Shenzhen HUAKE Semiconductors Co., LTD.

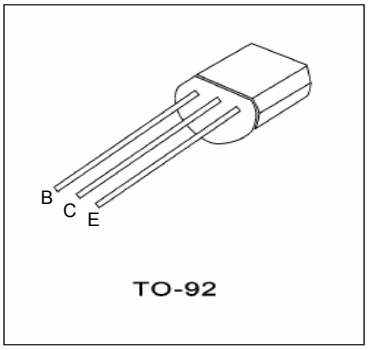
# HK SERIES TRANSISTORS HK 13001

●**FEATURES:** ①HIGH VOLTAGE CAPABILITY ②HIGH SPEED SWITCHING ③WIDE SOA
●**APPLICATION:** ①FLUORESCENT LAMP ②ELECTRONIC BALLAST

●Absolute Maximum Ratings (Tc=25℃)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 500 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 400 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 9 | V |
| Collector Current | $I_C$ | 0.3 | A |
| Total Power Dissipation | $P_C$ | 7 | W |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature | Tstg | -65-150 | ℃ |

TO-92 NPN




● Electronic Characteristics (Tc=25℃)

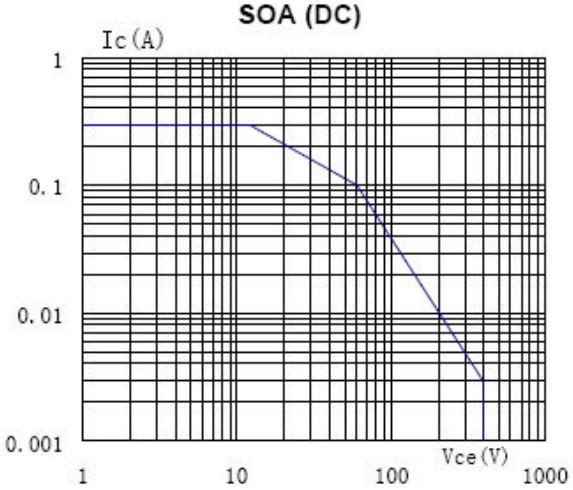
| CHARACTERISTICS | SYMBOL | TESTCONDITION | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| Collector-Base Cutoff Current | $I_{CBO}$ | $V_{CB}$=500v | | 100 | μA |
| Collector-Emitter Cutoff Current | $I_{CEO}$ | $V_{CE}$=400v | | 250 | μA |
| Collector-Emitter Voltage | $V_{CEO}$ | $I_C$=10mA $I_B$=0 | 400 | | V |
| Emitter-Base Voltage | $V_{EBO}$ | $I_E$=1mA $I_C$=0 | 9 | | V |
| Collector-Emitter Saturation Voltage | Vcesat | $I_C$=0.05A $I_B$=0.01A | | 0.4 | V |
| | | $I_C$=200mA $I_B$=50mA | | 0.8 | V |
| Base-Emitter Saturation Voltage | Vbesat | $I_C$=50mA $I_B$=10mA | | 1.1 | V |
| DC Current Gain | HFE | $V_{CE}$=5v $I_C$=1mA | 7 | | |
| | | $V_{CE}$=20v $I_C$=20mA | 10 | 40 | |
| | | $V_{CE}$=5v $I_C$=250mA | 5 | | |
| Storage Time | Ts | $V_{CC}$=5V | 0.5 | 2.5 | μS |
| Falling Time | $T_f$ | $I_C$=0.1A | | 0.8 | μS |

●CLASSIFICATION OF HFE AND TS

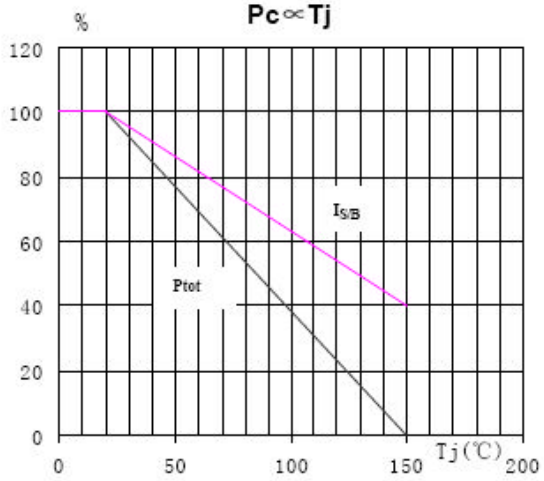
| HFE | 10-15 | 15-20 | 20-25 | 25-30 |
|---|---|---|---|---|
| TS | 0.5-1.0 | 1.0-1.5 | 1.5-2.0 | 2.0-2.5 |

