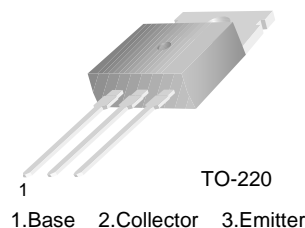


FJP5555

NPN Silicon Transistor

Features

- High Voltage Switch Mode Application
- Fast Speed Switching
- Wide Safe Operating Area
- Suitable for Electronic Ballast Application



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

| Symbol | Parameter | Value | Units |
|-----------|---------------------------|--------------|------------------|
| V_{CBO} | Collector-Base Voltage | 1050 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V_{EBO} | Emitter-Base Voltage | 14 | V |
| I_C | Collector Current (DC) | 5 | A |
| I_{CP} | Collector Current (Pulse) | 10 | A |
| P_C | Collector Dissipation | 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 | Conditions | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|--|----------|------|------------|---------------|
| BV_{CBO} | Collector-Base Voltage | $I_C=500\mu\text{A}$, $I_E=0$ | 1050 | | | V |
| BV_{CEO} | Collector-Emitter Voltage | $I_C=5\text{mA}$, $I_B=0$ | 400 | | | V |
| BV_{EBO} | Emitter-Base Voltage | $I_E=500\mu\text{A}$, $I_C=0$ | 14 | | | V |
| h_{FE} | *DC Current Gain | $V_{CE}=5\text{V}$, $I_C=10\text{mA}$ $V_{CE}=3\text{V}$, $I_C=0.8\text{A}$ | 10 20 | | 40 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=1\text{A}$, $I_B=0.2\text{A}$ $I_C=3.5\text{A}$, $I_B=1.0\text{A}$ | | | 0.5 1.5 | V V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=3.5\text{A}$, $I_B=1.0\text{A}$ | | | 1.2 | V |
| C_{ob} | Output Capacitance | $V_{CB}=10\text{V}$, $f=1\text{MHz}$ | | 45 | | pF |
| t_{ON} | Turn On Time | $V_{CC}=125\text{V}$, $I_C=0.5\text{A}$ | | | 1.0 | μs |
| t_{STG} | Storage Time | $I_{B1}=45\text{mA}$, $I_{B2}=0.5\text{A}$ $R_L=250\Omega$ | | | 1.2 | μs |
| t_F | Fall Time | | | | 0.3 | μs |
| t_{ON} | Turn On Time | $V_{CC}=250\text{V}$, $I_C=2.5\text{A}$ | | | 2.0 | μs |
| t_{STG} | Storage Time | $I_{B1}=0.5\text{A}$, $I_{B2}=1.0\text{A}$ $R_L=100\Omega$ | | | 2.5 | μs |
| t_F | Fall Time | | | | 0.3 | μs |
| EAS | Avalanche Energy | $L=2\text{mH}$ | 6 | | | mJ |

