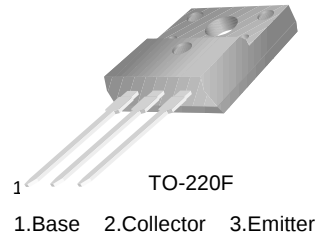


FJPF3305

FJPF3305

High Voltage Switch Mode Application

- High Speed Switching
- Suitable for Electronic Ballast and Switching Regulator



NPN Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current (DC)	4	A
I_{CP}	Collector Current (Pulse)	8	A
I_B	Base Current	2	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 65 ~ 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	$I_C=500\mu\text{A}$, $I_E=0$	700			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}$, $I_B=0$	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=500\mu\text{A}$, $I_C=0$	9			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=700\text{V}$, $I_E=0$			1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=9\text{V}$, $I_C=0$			1	μA
h_{FE1} h_{FE2}	* DC Current Gain	$V_{CE}=5\text{V}$, $I_C=1\text{A}$	19		35	
		$V_{CE}=5\text{V}$, $I_C=2\text{A}$	8		40	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}$, $I_B=0.2\text{A}$			0.5	V
		$I_C=2\text{A}$, $I_B=0.5\text{A}$			0.6	V
		$I_C=4\text{A}$, $I_B=1\text{A}$			1	V
$V_{BE(sat)}$	Base-Emitter On Voltage	$I_C=1\text{A}$, $I_B=0.2\text{A}$			1.2	V
		$I_C=2\text{A}$, $I_B=0.5\text{A}$			1.6	V
f_T	Current Gain Bandwidth Product	$V_{CE}=5\text{V}$, $I_C=1\text{A}$	4			MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}$, $f=1\text{MHz}$		65		pF
t_{ON}	Turn On Time	$V_{CC}=125\text{V}$, $I_C=2\text{A}=5I_{B1}=-5I_{B2}$			0.8	μs
t_{STG}	Storage Time	$R_L=62.5\Omega$			4	μs
t_F	Fall Time				0.9	μs

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

h_{FE} Classification

Classification	R	O
h_{FE2}	19 ~ 28	26 ~ 35

Typical Characteristics

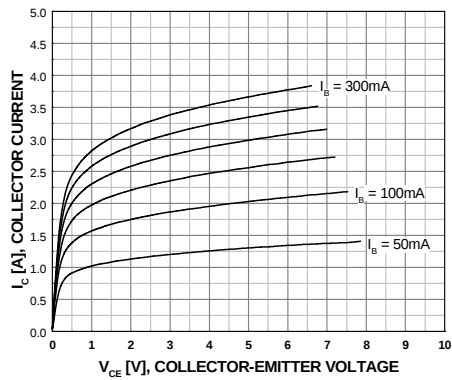


Figure 1. Static Characteristics

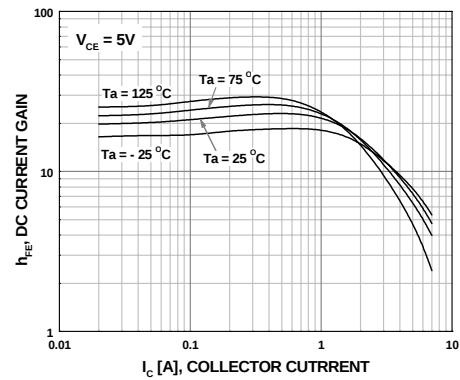


Figure 2. DC Current Gain(R-Grade)

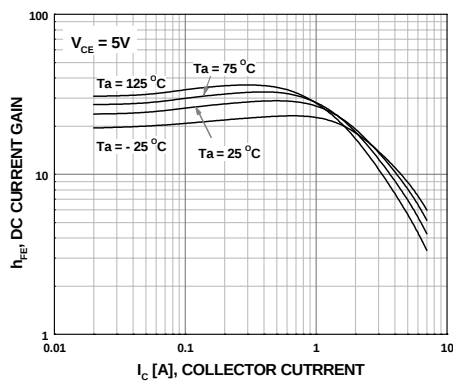


Figure 3. DC Current Gain(O-Grade)

