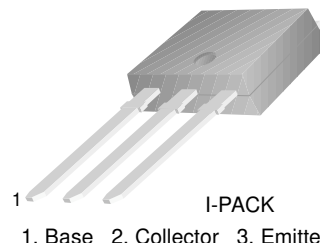


**Power Amplifier Applications**

- Complement to KSC3073



**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                           | - 30       | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                        | - 30       | V                |
| $V_{EBO}$ | Emitter-Base Voltage                             | - 5        | V                |
| $I_B$     | Base Current                                     | - 0.6      | A                |
| $I_C$     | Collector Current                                | - 3        | A                |
| $P_C$     | Collector Dissipation ( $T_a=25^\circ\text{C}$ ) | 1          | W                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 10         | 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  | $I_C = - 10\text{mA}, I_B = 0$   | - 30     |        |       | V             |
| $BV_{EBO}$             | Emitter-Base Breakdown Voltage       | $I_E = - 1\text{mA}, I_C = 0$  | - 5      |        |       | V             |
| $I_{CBO}$              | Collector Cut-off Current            | $V_{CB} = - 20\text{V}, I_E = 0$   |          |        | - 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                      | $V_{CE} = - 2\text{V}, I_C = - 0.5\text{A}$<br>$V_{CE} = - 2\text{V}, I_C = - 2.5\text{A}$ | 70<br>25 |        | 240   |               |
| $V_{CE(sat)}$          | Collector-Emitter Saturation Voltage | $I_C = - 2\text{A}, I_B = - 0.2\text{A}$   |          | - 0.3  | - 0.8 | V             |
| $V_{BE(on)}$           | Base-Emitter ON Voltage              | $V_{CE} = - 2\text{V}, I_C = - 0.5\text{A}$  |          | - 0.75 | - 1   | V             |
| $f_T$                  | Current Gain Bandwidth Product       | $V_{CE} = - 2\text{V}, I_C = - 0.5\text{A}$  |          | 100    |       | MHz           |
| $C_{ob}$               | Output Capacitance                   | $V_{CB} = - 10\text{V}, f = 1\text{MHz}$   |          | 40     |       | pF            |

