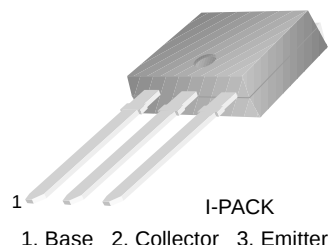


# KSA1244

KSA1244

## High Current Switching

- Low Collector-Emitter Saturation Voltage
- Complement to KSC3074



## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ( $T_a=25^\circ\text{C}$ ) | 1          | W                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 20         | W                |
| $T_J$     | Junction Temperature                             | 150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                              | - 55 ~ 150 | $^\circ\text{C}$ |

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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

## $h_{FE}$ Classification

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

## Typical Characteristics

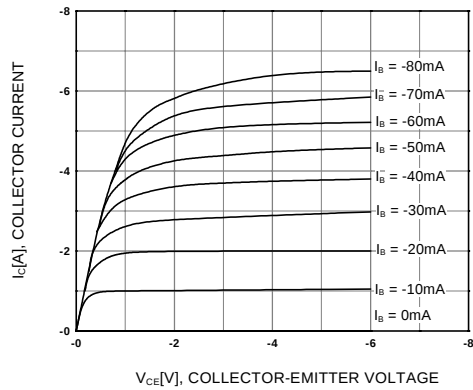


Figure 1. Static Characteristic

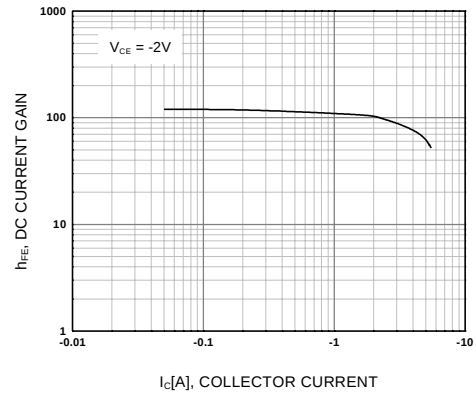


Figure 2. DC current Gain

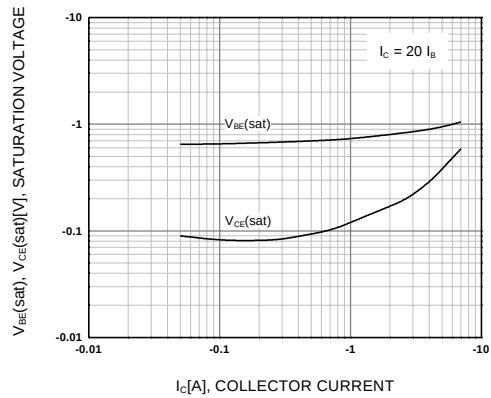


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

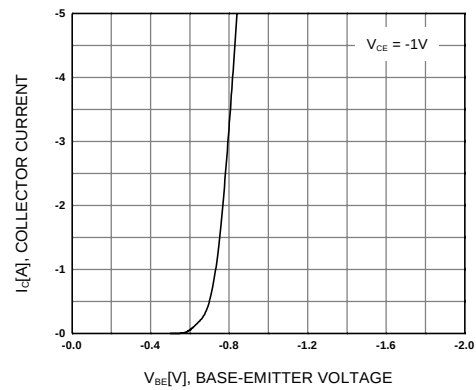


Figure 4. Base-Emitter Saturation Voltage

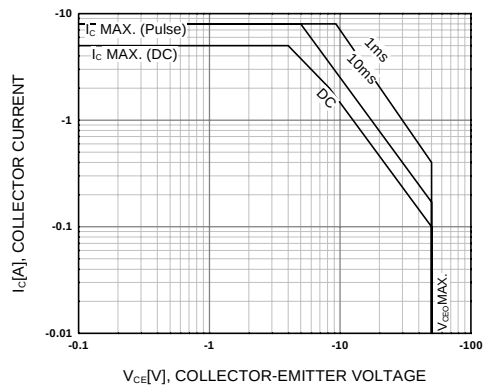


Figure 5. Safe Operating Area

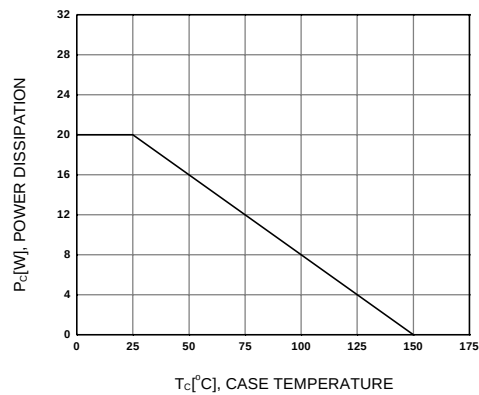
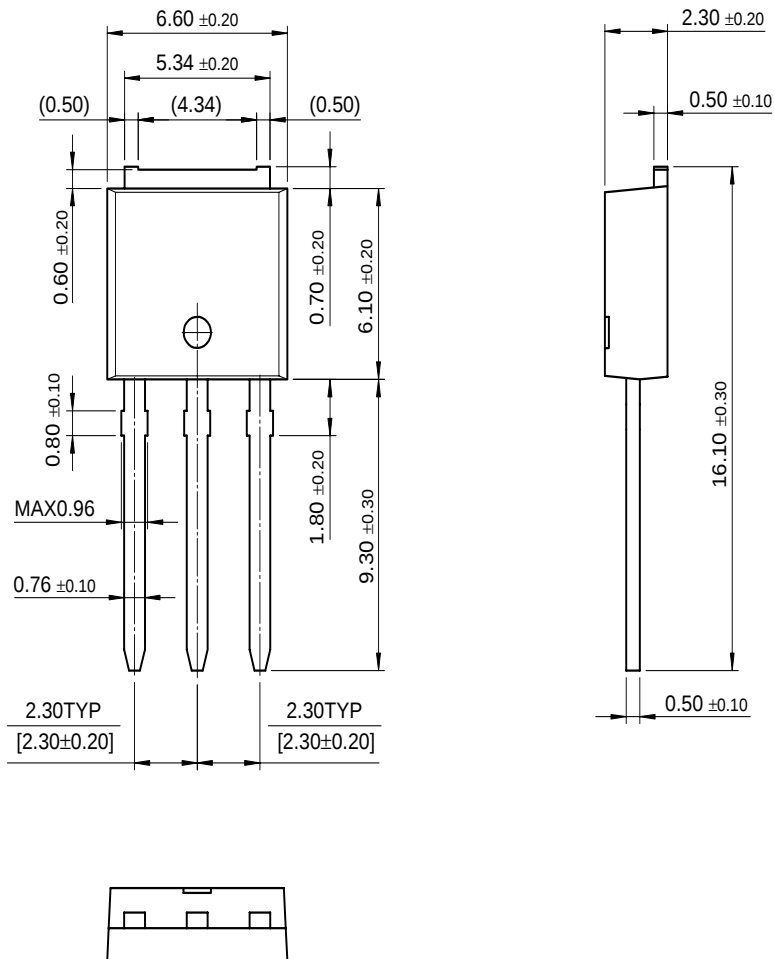


Figure 6. Power Derating

# Package Dimensions

## I-PAK



Dimensions in Millimeters

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