FAIRCHILD SEMICONDUCTOR®

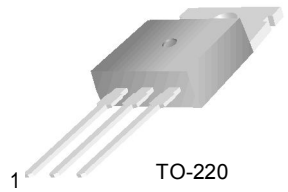
October 2008

FJP5554

High Voltage Fast Switching Transistor

Features

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



1 TO-220

1.Base 2.Collector 3.Emitter

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°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 500μA, I_E = 0	1050			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	15		23	V
I_{CBO}	Collector Cut-off Current	V_{CB} = 1050V, I_E = 0			1	mA
I_{CEO}	Collector Cut-off Current	V_{CB} = 400V, I_B = 0			250	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 15V, I_C = 0			1	mA
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 0.1A V_{CE} = 3V, I_C = 0.8A	45 20		100 50	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1A, I_B = 0.2A			0.5	V
		I_C = 3.5A, I_B = 1.0A			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = 3.5A, I_B = 1.0A			1.5	V
t_{ON}	Turn On Time	V_{CC}=125V, I_C=0.5A I_{B1}=45mA, I_{B2}=0.5A R_L=250Ω			1.0	μs
t_{STG}	Storage Time				1.2	μs
t_F	Fall Time				0.3	μs

Typical Performance Characteristics

Figure 1. Static Characterstic

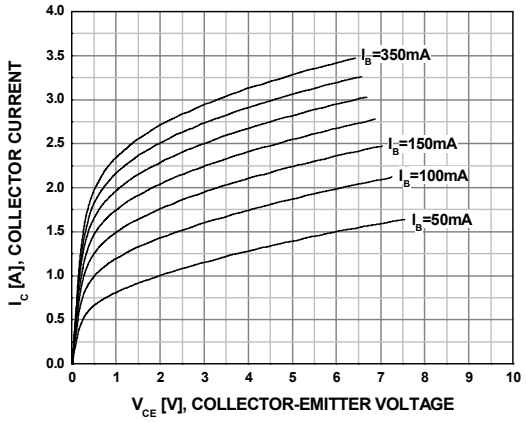


Figure 2. DC Current Gain

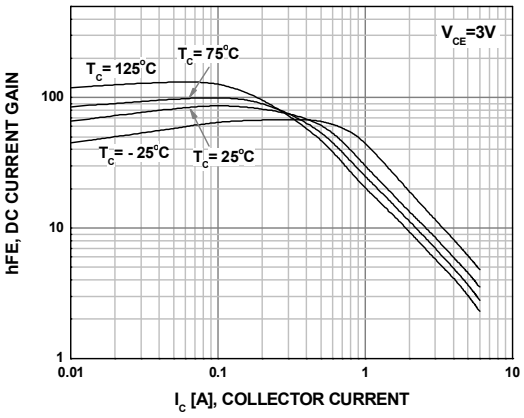


Figure 3. DC Current Gain

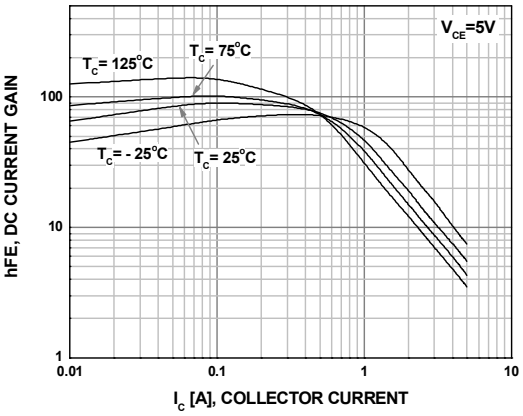


Figure 4. Collector-Emitter Saturation Voltage

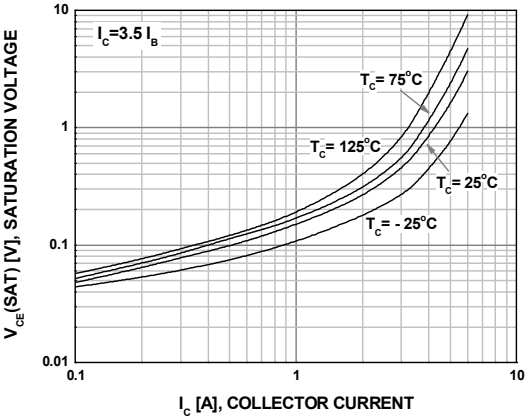


Figure 5. Base-Emitter Saturation Voltage

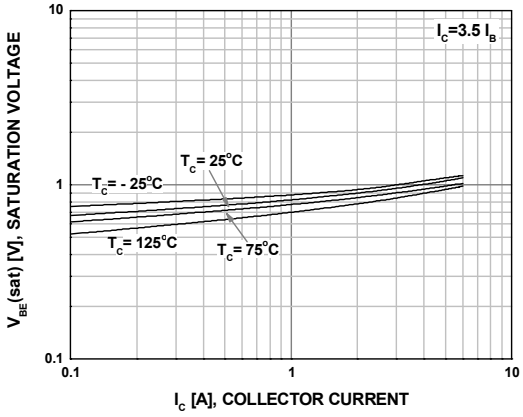
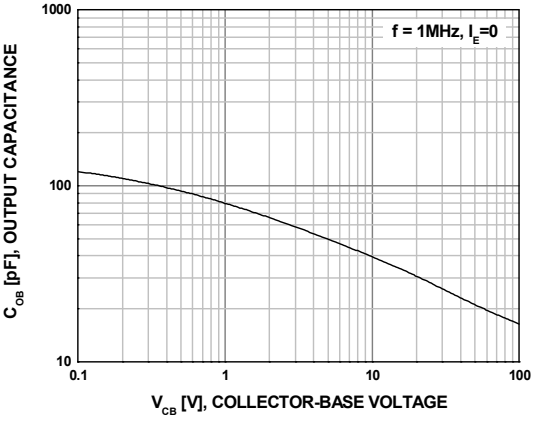