# HK SERIES TRANSISTORS HK 13001

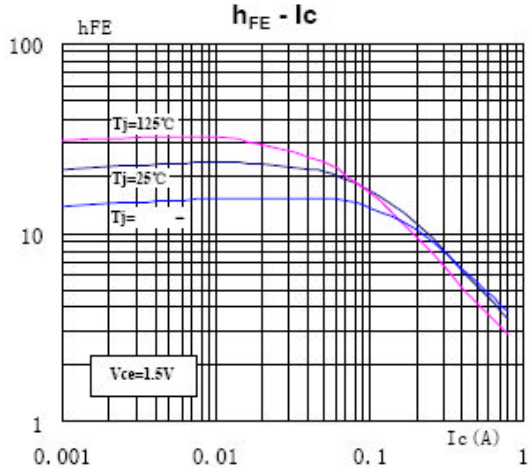
SOA (DC)



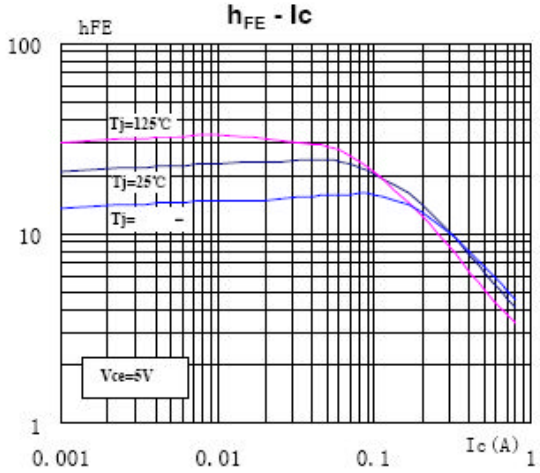

Pc∝Tj



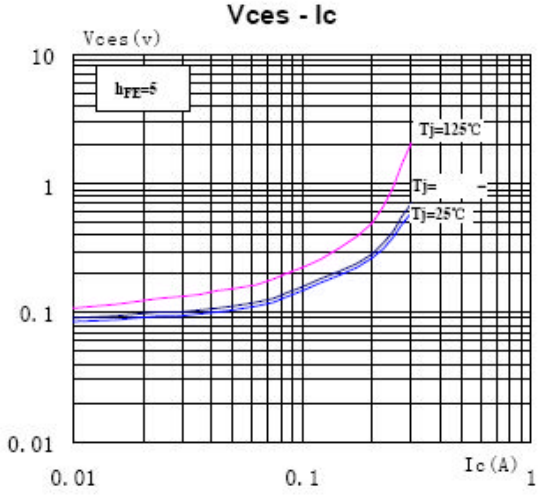

$h_{FE}$ - Ic



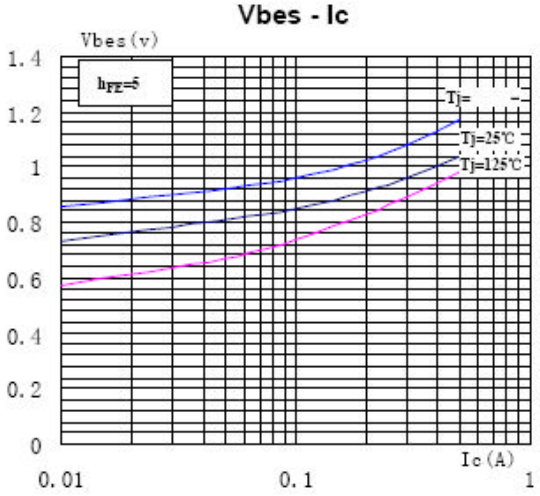

$h_{FE}$ - Ic




Vces - Ic




Vbes - Ic



# HK SERIES TRANSISTORS HK 13001

## TO-92 MECHANICAL DATA

| SYMBOL | Min | Nom | Max |
|---|---|---|---|
| A | 4.3 | | 5.3 |
| b | 0.3 | | |
| c | 0.3 | | |
| D | 4.3 | | 5.2 |
| d | 1.0 | | 1.7 |
| E | 3.2 | | 4.2 |
| e | | 2.54 | |
| e1 | | 1.27 | |
| L | 12.7 | | |
| L1 | | | 2.0 |