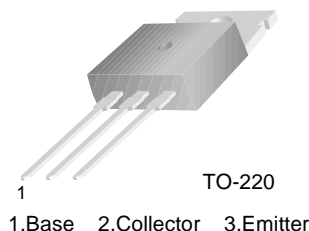


# FJP5555

## High Voltage Switch Mode Application

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



## NPN Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	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	$I_E=500\mu\text{A}, I_C=0$	14			V
$h_{FE}$	* DC Current Gain	$V_{CE}=5\text{V}, I_C=10\text{mA}$	10			
		$V_{CE}=3\text{V}, I_C=0.8\text{A}$	20		40	
$V_{CE(sat)}$	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	$I_C=3.5\text{A}, I_B=1.0\text{A}$			1.2	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	$\mu\text{s}$
$t_{STG}$	Storage Time	$I_{B1}=45\text{mA}, I_{B2}=0.5\text{A}$			1.2	$\mu\text{s}$
$t_F$	Fall Time	$R_L=250\Omega$			0.3	$\mu\text{s}$
$t_{ON}$	Turn On Time	$V_{CC}=250\text{V}, I_C=2.5\text{A}$			2.0	$\mu\text{s}$
$t_{STG}$	Storage Time	$I_{B1}=0.5\text{A}, I_{B2}=1.0\text{A}$			2.5	$\mu\text{s}$
$t_F$	Fall Time	$R_L=100\Omega$			0.3	$\mu\text{s}$

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

# Typical Characteristics

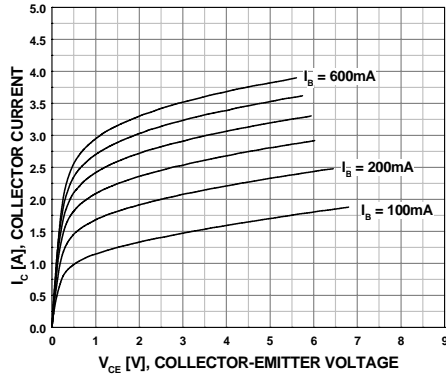


Figure 1. Static Characteristics

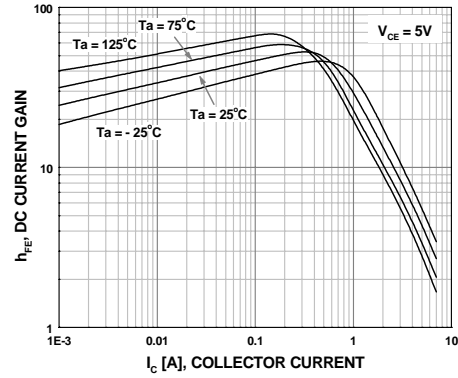


Figure 2. DC Current Gain

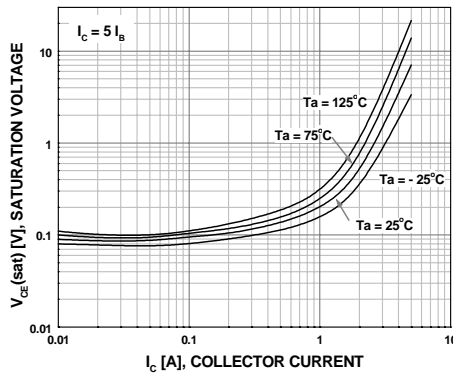


Figure 3. Saturation Voltage

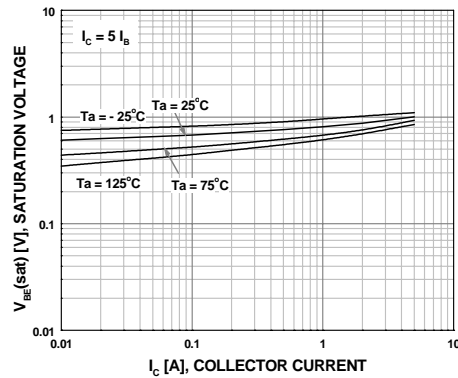


Figure 4. Saturation Voltage

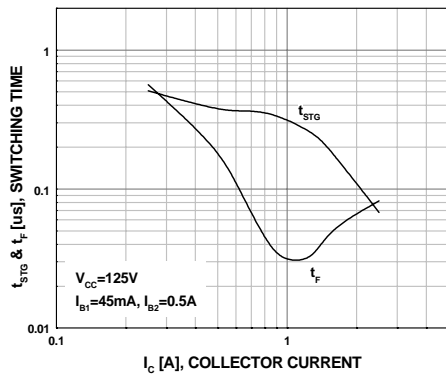


Figure 5. Resistive Load Switching

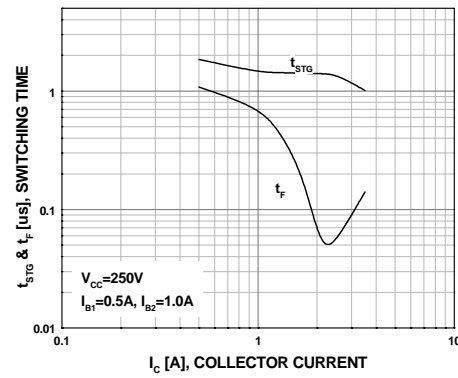


Figure 6. Resistive Load Switching

Typical Characteristics (Continued)

