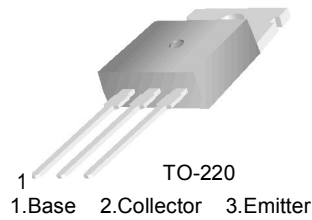


# FJP5554

## 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 ( $T_C = 25^\circ\text{C}$ )	70	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

\* Pulse Test: PW = 300 $\mu\text{s}$ , 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	$\mu\text{A}$
$I_{EBO}$	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	$\mu\text{s}$
$t_{STG}$	Storage Time	$I_{B1}=45\text{mA}, I_{B2}=0.5\text{A}$ $R_L=250\Omega$			1.2	$\mu\text{s}$
$t_F$	Fall Time				0.3	$\mu\text{s}$

## Typical Performance Characteristics

Figure 1. Static Characteristic

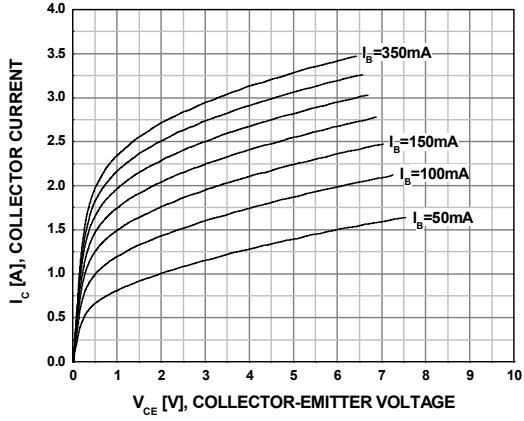


Figure 2. DC Current Gain

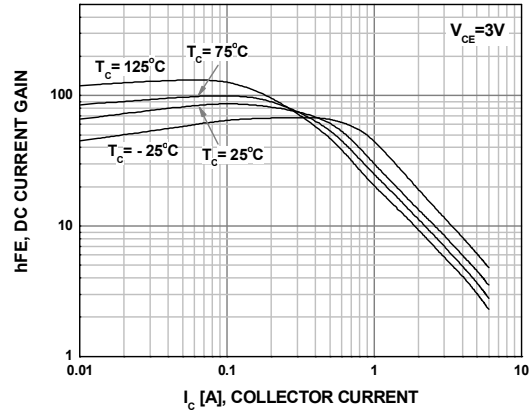


Figure 3. DC Current Gain

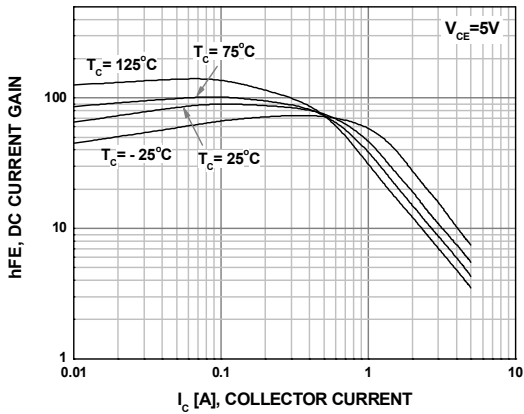


Figure 4. Collector-Emitter Saturation Voltage

