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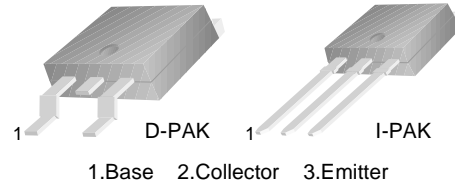
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KSH127

D-PAK for Surface Mount Applications

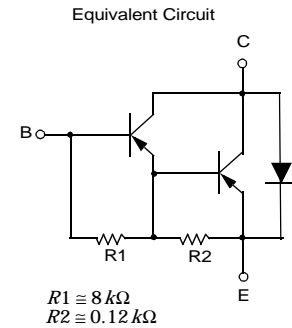
- High DC Current Gain
- Built-in a Damper Diode at E-C
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular TIP127
- Complement to KSH122



PNP Silicon Darlington Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------------|
| V_{CBO} | Collector-Base Voltage | - 100 | V |
| V_{CEO} | Collector-Emitter Voltage | - 100 | V |
| V_{EBO} | Emitter-Base Voltage | - 5 | V |
| I_C | Collector Current (DC) | - 8 | A |
| I_{CP} | Collector Current (Pulse) | - 16 | A |
| I_B | Base Current | - 120 | mA |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 20 | W |
| | Collector Dissipation ($T_a=25^\circ\text{C}$) | 1.75 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 65 ~ 150 | $^\circ\text{C}$ |



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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|----------------|---------------------------------------|---|-------------|-------|---------------|
| $V_{CEO(sus)}$ | *Collector-Emitter Sustaining Voltage | $I_C = -30\text{mA}, I_B = 0$ | - 100 | | V |
| I_{CEO} | Collector Cut-off Current | $V_{CE} = -50\text{V}, I_B = 0$ | | - 10 | μA |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = -100\text{V}, I_E = 0$ | | - 10 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = -5\text{V}, I_C = 0$ | | - 2 | mA |
| h_{FE} | *DC Current Gain | $V_{CE} = -4\text{V}, I_C = -4\text{A}$ $V_{CE} = -4\text{V}, V_{EB} = -8\text{A}$ | 1000 100 | 12K | |
| $V_{CE(sat)}$ | *Collector-Emitter Saturation Voltage | $I_C = -4\text{A}, I_B = -16\text{mA}$ | | - 2 | V |
| | | $I_C = -8\text{A}, I_B = -80\text{mA}$ | | - 4 | V |
| $V_{BE(sat)}$ | *Base-Emitter Saturation Voltage | $I_C = -8\text{A}, I_B = -80\text{mA}$ | | - 4.5 | V |
| $V_{BE(on)}$ | *Base-Emitter On Voltage | $V_{CE} = -4\text{V}, I_C = -4\text{A}$ | | - 2.8 | V |
| C_{ob} | Output Capacitance | $V_{CB} = -10\text{V}, I_E = 0$ $f = 0.1\text{MHz}$ | | 300 | pF |

