

MJD45H11

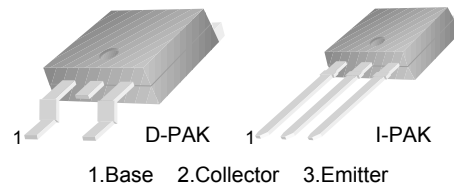
PNP Epitaxial Silicon Transistor

Applications

- General Purpose Power and Switching Such as Output or Driver Stages in Applications
- D-PAK for Surface Mount Applications

Features

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK: “-I” Suffix)
- Electrically Similar to Popular MJE45H
- Fast Switching Speeds
- Low Collector Emitter Saturation Voltage



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

| Symbol | Parameter | Value | Units |
|-----------|--|--------------|------------------|
| V_{CEO} | Collector-Emitter Voltage | - 80 | V |
| V_{EBO} | Emitter-Base Voltage | - 5 | V |
| I_C | Collector Current (DC) | - 8 | A |
| I_{CP} | Collector Current (Pulse) | - 16 | A |
| 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 | - 55 to +150 | $^\circ\text{C}$ |

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|----------------|---------------------------------------|---|------|------|-------|---------------|
| $V_{CEO(sus)}$ | *Collector-Emitter Sustaining Voltage | $I_C = -30\text{mA}, I_B = 0$ | - 80 | | | V |
| I_{CEO} | Collector Cut-off Current | $V_{CE} = -80\text{V}, I_B = 0$ | | | - 10 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{BE} = -5\text{V}, I_C = 0$ | | | - 50 | μA |
| h_{FE} | *DC Current Gain | $V_{CE} = -1\text{V}, I_C = -2\text{A}$ | 60 | | | |
| | | $V_{CE} = -1\text{V}, I_C = -4\text{A}$ | 40 | | | |
| $V_{CE(sat)}$ | *Collector-Emitter Saturation Voltage | $I_C = -8\text{A}, I_B = -0.4\text{A}$ | | | - 1 | V |
| $V_{BE(on)}$ | *Base-Emitter Saturation Voltage | $I_C = -8\text{A}, I_B = -0.8\text{A}$ | | | - 1.5 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = -10\text{A}, I_C = -0.5\text{A}$ | | 40 | | MHz |
| C_{ob} | Collector Capacitance | $V_{CB} = -10\text{V}, f = 1\text{MHz}$ | | 230 | | pF |
| t_{ON} | Turn On Time | $I_C = -5\text{A}$ $I_{B1} = -I_{B2} = -0.5\text{A}$ | | 135 | | ns |
| t_{STG} | Storage Time | | | 500 | | ns |
| t_F | Fall Time | | | 100 | | ns |

