

MJE3055T

General Purpose and Switching Applications

- DC Current Gain Specified to $I_C = 10A$
- High Current Gain-Bandwidth Product : $f_T = 2MHz$ (Min.)



TO-220
1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

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

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------|
| V_{CBO} | Collector -Base Voltage | 70 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 10 | A |
| I_B | Base Current | 6 | A |
| P_C | Collector Dissipation ($T_C = 25^\circ C$) | 75 | W |
| P_C | Collector Dissipation ($T_a = 25^\circ C$) | 0.6 | W |
| T_J | Junction Temperature | 150 | $^\circ C$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ C$ |

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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|--------------------------|---------------------------------------|---|---------|----------|----------|
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 200mA, I_B = 0$ | 60 | | V |
| I_{CEO} | Collector Cut-off Current | $V_{CE} = 30V, I_B = 0$ | | 700 | μA |
| I_{CEX1} I_{CEX2} | Collector Cut-off Current | $V_{CE} = 70V, V_{BE(off)} = -1.5V$ $V_{CE} = 70V, V_{BE(off)} = -1.5V$ @ $T_C = 150^\circ C$ | | 1 5 | mA mA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 5V, I_C = 0$ | | 5 | mA |
| h_{FE} | *DC Current Gain | $V_{CE} = 4V, I_C = 4A$ $V_{CE} = 4V, I_C = 10A$ | 20 5 | 100 | |
| $V_{CE(sat)}$ | *Collector-Emitter Saturation Voltage | $I_C = 4A, I_B = 0.4A$ $I_C = 10A, I_B = 3.3A$ | | 1.1 8 | V V |
| $V_{BE(on)}$ | *Base-Emitter On Voltage | $V_{CE} = 4V, I_C = 4A$ | | 1.8 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = 10V, I_C = 500mA$ | 2 | | MHz |

* Pulse test: $PW \leq 300\mu s$, duty cycle $\leq 2\%$ Pulse

Typical Characteristics

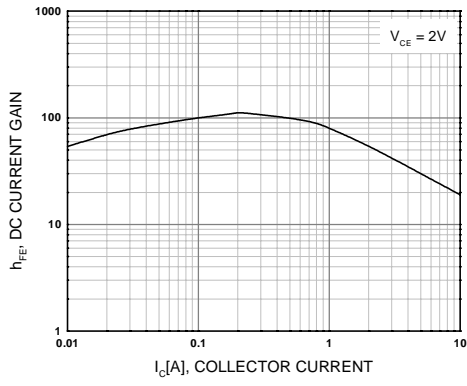


Figure 1. DC current Gain

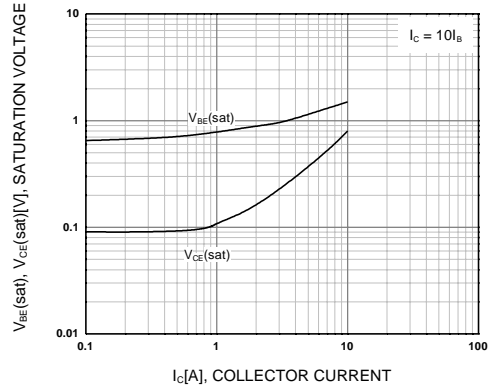


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

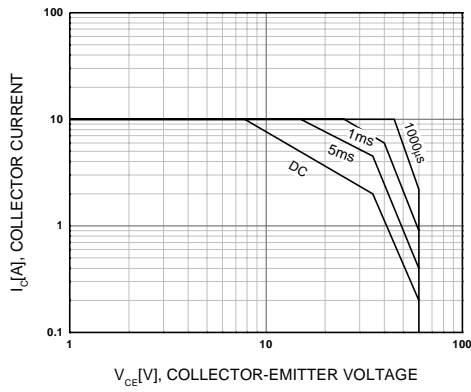


Figure 3. Safe Operating Area

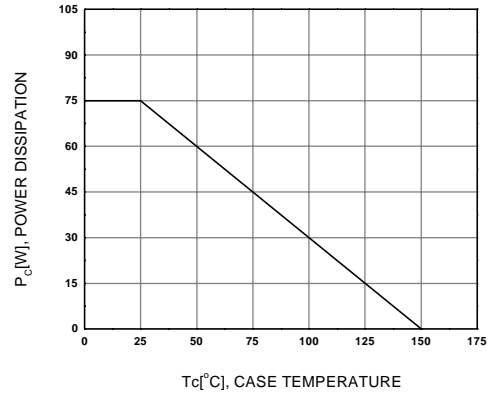


Figure 4. Power Derating

Package Dimensions

MJE3055T

TO-220



Dimensions in Millimeters

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