KID65551S ~ KID65555S

BIPOLAR DIGITAL INTEGRATED CIRCUIT

4 CIRCUIT TRANSISTOR ARRAY

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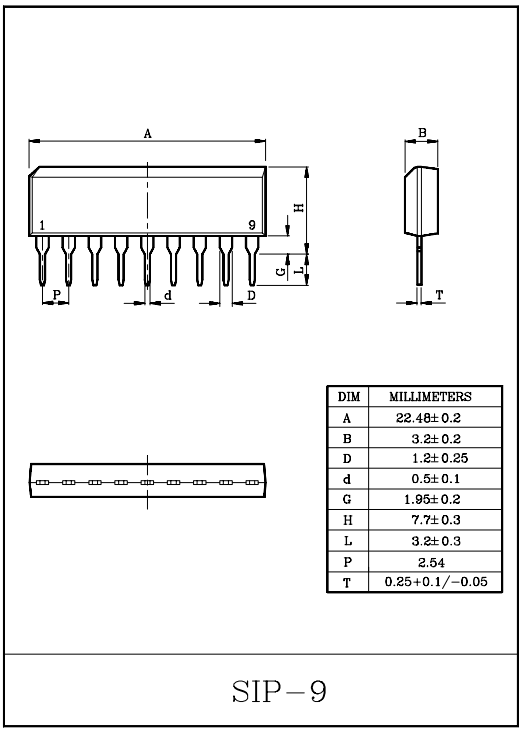
FEATURES
- Output Current : 150mA Max.
- High Voltage Outputs : 25V
- Input Compatible With Various Types of Logic
  KID65551S Using External Resistor : General Purpose
  KID65553S R_{IN}=2.7kΩ : TTL, 5V C-MOS
  KID65554S R_{IN}=10.5kΩ : 6~15V P-MOS, C-MOS
  KID65555S R_{IN}=20kΩ : 14~20V P-MOS

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



DIM	MILLIMETERS
A	22.48±0.2
B	3.2±0.2
D	1.2±0.25
d	0.5±0.1
G	1.95±0.2
H	7.7±0.3
L	3.2±0.3
P	2.54
T	0.25+0.1/−0.05

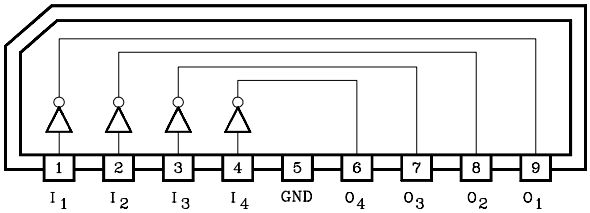
SIP-9

MAXIMUM RATINGS (Ta=25℃, 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	℃
Storage Temperature	T_{stg}	-55~150	℃

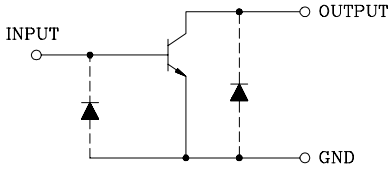
* Except KID65551S
** Only KID65551S

PIN CONNECTION

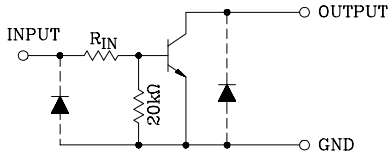


SCHEMATICS (EACH DRIVER)

KID65551S



KID65553S , KID65554S
KID65555S



KID65553S R_{IN} = 2.7kΩ
KID65554S R_{IN} = 10.5kΩ
KID65555S R_{IN} = 20kΩ

RECOMMENDED OPERATING CONDITIONS (Ta=-30~75℃)

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

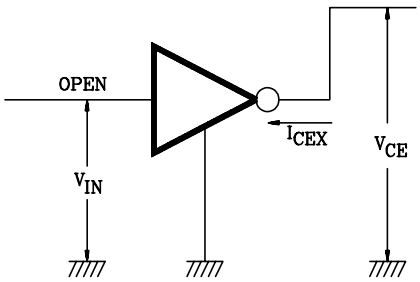
ELECTRICAL CHARACTERISTICS (Ta=25℃)

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=500Ω C_L=15pF		-	100	-	nS
Turn-OFF Delay	t_{OFF}				-	500	-	

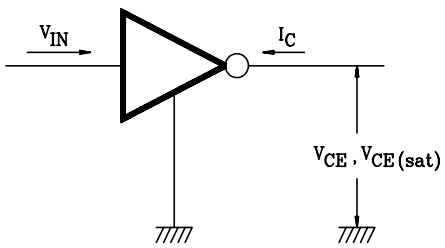
* Only KID65551S
** Except KID65551S

TEST CIRCUIT

1. I_{CEX}

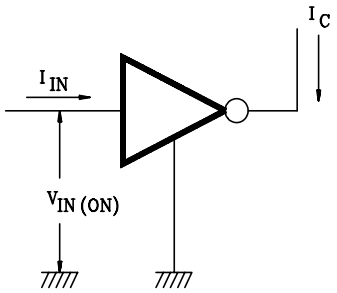


2. h_{FE}, $V_{CE(sat)}$

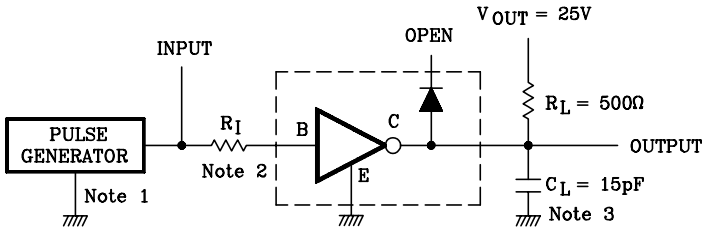


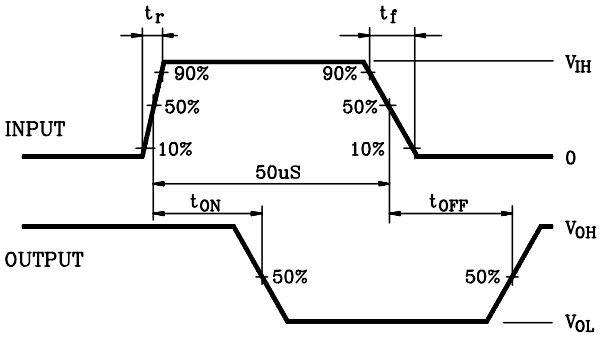
$$h_{FE} = \frac{I_C}{I_{IN}}$$

3. $V_{IN(ON)}$



4. t_{ON} , t_{OFF}





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

2. See Below

Input Conditions

Type Number	R_I	V_{IH}
KID65551S	2.7kΩ	3V
KID65553S	0	3V
KID65554S	0	10V
KID65555S	0	14V

3. C_L Includes Probe and Jig capacitance.