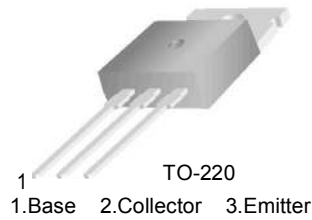


FJP5554

High Voltage Fast Switching Transistor

Features

- Fast Speed Switching
- Wide Safe Operating Area
- Suitable for Electronic Ballast Application



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	1050	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	15	V
I _C	Collector Current (DC)	4	A
I _{CP}	* Collector Current (Pulse)	8	A
P _C	Collector Dissipation (T _C = 25°C)	70	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55 ~ 150	°C

* Pulse Test: PW = 300µs, Duty Cycle = 2% Pulsed

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
J5554	FJP5554TU	TO-220	-	-	50
J5554	FJP5554	TO-220	-	-	200

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

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 500\mu\text{A}, I_E = 0$	1050			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 5\text{mA}, I_B = 0$	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}, I_C = 0$	15		23	V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 1050\text{V}, I_E = 0$			1	mA
I_{CEO}	Collector Cut-off Current	$V_{CB} = 400\text{V}, I_B = 0$			250	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 15\text{V}, I_C = 0$			1	mA
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 0.1\text{A}$ $V_{CE} = 3\text{V}, I_C = 0.8\text{A}$	45 20		100 50	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{A}, I_B = 0.2\text{A}$			0.5	V
		$I_C = 3.5\text{A}, I_B = 1.0\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 3.5\text{A}, I_B = 1.0\text{A}$			1.5	V
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