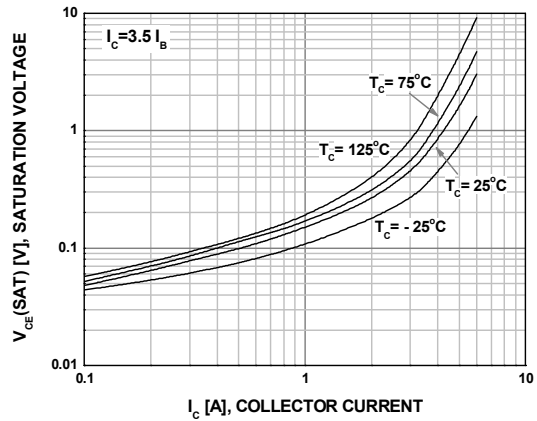


Figure 5. Base-Emitter Saturation Voltage

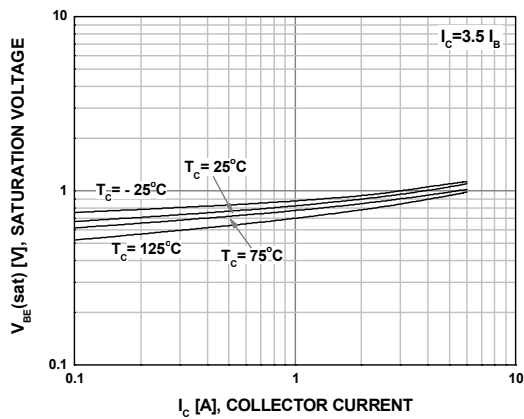
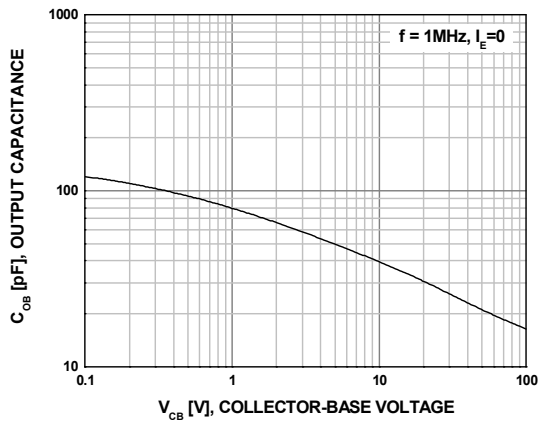
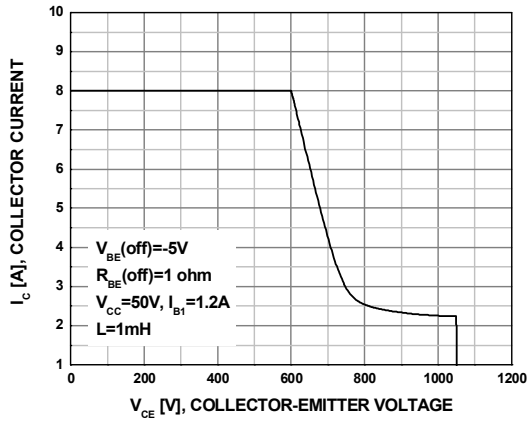


Figure 6. Output Capacitance

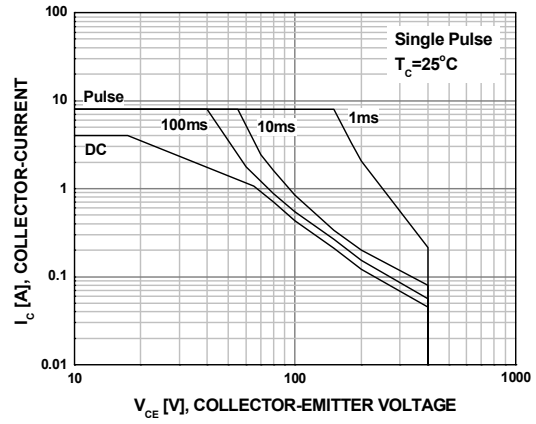


**Typical Performance Characteristics (Continued)**

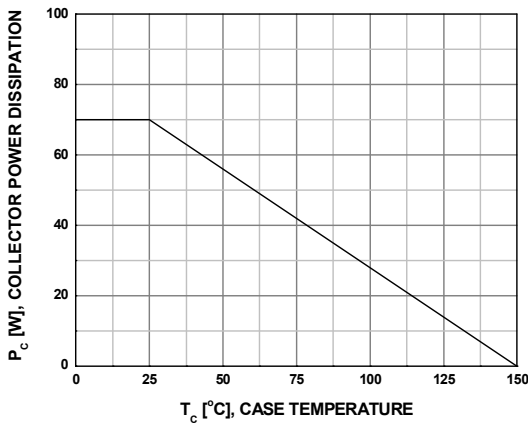
**Figure 7. Reverse Biased Safe Operating Area**



**Figure 8. Forward Biased Safe Operating Area**



**Figure 9. Power Derating Curve**







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| FRFET <sup>®</sup>                   | PDP-SPM <sup>™</sup>                         | SuperSOT <sup>™</sup> -6               |                                  |
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