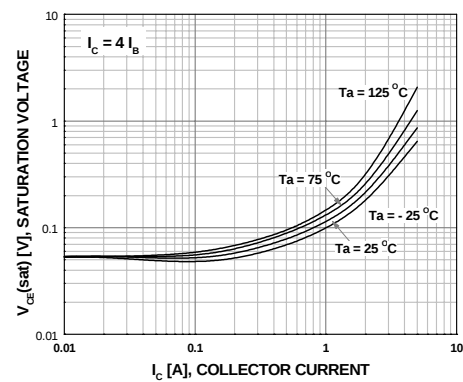


Figure 4. Saturation Voltage(R-Grade)

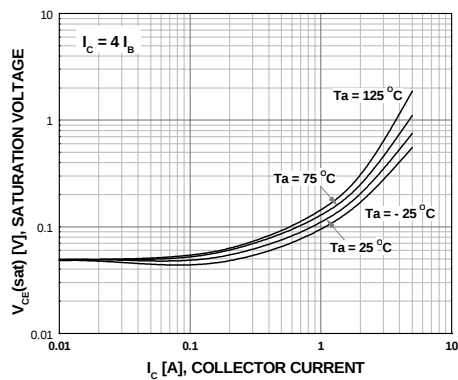


Figure 5. Saturation Voltage(O-Grade)

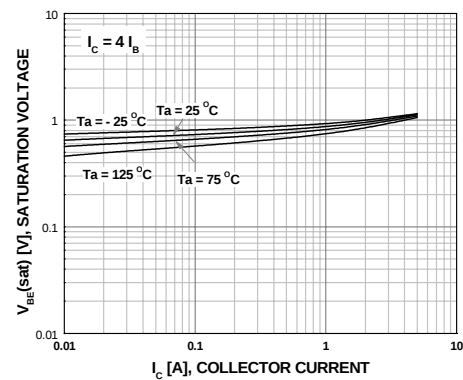


Figure 6. Saturation Voltage(R-Grade)

Typical Characteristics (Continued)

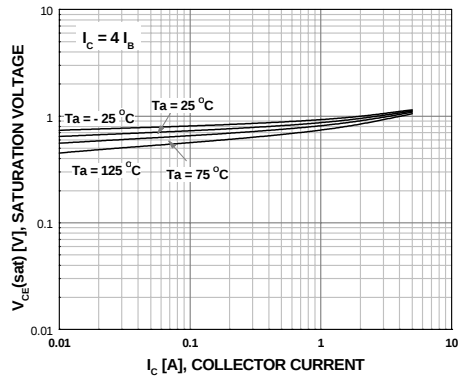


Figure 7. Saturation Voltage(O-Grade)