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

Typical Performance Characteristics

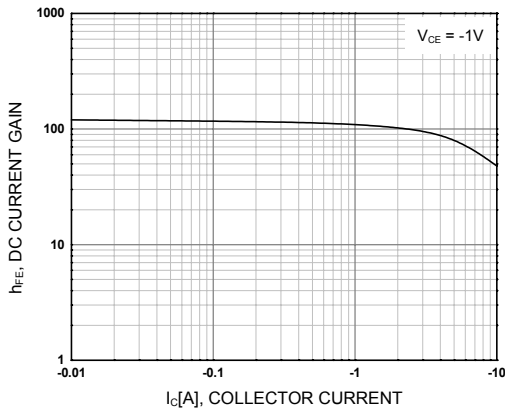


Figure 1. DC current Gain

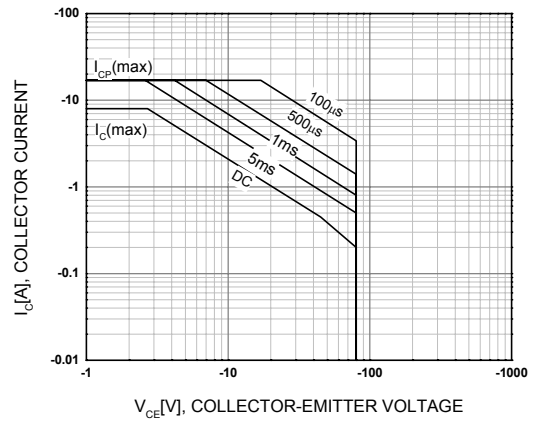


Figure 2. Safe Operating Area

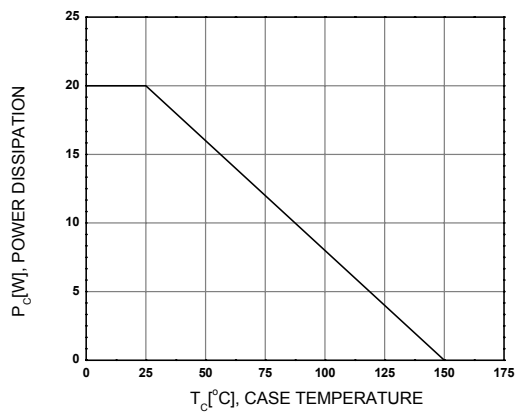


Figure 3. Power Derating vs T_C

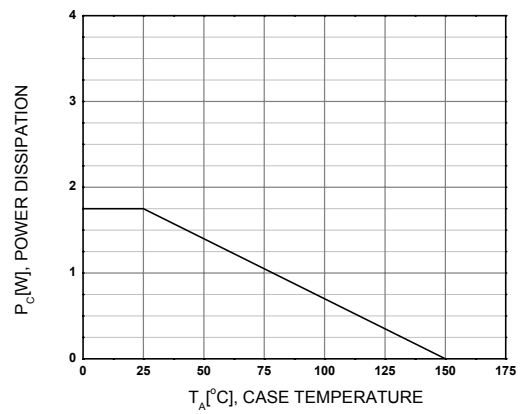
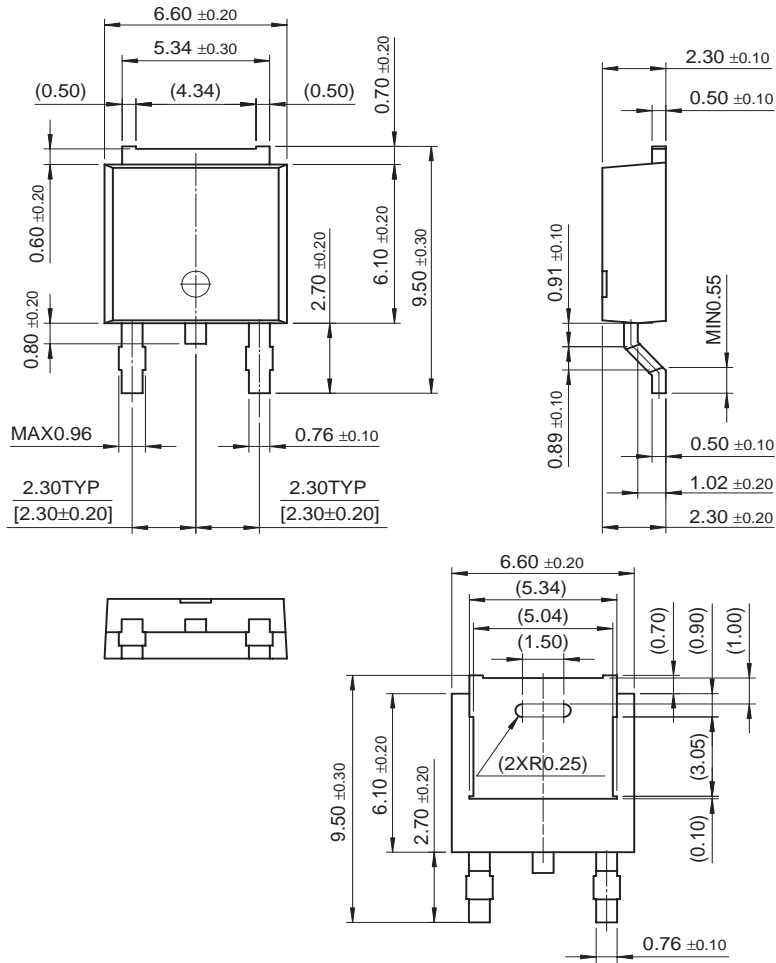


Figure 4. Power Derating vs T_A

Physical Dimension

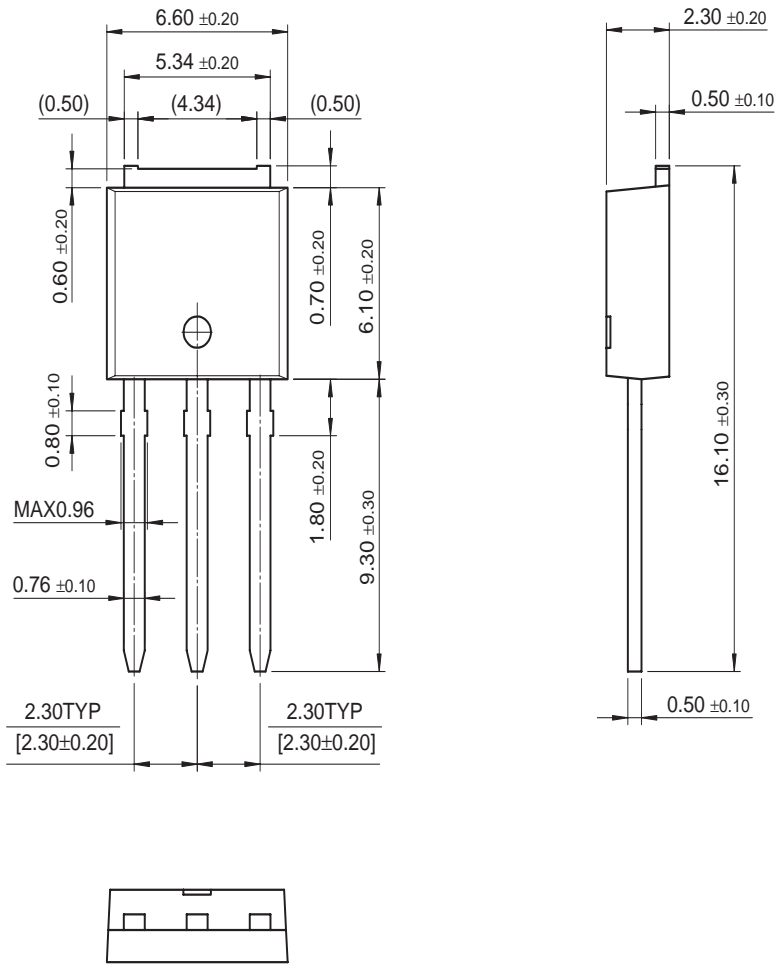
D-PAK



Dimensions in Millimeters

Physical Dimension (Continued)

I-PAK







Dimensions in Millimeters



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