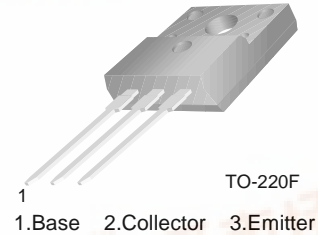


FAIRCHILD
SEMICONDUCTOR®

FJPF5555

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	40	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	μs
t_{STG}	Storage Time	$I_{B1}=45\text{mA}, I_{B2}=0.5\text{A}$			1.2	μs
t_F	Fall Time	$R_L=250\Omega$			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	$I_{B1}=0.5\text{A}, I_{B2}=1.0\text{A}$			2.5	μs
t_F	Fall Time	$R_L=100\Omega$			0.3	μs

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

Typical Characteristics

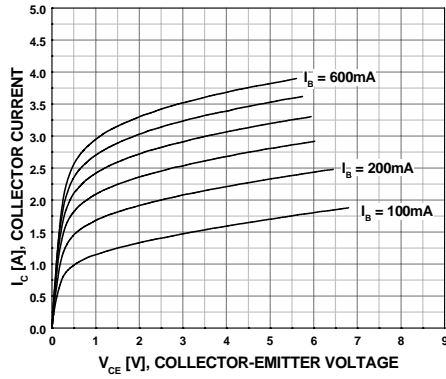


Figure 1. Static Characteristics

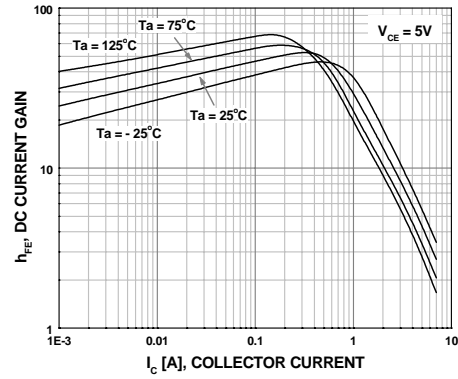


Figure 2. DC Current Gain

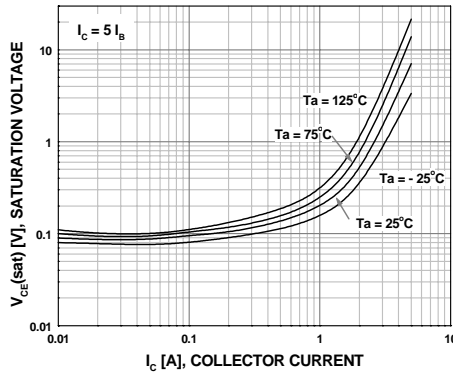


Figure 3. Saturation Voltage

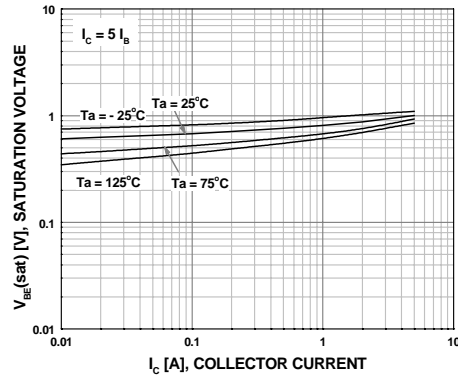


Figure 4. Saturation Voltage

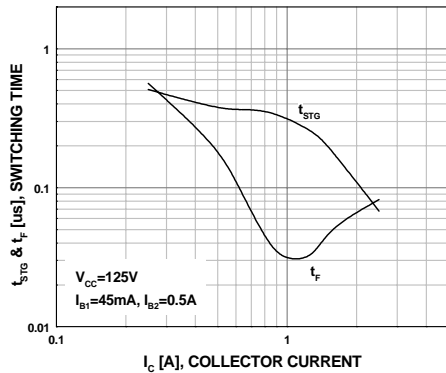


Figure 5. Resistive Load Switching

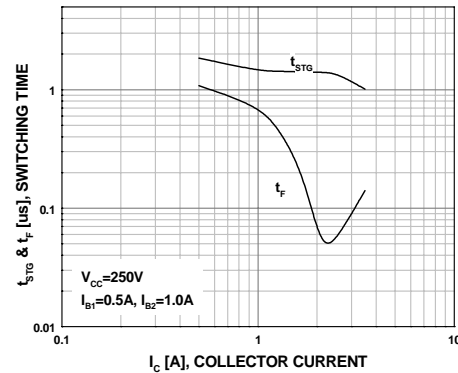


Figure 6. Resistive Load Switching

Typical Characteristics (Continued)