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

Typical Characteristics

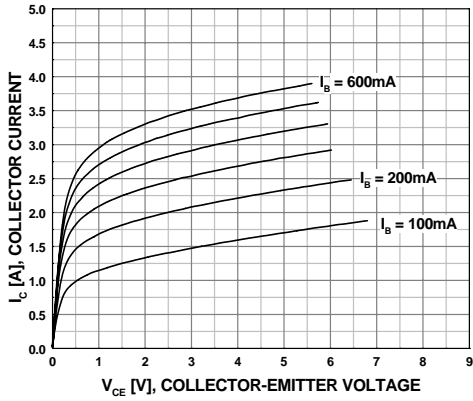


Figure 1. Static Characteristics

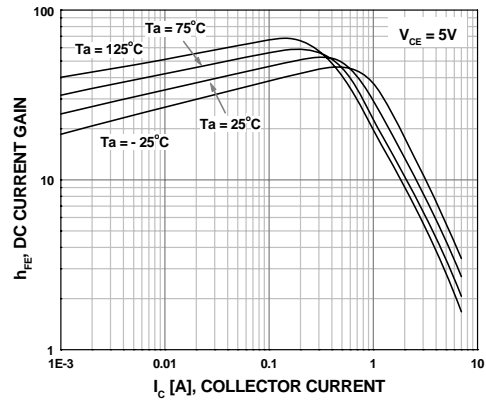


Figure 2. DC Current Gain

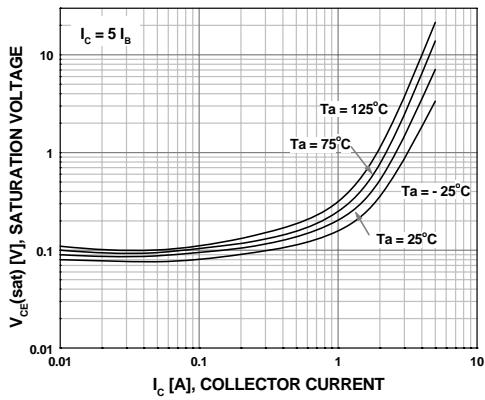


Figure 3. Saturation Voltage

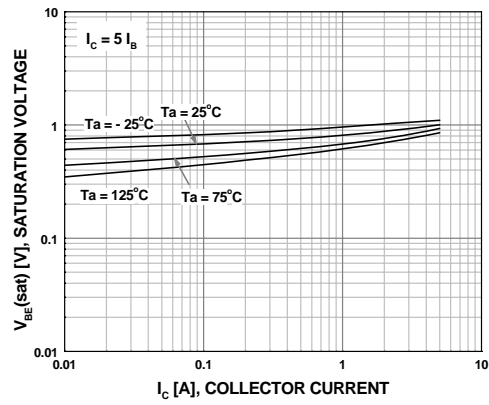


Figure 4. Saturation Voltage

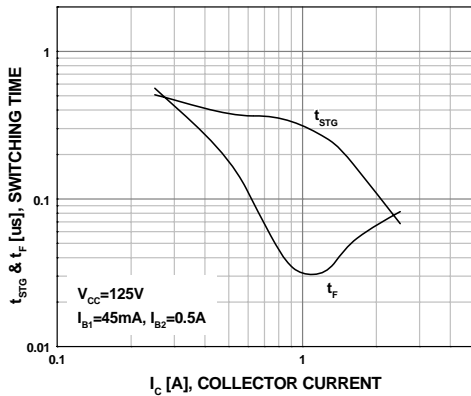


Figure 5. Resistive Load Switching

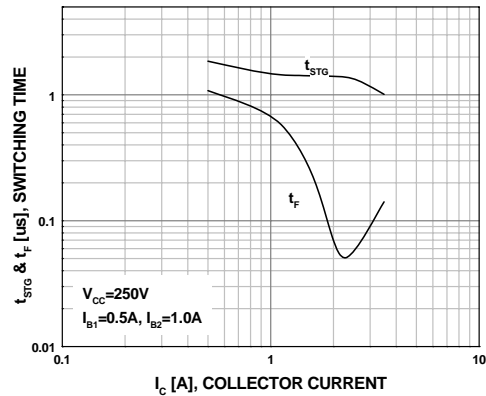


Figure 6. Resistive Load Switching

Typical Characteristics (Continued)

