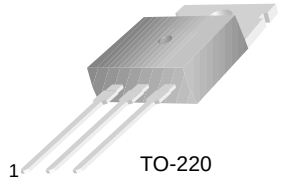
FAIRCHILD
SEMICONDUCTOR®

FJP5355

High Voltage Switch Mode Application

- High Speed Switching
- Very Low Switching Losses
- Very Low Operating Temperature
- Wide RBSOA



TO-220

1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	440	V
V_{EBO}	Emitter- Base Voltage	14.5	V
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	7.5	A
I_B	Base Current	2.5	A
P_C	Collector Dissipation (T_C=25°C)	50	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector- Base Breakdown Voltage	I_C = 500μA, I_E = 0	900			V
BV_{CEO}	Collector- Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	440			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 500μA, I_C = 0	14.5			V
I_{EBO}	Emitter Cut-off Current	V_{EB} = 12V, I_C = 0			1	μA
h_{FE}	*DC Current Gain	V_{CE} = 2V, I_C = 10mA V_{CE} = 2V, I_C = 0.8A V_{CE} = 2V, I_C = 2.5A	15 15 7			
V_{CE}(sat)	*Collector-Emitter Saturation Voltage	I_C = 0.8A, I_B = 0.2A I_C = 2.5A, I_B = 0.8A			0.2 0.4	V V
V_{BE} (sat)	*Base-Emitter Saturation Voltage	I_C = 0.8A, I_B = 0.2A I_C = 2.5A, I_B = 0.8A			1.0 1.2	V V
f_T	Current Gain Bandwidth Product	V_{CE} = 10V, I_C = 0.2A	4			MHz
t_{ON}	Turn On Time	V_{CC} = 125V, I_C = 0.5A I_{B1} = 45mA, $-I_{B2}$ = 0.5A PW=300μs			1.1	μs
t_{STG}	Storage Time				1.2	μs
t_F	Fall Time				0.4	μs