Typical Performance Characteristics

Figure 1. Static Characteristic

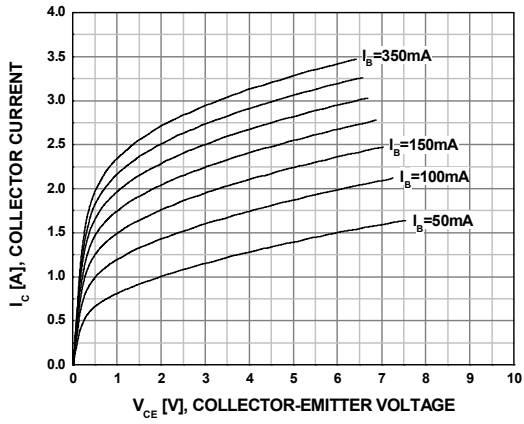


Figure 2. DC Current Gain

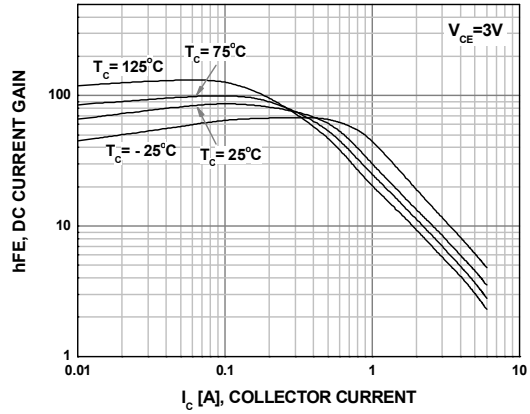


Figure 3. DC Current Gain

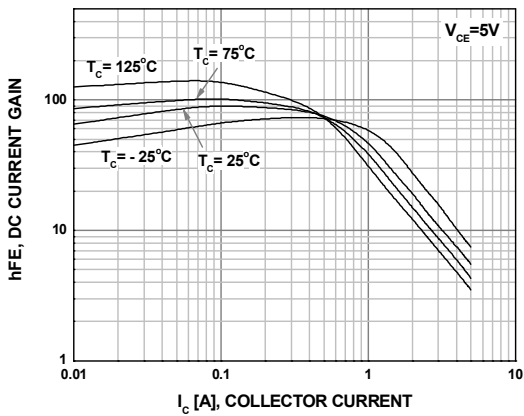


Figure 4. Collector-Emitter Saturation Voltage

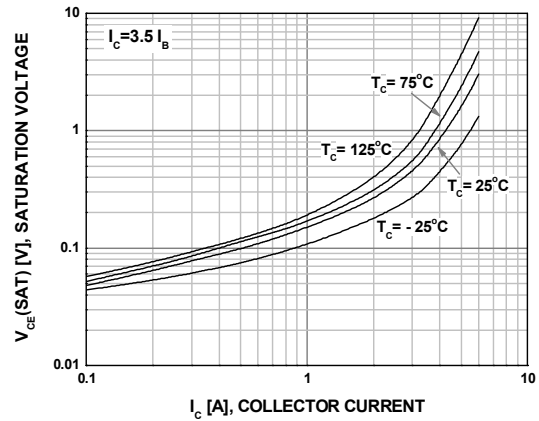


Figure 5. Base-Emitter Saturation Voltage

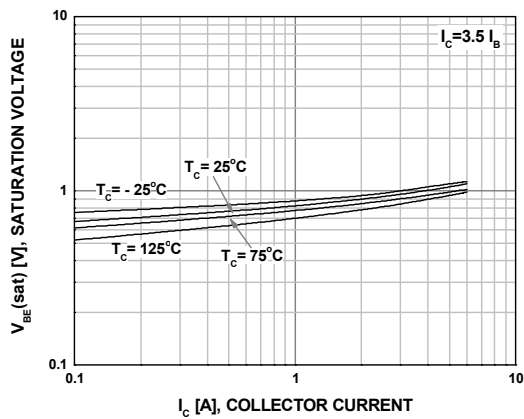
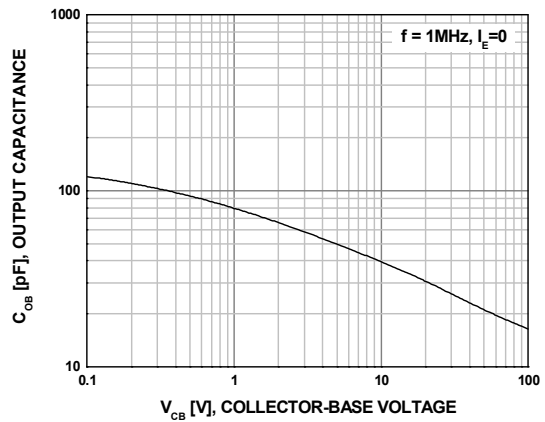


Figure 6. Output Capacitance



Typical Performance Characteristics (Continued)