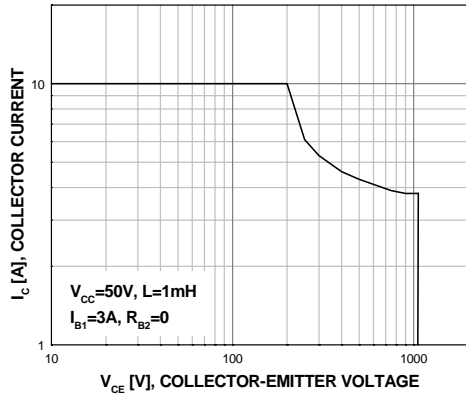


Figure 7. Reverse Biased Safe Operating Area

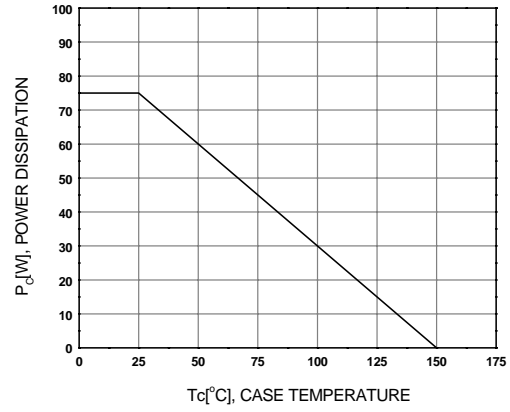


Figure 8. Power Derating

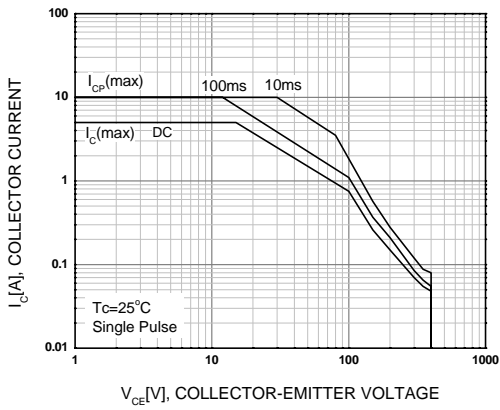
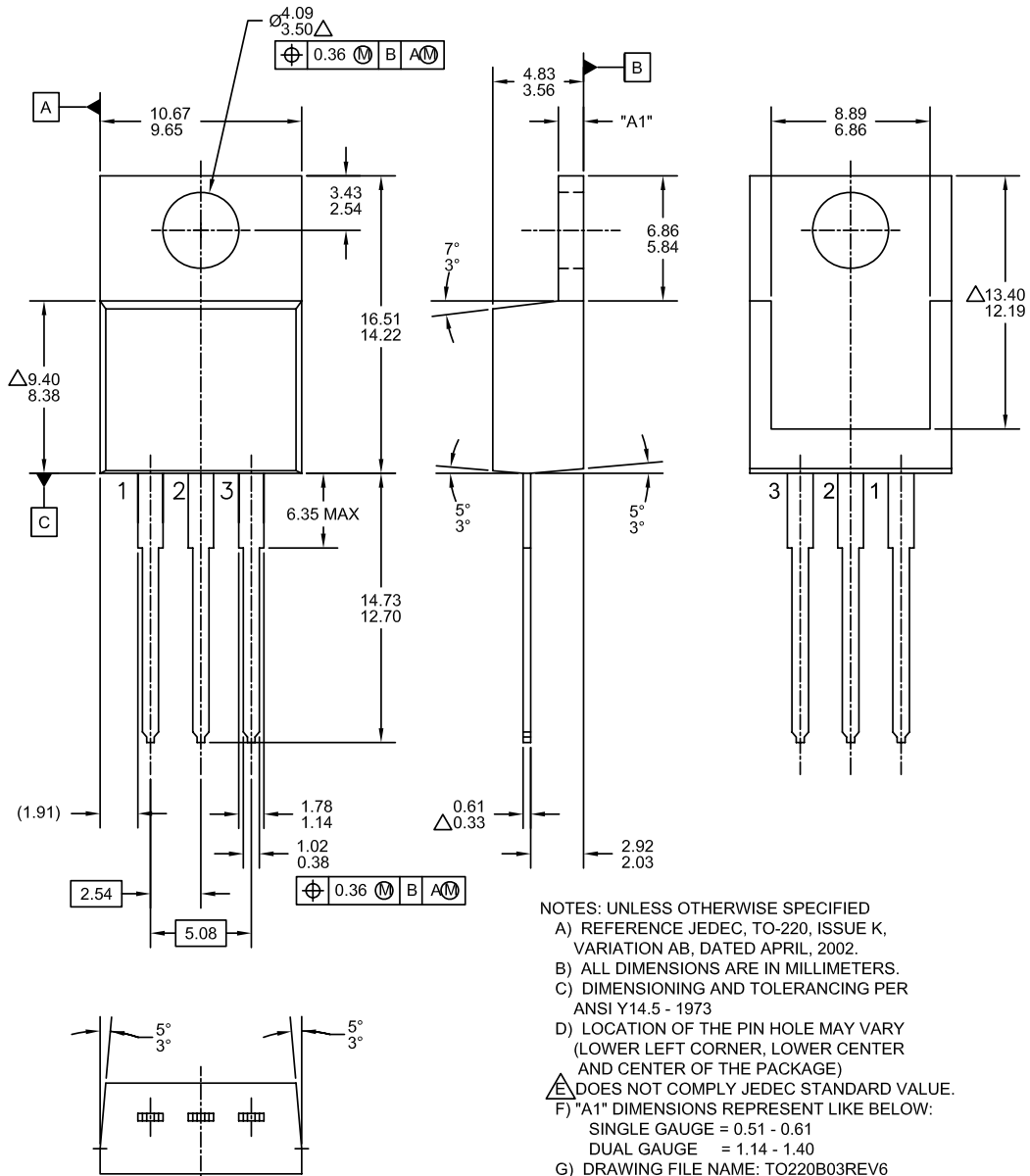


Figure 9. Forward Biased Safe Operating Area

Physical Dimensions

TO-220








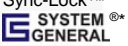
- NOTES: UNLESS OTHERWISE SPECIFIED
 A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.
 B) ALL DIMENSIONS ARE IN MILLIMETERS.
 C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973
 D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
 E) DOES NOT COMPLY JEDEC STANDARD VALUE.
 F) "A1" DIMENSIONS REPRESENT LIKE BELOW:
 SINGLE GAUGE = 0.51 - 0.61
 DUAL GAUGE = 1.14 - 1.40
 G) DRAWING FILE NAME: TO220B03REV6

Dimensions in Millimeters



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