2.1	2.5	V
				KID65554S	4.4	6.0	7.6	
				KID65555S	7.7	10.7	13.8	
Turn-ON Delay	t_{ON}	4	$V_{OUT}=25V, R_L=500\Omega$ $C_L=15pF$	-	100	-	nS	
Turn-OFF Delay	t_{OFF}			-	500	-		

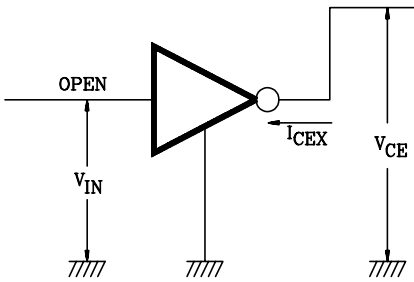
* Only KID65551S

** Except KID65551S

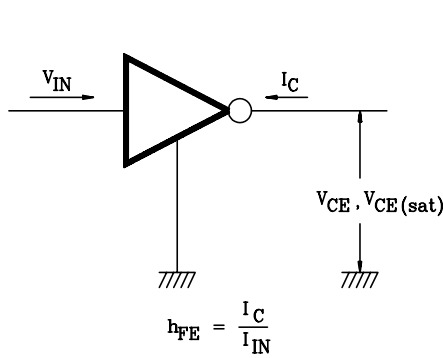
KID65551S ~ KID65555S

TEST CIRCUIT

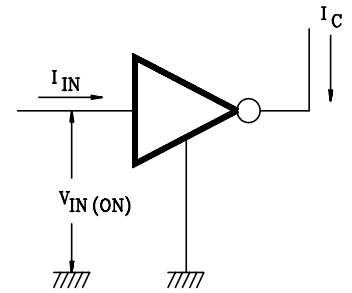
1. I_{CEX}



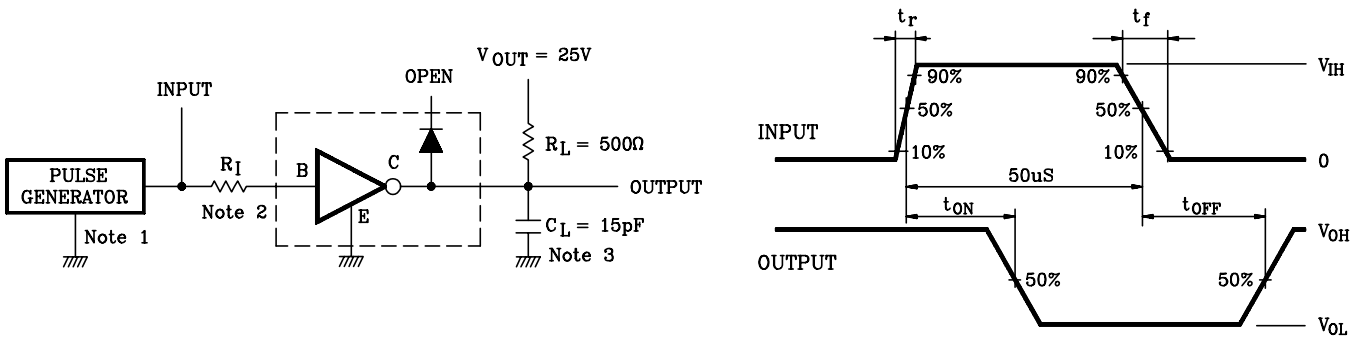
2. $h_{FE}, V_{CE(sat)}$



3. $V_{IN(ON)}$



4. t_{ON}, t_{OFF}



Notes : 1. Pulse Width $50\mu s$, Duty Cycle 10%
Output Impedance 50Ω , $t_r \leq 5ns$, $t_f \leq 10ns$

2. See Below

Input Conditions

Type Number	R_1	V_{IH}
KID65551S	$2.7k\Omega$	3V
KID65553S	0	3V
KID65554S	0	10V
KID65555S	0	14V

3. C_L Includes Probe and Jig capacitance.