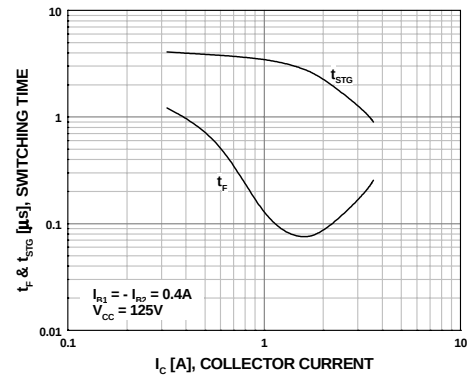


Figure 8. Switching Time

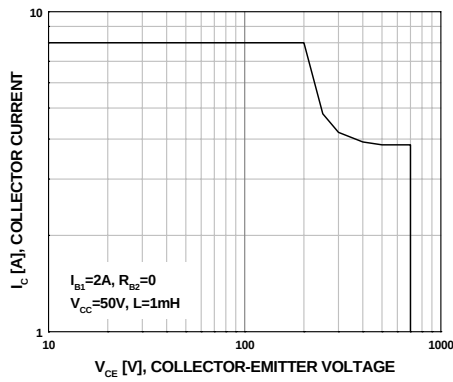


Figure 9. Reverse Biased Safe Operating Area

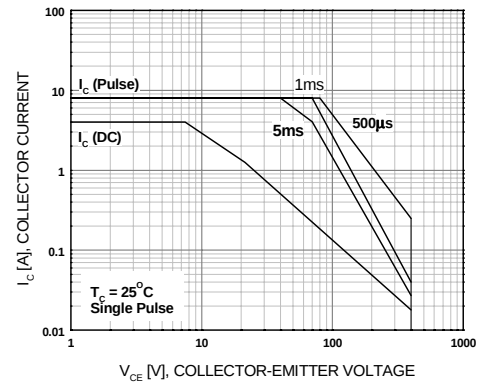


Figure 10. Forward Biased Safe Operating Area

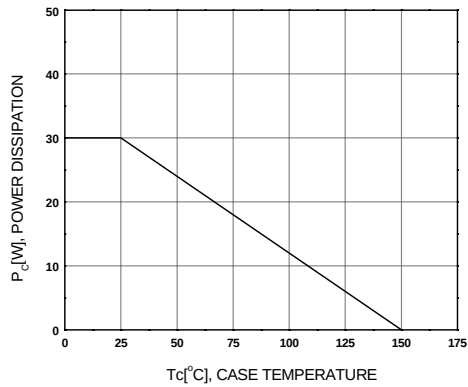
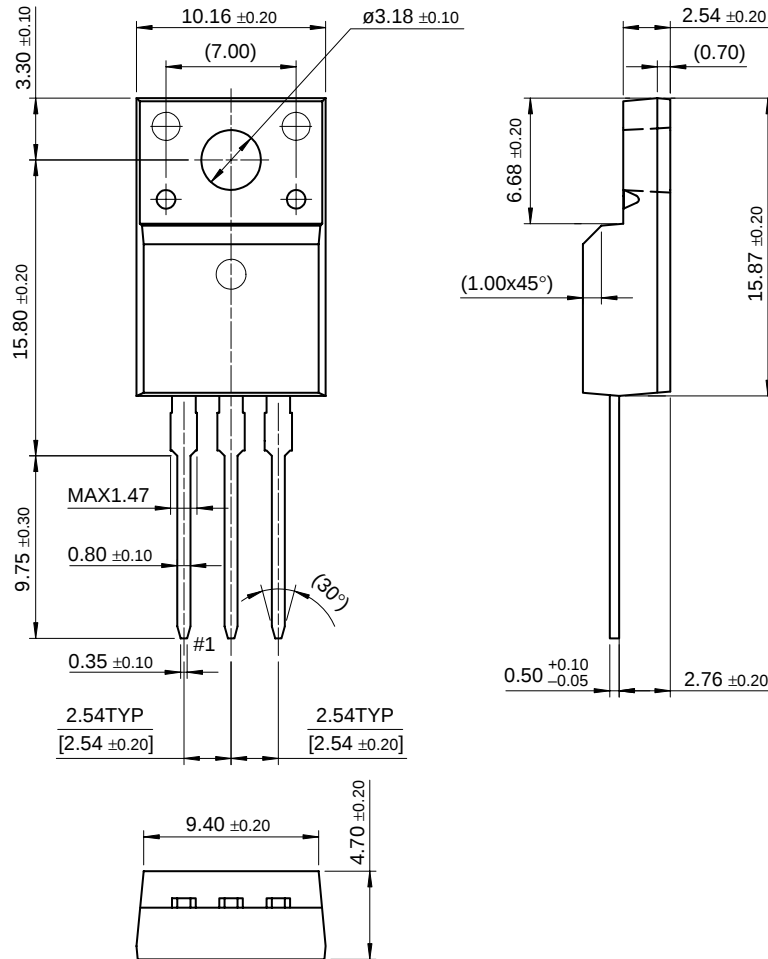


Figure 11. Power Derating

Package Dimensions

TO-220F



Dimensions in Millimeters

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Programmable Active Droop™	OPTOPLANAR™	SMART START™	VCX™	

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