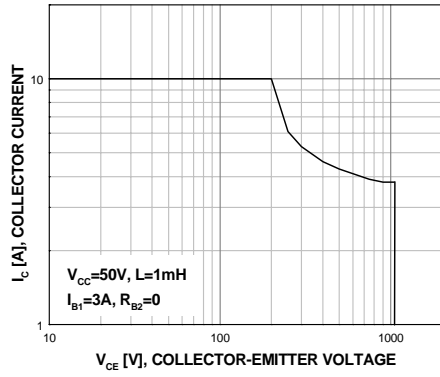


Figure 7. Reverse Biased Safe Operating Area

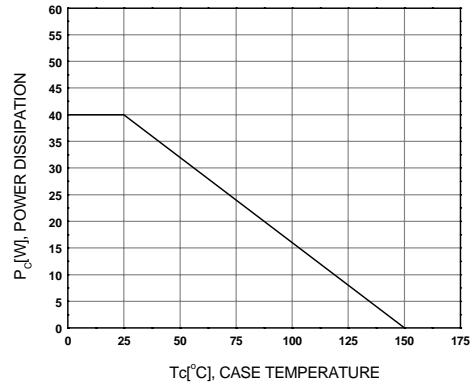


Figure 8. Power Derating

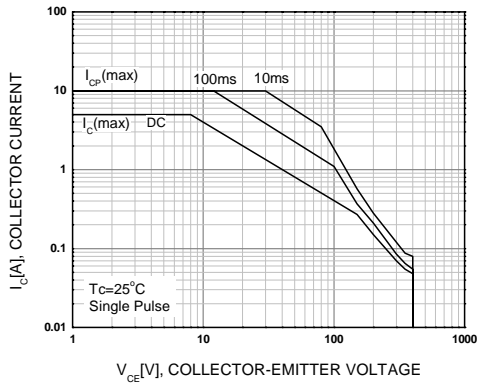
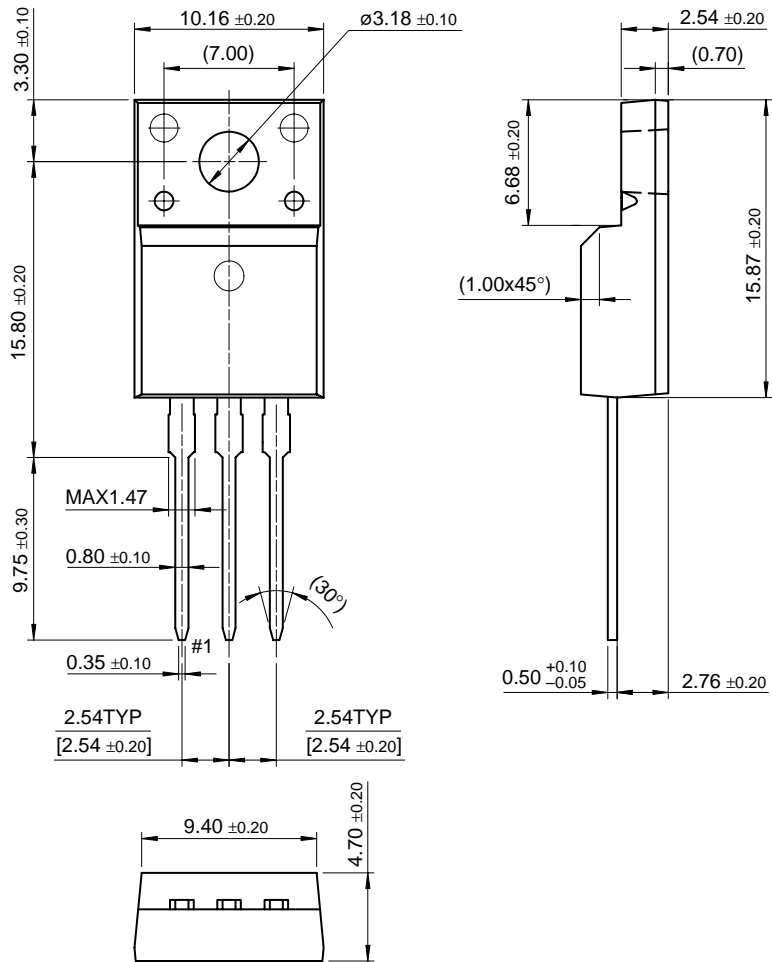


Figure 9. Forward Biased Safe Operating Area

Package Dimensions

FJPF5555

TO-220F



Dimensions in Millimeters

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