**$h_{FE}$  Classification**

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

# Typical Characteristics

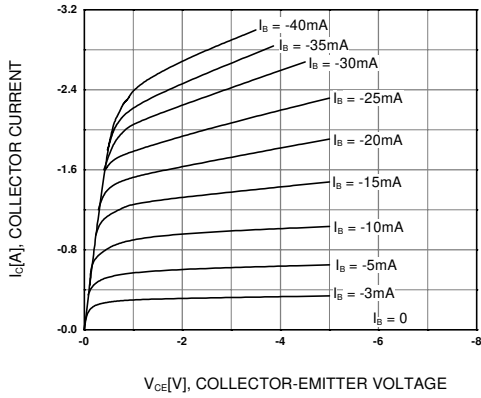


Figure 1. Static Characteristic

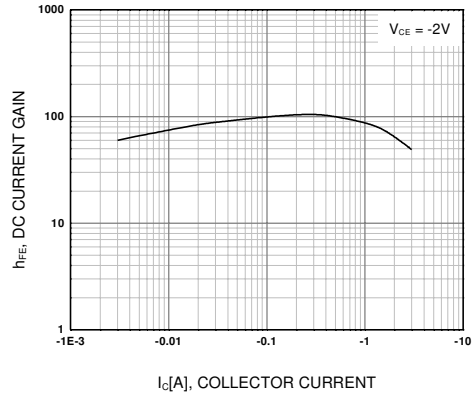


Figure 2. DC current Gain

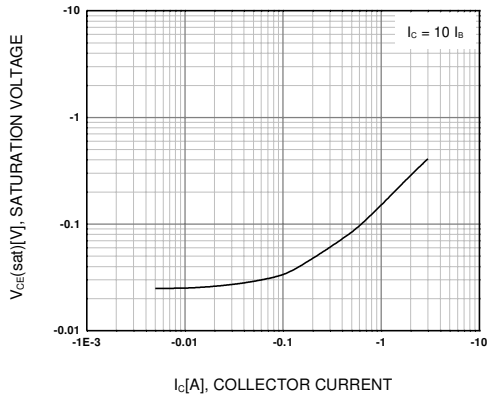


Figure 3. Collector-Emitter Saturation Voltage

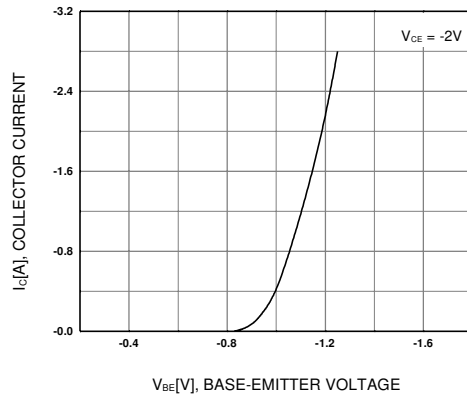


Figure 4. Base-Emitter On Voltage

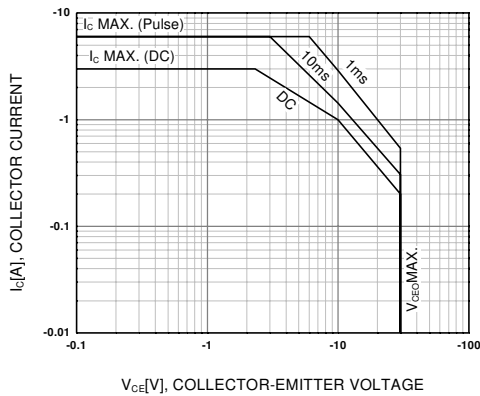


Figure 5. Safe Operating Area

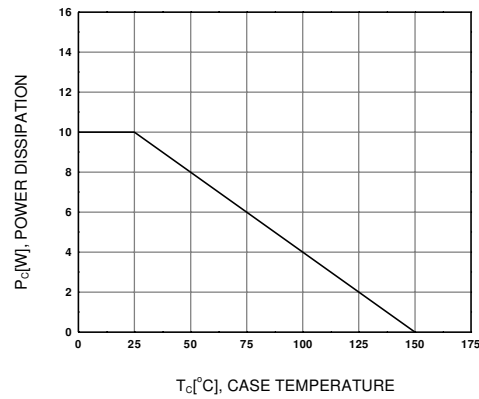
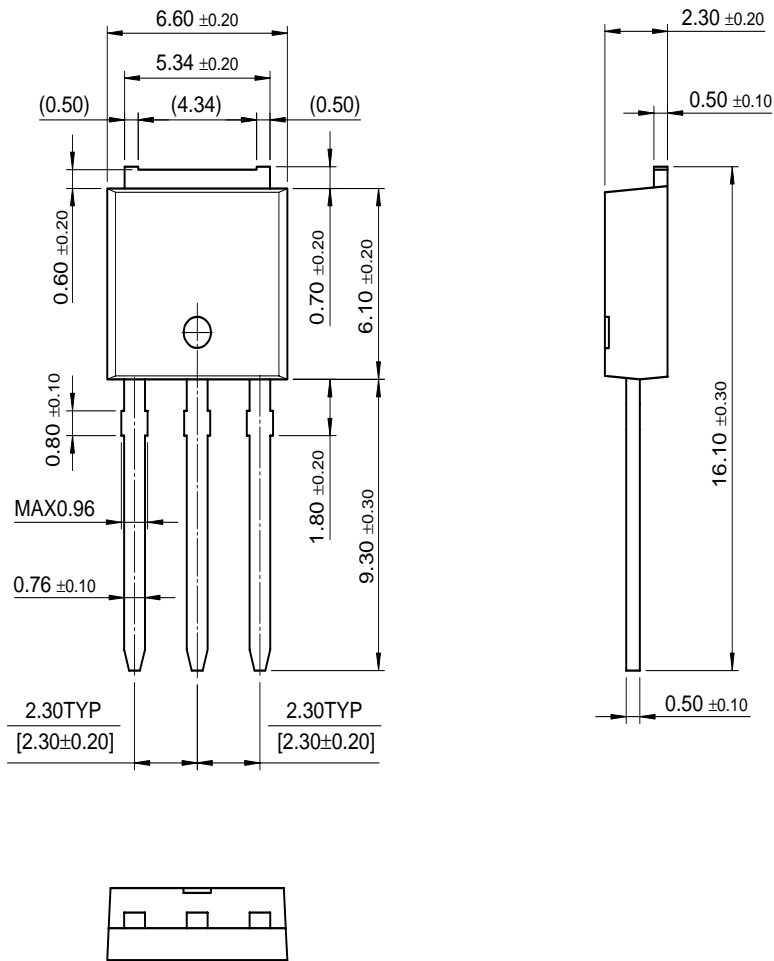


Figure 6. Power Derating

# Package Dimensions

## I-PAK



Dimensions in Millimeters

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| CROSSVOLT™           | POP™          | UHC™        |
| E <sup>2</sup> CMOS™ | PowerTrench®  | VCX™        |
| FACT™                | QFET™         |             |
| FACT Quiet Series™   | QS™           |             |
| FAST®                | Quiet Series™ |             |
| FASTr™               | SuperSOT™-3   |             |
| GTO™                 | SuperSOT™-6   |             |

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