* Pulse test: PW≤300μs, Duty cycle≤2%

Typical Characteristics

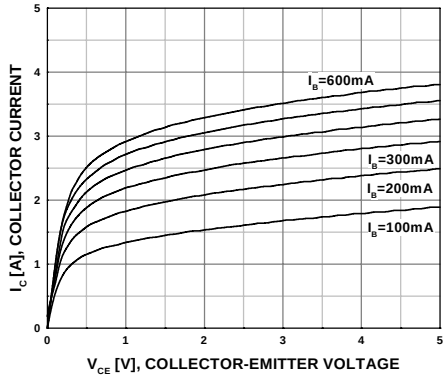


Figure 1. Static Characteristic

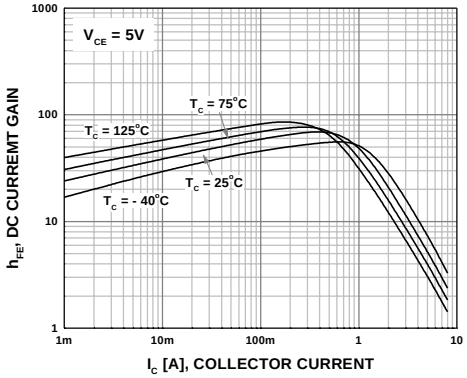


Figure 2. DC Current Gain

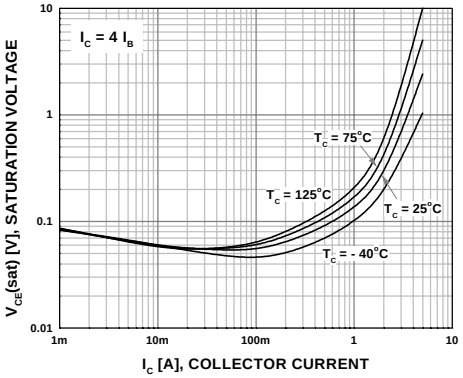


Figure 3. Saturation Voltage

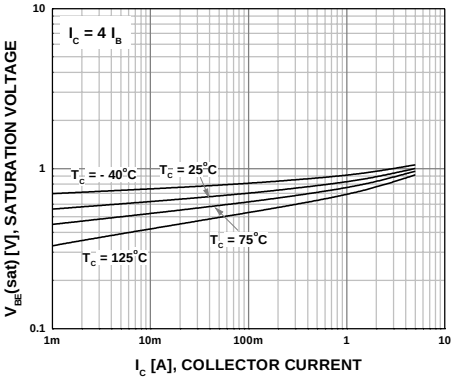


Figure 4. Saturation Voltage

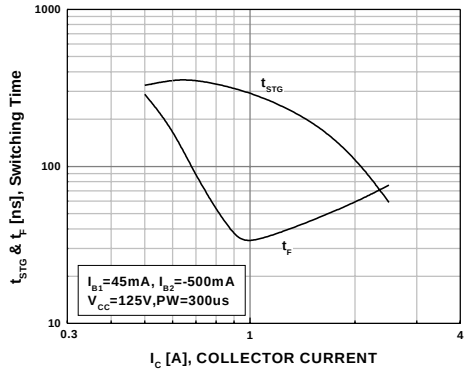


Figure 5. Resistive Load Switching

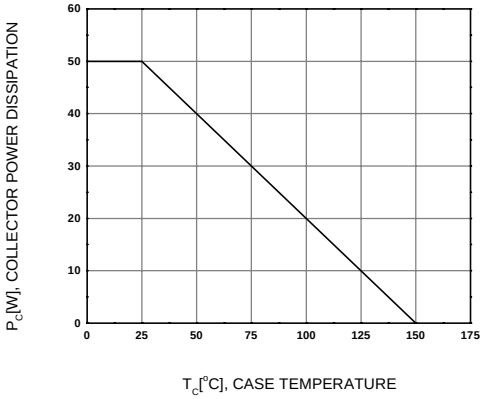


Figure 6. Power Derating Curve

Typical Characteristics (Continued)

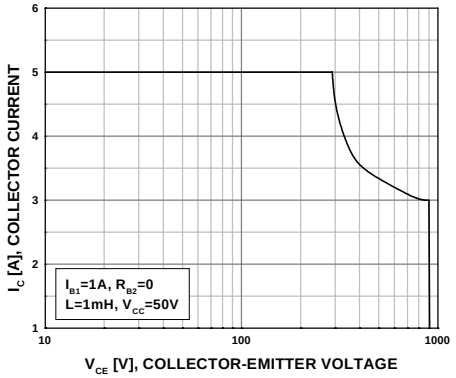


Figure 7. Reverse Biased Safe Operating Area

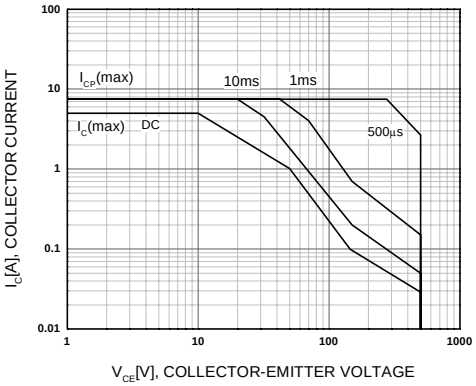
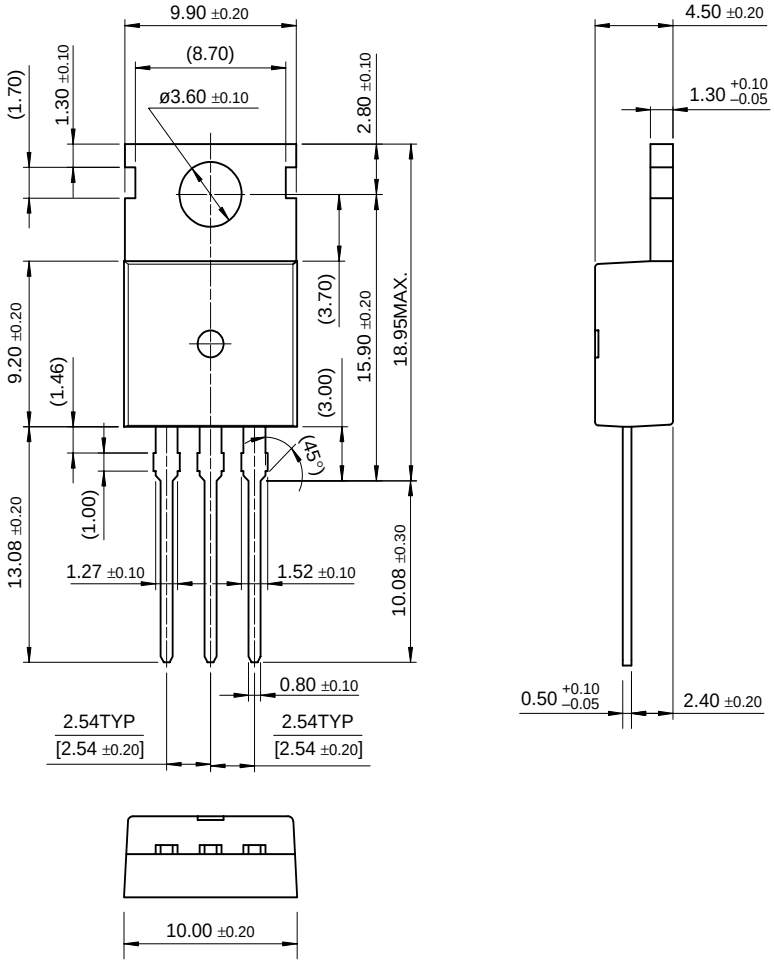


Figure 8. Forward Biased Safe Operating Area

Package Dimensions

TO-220



Dimensions in Millimeters

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