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycles $\leq 2\%$

Typical Characteristics

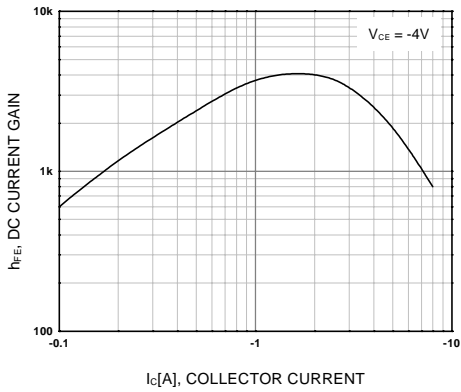


Figure 1. DC current Gain

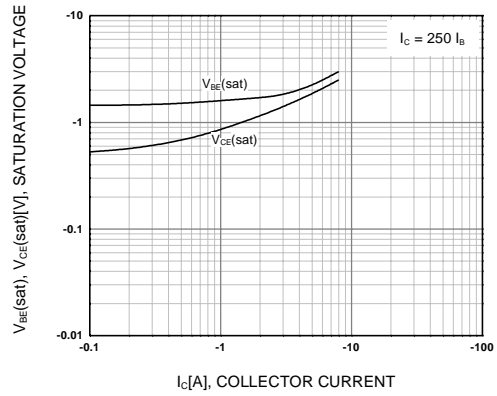


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

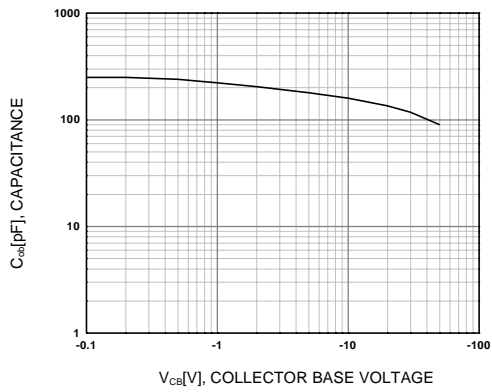


Figure 3. Collector Output Capacitance

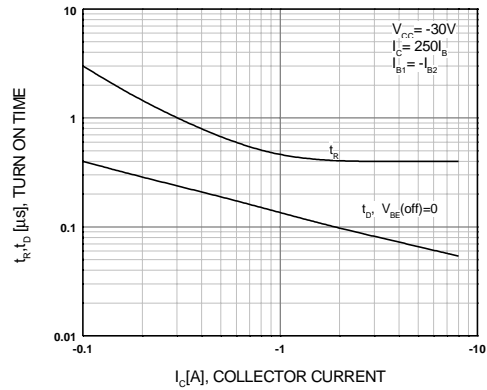


Figure 4. Turn On Time

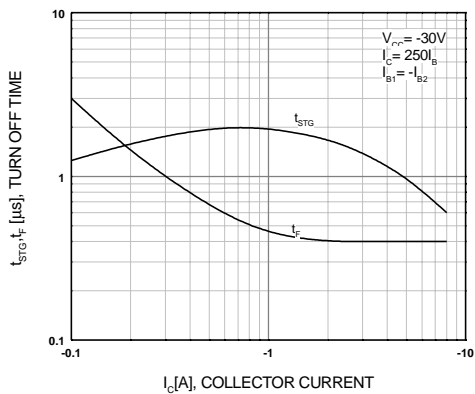


Figure 5. Turn Off Time

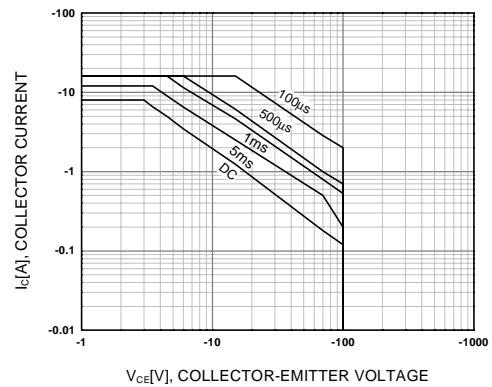


Figure 6. Safe Operating Area

Typical Characteristic (Continued)

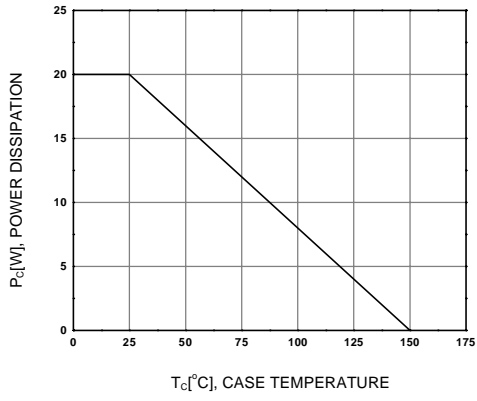
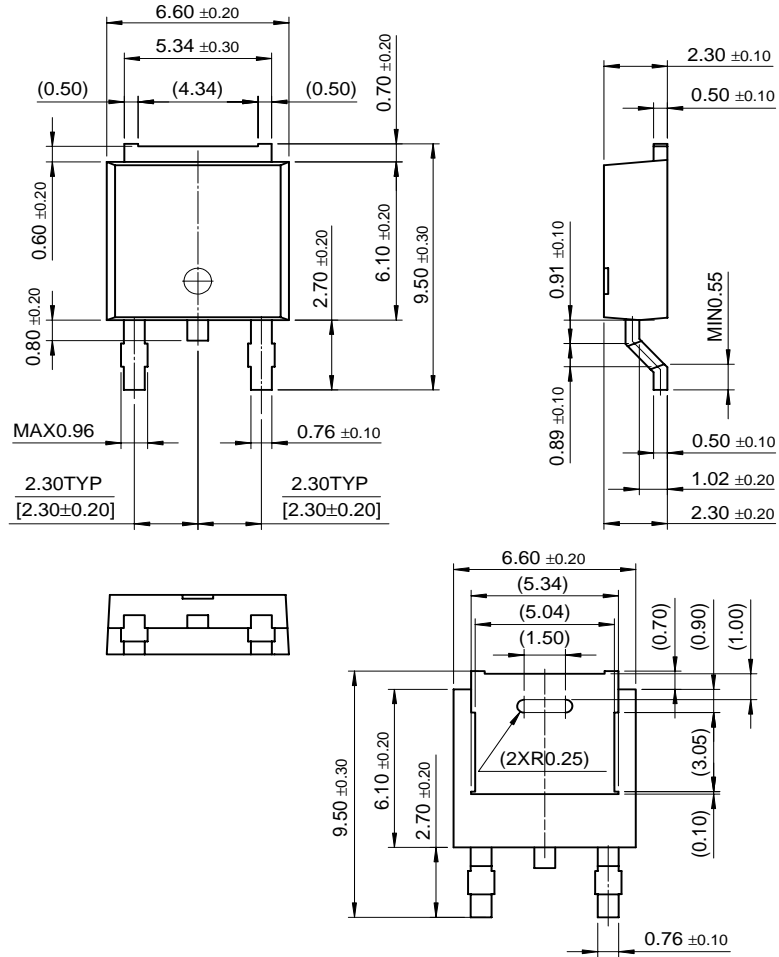


Figure 7. Power Derating

Package Dimensions

D-PAK



Dimensions in Millimeters

Package Dimensions (Continued)

I-PAK



Dimensions in Millimeters

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