Figure 6. Output Capacitance



Typical Performance Characteristics (Continued)

Figure 7. Reverse Biased Safe Operating Area

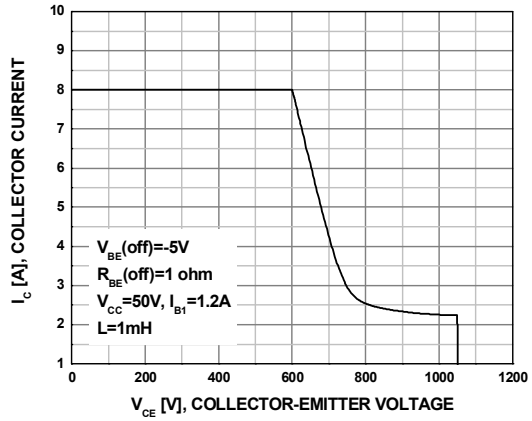


Figure 8. Forward Biased Safe Operating Area

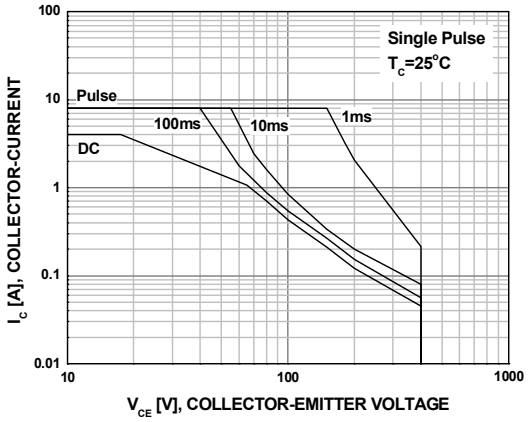
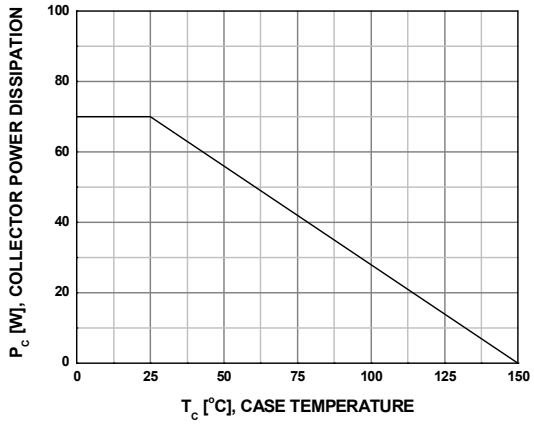
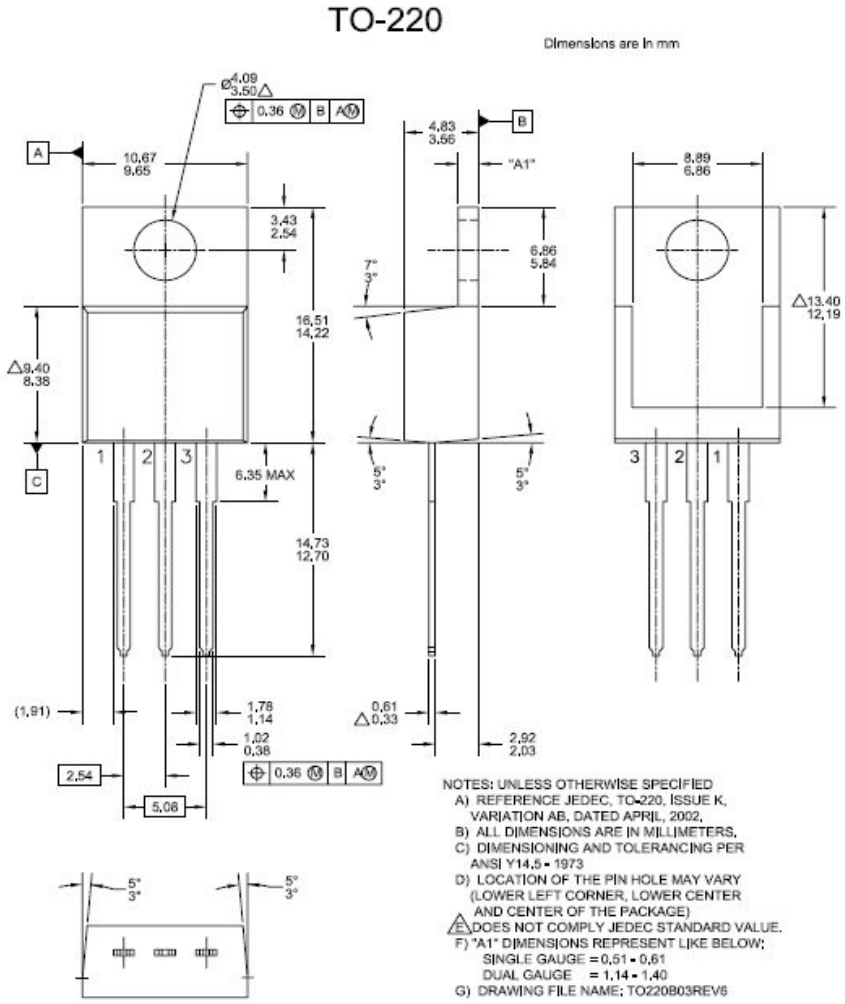


Figure 9. Power Derating Curve



Package Dimension



Dimensions in Millimeters

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