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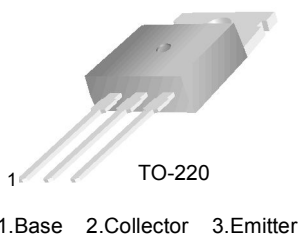
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FJP3305

High Voltage Fast-Switching NPN Power Transistor

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



Absolute Maximum Ratings T_C = 25°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°C)	75	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	Conditions	Min.	Typ.	Max	Units
BV _{CBO}	Collector-Base Breakdown Voltage	I _C = 500μA, I _E = 0	700			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 5mA, I _B = 0	400			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 500μA, I _C = 0	9			V
I _{CBO}	Collector Cut-off Current	V _{CB} = 700V, I _E = 0			1	μA
I _{EBO}	Emitter Cut-off Current	V _{EB} = 9V, I _C = 0			1	μA
h _{FE1} h _{FE2}	DC Current Gain *	V _{CE} = 5V, I _C = 1A V _{CE} = 5V, I _C = 2A	19 8		35 40	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A, I _B = 0.2A I _C = 2A, I _B = 0.5A I _C = 4A, I _B = 1A			0.5 0.6 1.0	V V V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 1A, I _B = 0.2A I _C = 2A, I _B = 0.5A			1.2 1.6	V V
f _T	Current Gain Bandwidth Product	V _{CE} = 10V, I _C = 0.5A	4			MHz
C _{ob}	Output Capacitance	V _{CB} = 10V, f = 1MHz		65		pF
t _{ON}	Turn On Time	V _{CC} = 125V, I _C = 2A I _{B1} = -I _{B2} = 0.4A R _L = 62.5Ω			0.8	μs
t _{STG}	Storage Time				4.0	μs
t _F	Fall Time				0.9	μs

* Pulse Test: PW ≤ 300μs, Duty Cycle ≤ 2%

h_{FE} Classification

Classification	H1	H2
h _{FE1}	19 ~ 28	26 ~ 35

Typical Performance Characteristics

Figure 1. Static Characteristic

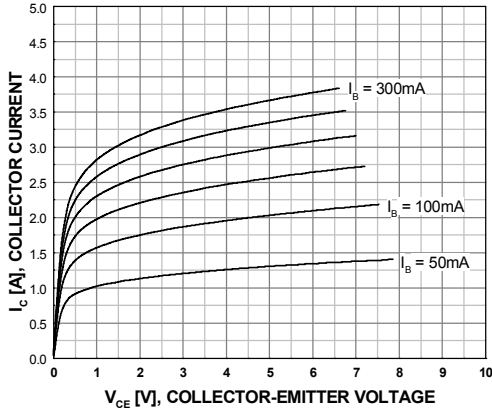


Figure 2. DC Current Gain (R-Grade)

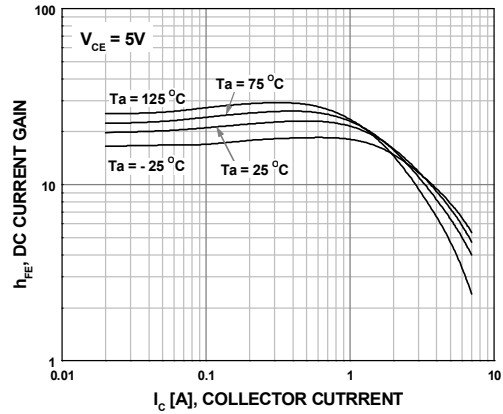


Figure 3. DC Current Gain (O-Grade)

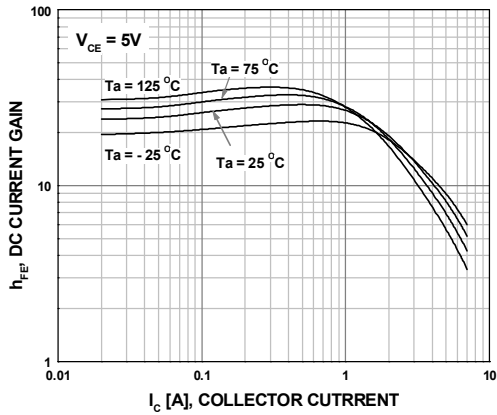


Figure 4. Saturation Voltage (R-Grade)

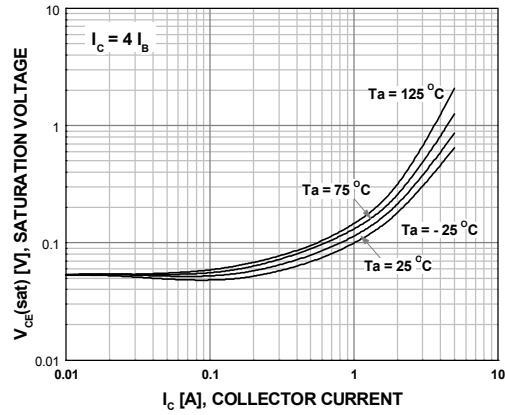


Figure 5. Saturation Voltage (O-Grade)

