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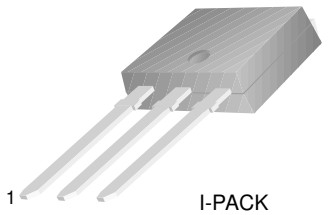
FAIRCHILD
SEMICONDUCTOR TM

# KSA1244

## High Current Switching

- Low Collector-Emitter Saturation Voltage
- Complement to KSC3074




I-PACK

1. Base 2. Collector 3. Emitter

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Ratings | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | - 60 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | - 50 | V |
| $V_{EBO}$ | Emitter-Base Voltage | - 5 | V |
| $I_B$ | Base Current | - 1 | A |
| $I_C$ | Collector Current | - 5 | A |
| $P_C$ | Collector Dissipation ($T_a$=25°C) | 1 | W |
| $P_C$ | Collector Dissipation ($T_C$=25°C) | 20 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | - 55 ~ 150 | °C |

### Electrical Characteristics $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$ = - 10mA, $I_B$ = 0 | - 50 | | | V |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$ = - 50V, $I_E$ = 0 | | | -1 | µA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{EB}$ = - 5V, $I_C$ = 0 | | | -1 | µA |
| $h_{FE1}$<br>$h_{FE2}$ | DC Current Gain | $V_{CE}$ = - 1V, $I_C$ = - 1A<br>$V_{CE}$ = - 1V, $I_C$ = - 3A | 70<br>30 | | 240 | |
| $V_{CE}$(Sat) | Collector-Emitter Saturation Voltage | $I_C$ = - 3A, $I_B$ = - 0.15A | | | -0.5 | V |
| $V_{BE}$(Sat) | Base-Emitter Saturation Voltage | $I_C$ = - 3A, $I_C$ = - 0.15A | | - 0.9 | -1.2 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$ = - 4V, $I_C$ = - 1A | | 60 | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CB}$ = - 10V, f = 1MHz | | 170 | | pF |
| $t_{ON}$ | Turn ON Time | $V_{CC}$ = - 30V, $I_C$ = - 3A<br>$I_{B1}$ = -$I_{B2}$ = - 0.15A<br>$R_L$ = 10Ω | | 0.1 | | µs |
| $t_{STG}$ | Storage Time | | | 1 | | µs |
| $t_F$ | Fall Time | | | 0.1 | | µs |