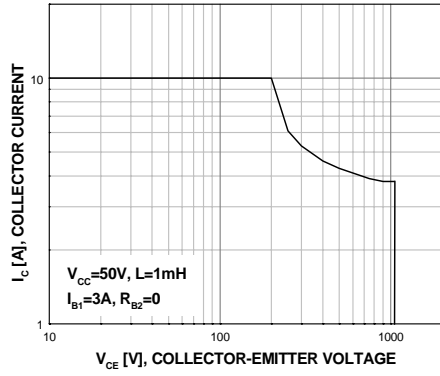


Figure 7. Reverse Biased Safe Operating Area

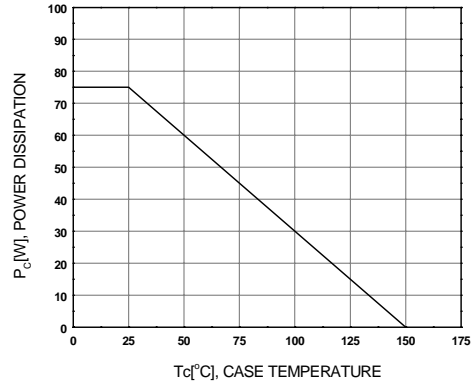


Figure 8. Power Derating

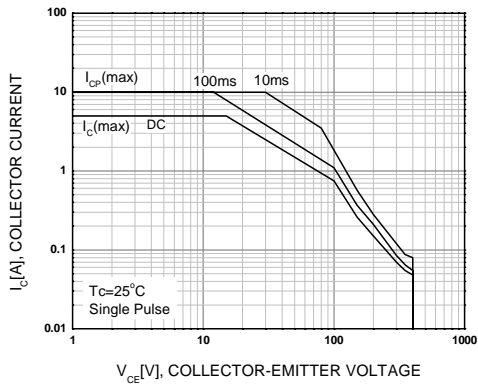
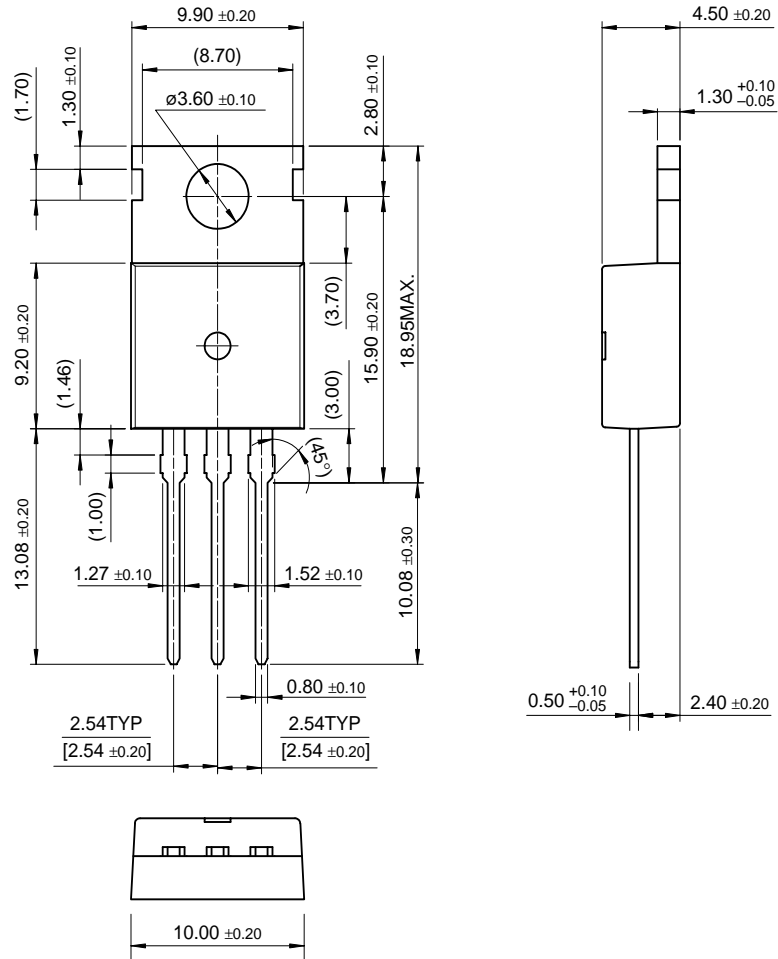


Figure 9. Forward Biased Safe Operating Area

# Package Dimensions

FJP5555

## TO-220



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FPS <sup>™</sup>	MICROCOUPLER <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
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