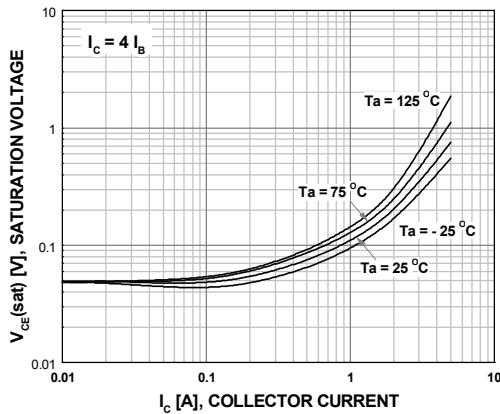
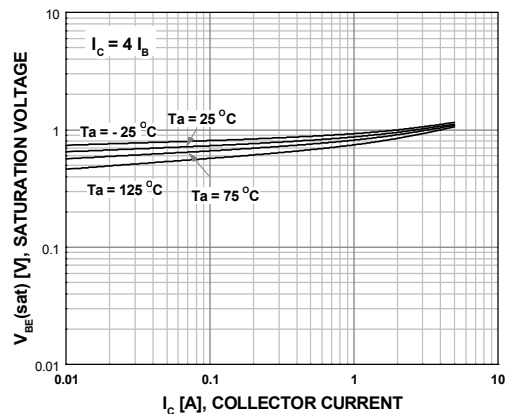


Figure 6. Saturation Voltage (R-Grade)



Typical Performance Characteristics (Continued)

Figure 7. Saturation Voltage (O-Grade)

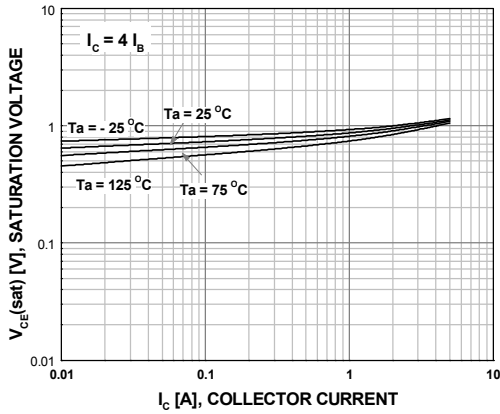


Figure 8. Switching Time

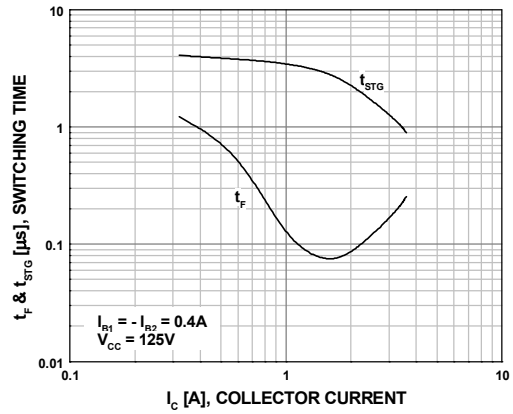


Figure 9. Reverse Biased Safe Operating Area

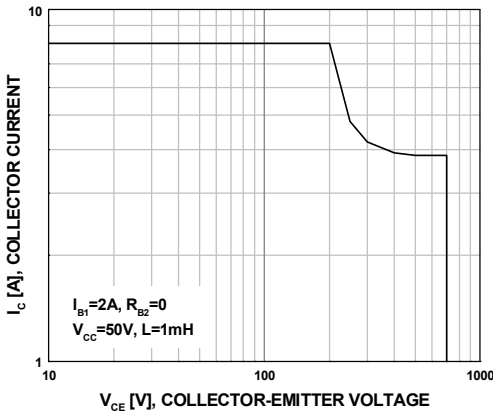


Figure 10. Forward Biased Safe Operating Area

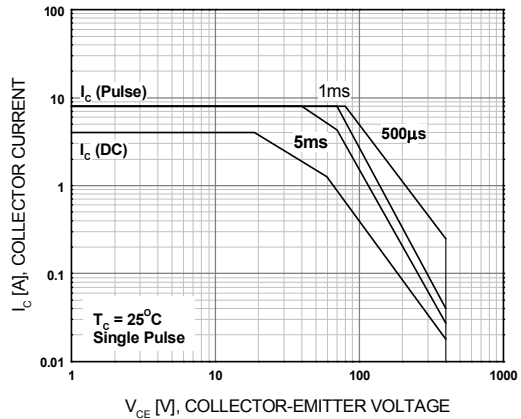
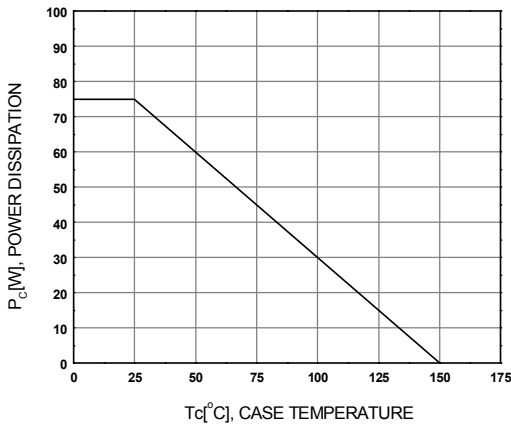


Figure 11. Power Derating





- NOTES:
- A) REFERENCE JEDEC, TO-220, VARIATION AB
 - B) ALL DIMENSIONS ARE IN MILLIMETERS.
 - C) DIMENSIONS COMMON TO ALL PACKAGE SUPPLIERS EXCEPT WHERE NOTED [].
 - D) LOCATION OF MOLDED FEATURE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
 - E) DOES NOT COMPLY JEDEC STANDARD VALUE.
 - F) "A1" DIMENSIONS AS BELOW:
 SINGLE GAUGE = 0.51 - 0.61
 DUAL GAUGE = 1.10 - 1.45
 - G) DRAWING FILE NAME: TO220B03REV9
 - H) PRESENCE IS SUPPLIER DEPENDENT
 - I) SUPPLIER DEPENDENT MOLD LOCKING HOLES IN HEATSINK.



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