## $h_{FE}$ Classification

| Classification | O | Y |
|---|---|---|
| $h_{FE1}$ | 70 ~ 140 | 120 ~ 240 |

# Typical Characteristics

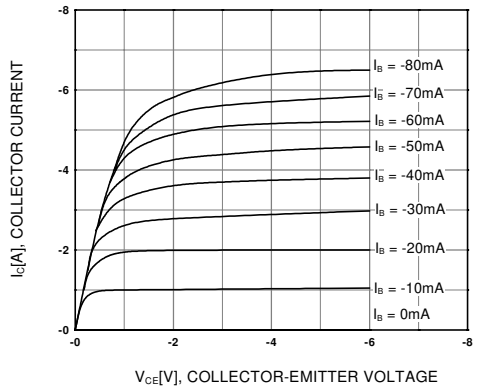



**Figure 1. Static Characteristic**

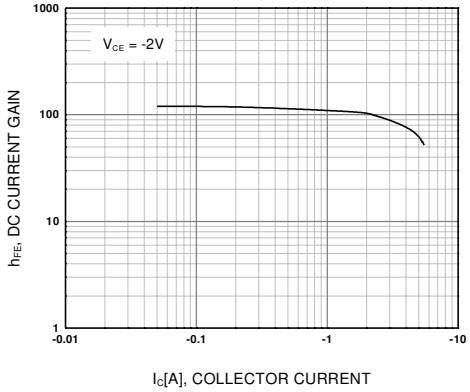



**Figure 2. DC current Gain**

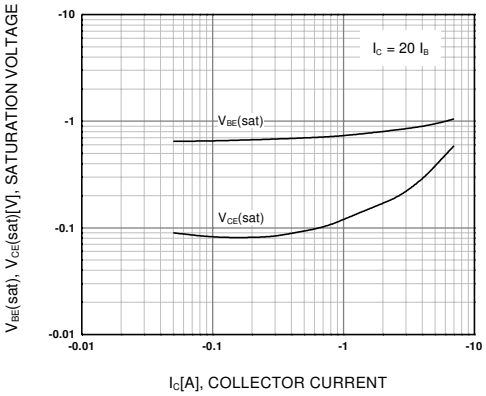



**Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

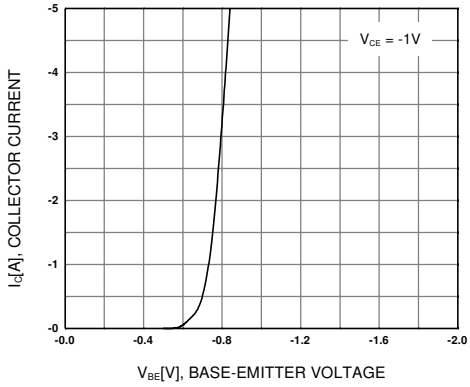



**Figure 4. Base-Emitter Saturation Voltage**

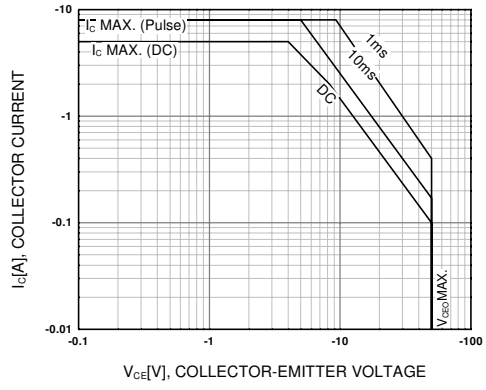



**Figure 5. Safe Operating Area**

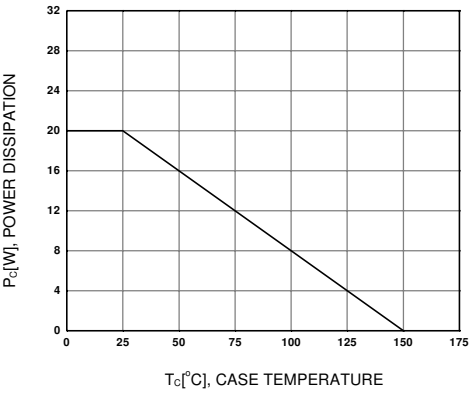
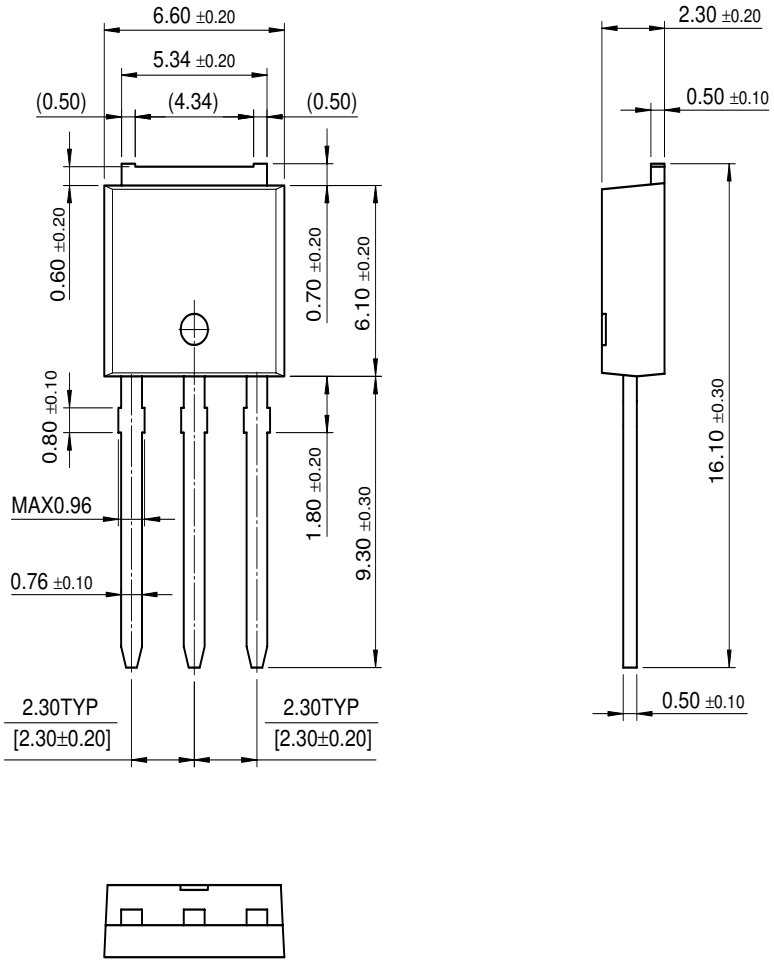



**Figure 6. Power Derating**

## Package Demensions

# I-PAK




Dimensions in Millimeters

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| No Identification Needed | Full Production | This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design. |
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