Figure 7. Reverse Biased Safe Operating Area

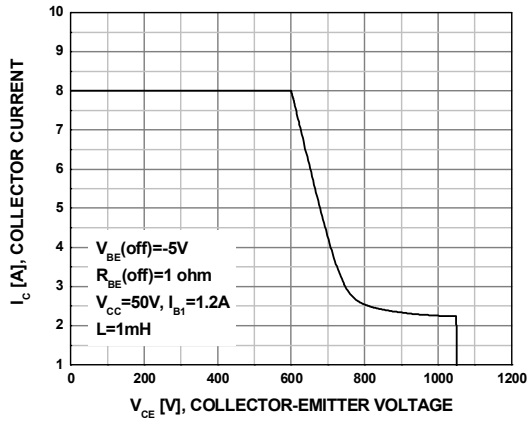


Figure 8. Forward Biased Safe Operating Area

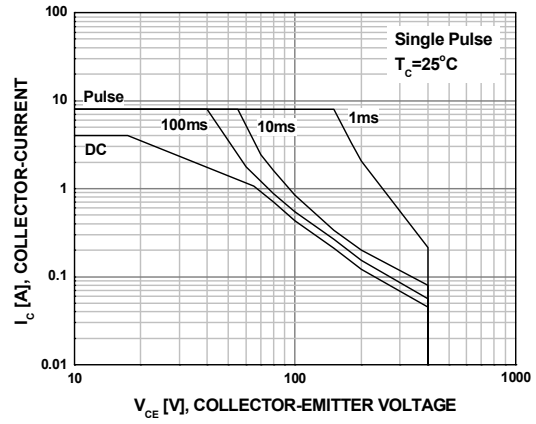
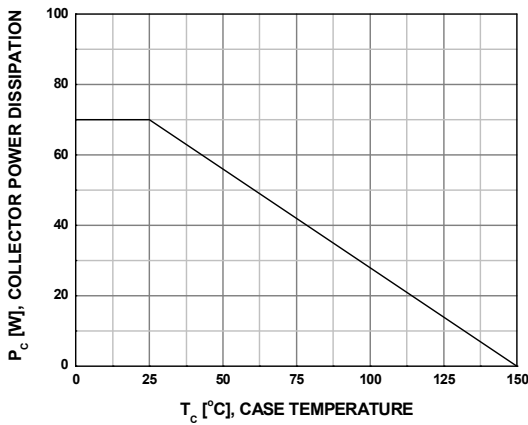


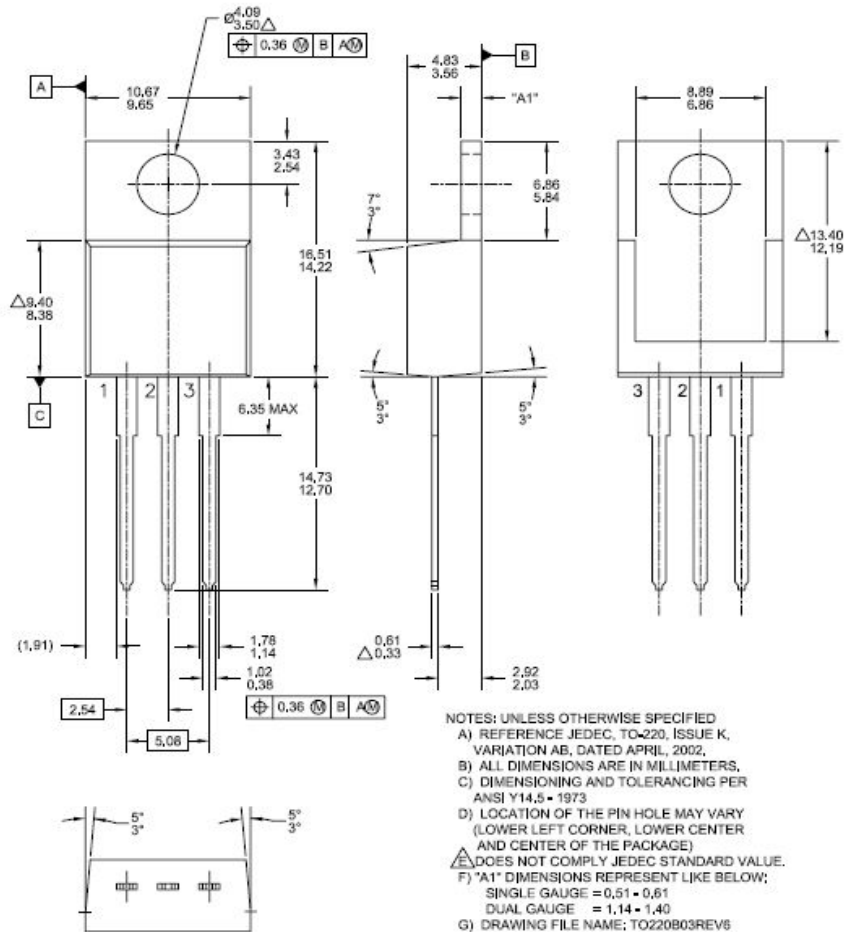
Figure 9. Power Derating Curve



Package Dimension

TO-220

Dimensions are in mm



- 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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