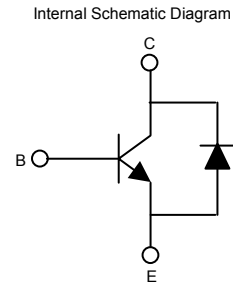
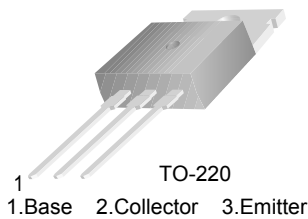


FJP3307D

High Voltage Fast Switching NPN Power Transistor

Features

- Built-in Diode between Collector and Emitter
- Suitable for Electronic Ballast and Switch Mode Power Supplies



Absolute Maximum Ratings

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)	8	A
I_{CP}	* Collector Current (Pulse)	16	A
I_B	Base Current (DC)	4	A
P_C	Collector Dissipation ($T_C = 25^\circ\text{C}$)	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

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

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

Symbol	Parameter	Conditions	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_{EBO}	Emitter Cut-off Current	$V_{EB} = 9\text{V}, I_C = 0$			1	mA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 2\text{A}$ $V_{CE} = 5\text{V}, I_C = 5\text{A}$	8 5		40 30	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.4\text{A}$			1	V
		$I_C = 5\text{A}, I_B = 1\text{A}$			2	V
		$I_C = 8\text{A}, I_B = 2\text{A}$			3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.4\text{A}$			1.2	V
		$I_C = 5\text{A}, I_B = 1\text{A}$			1.6	V

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

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
V_F	Diode Forward Voltage	$I_C = 3\text{A}$			2.5	V
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		60		pF
t_{STG}	Storage Time	$V_{CC} = 125\text{V}, I_C = 5\text{A}$ $I_{B1} = -I_{B2} = 1\text{A}, R_L = 50\Omega$			3	μs
t_F	Fall Time				0.7	μs
t_{STG}	Storage Time	$V_{CC} = 30\text{V}, I_C = 5\text{A}, L = 200\mu\text{H}$ $I_{B1} = 1\text{A}, R_{BB} = 0\Omega, V_{BE(OFF)} = -5\text{V}$ $V_{CLAMP} = 250\text{V}$			2.3	μs
t_F	Fall Time				150	ns

* Pulse test: PW=300 μs , Duty cycle=2%

h_{FE} Classification

Classification	H1	H2
h_{FE1}	15 ~ 28	26 ~ 39

Typical Performance Characteristics

Figure 1. Static Characteristic

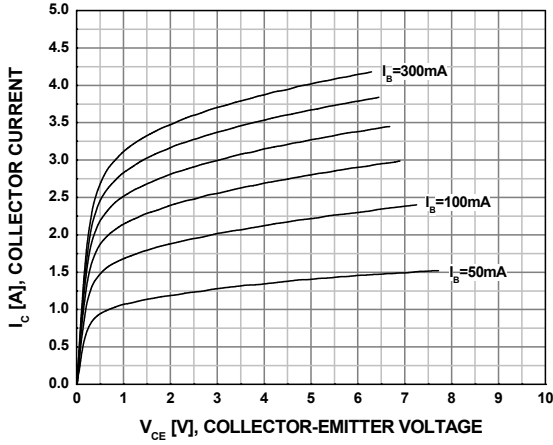


Figure 2. DC Current Gain (H1 Grade)

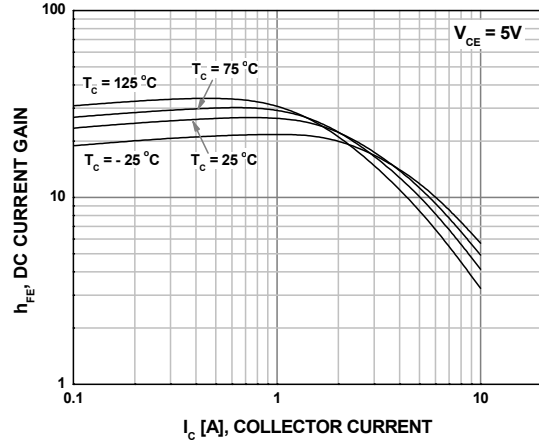


Figure 3. DC Current Gain (H2 Grade)

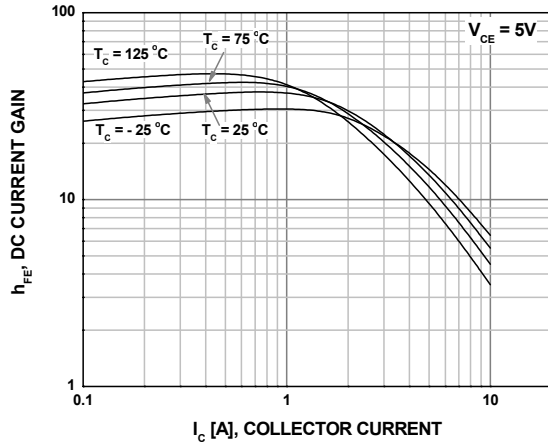


Figure 4. Collector-Emitter Saturation Voltage

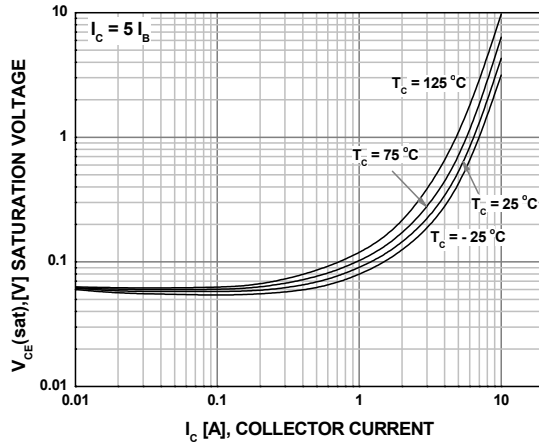


Figure 5. Base-Emitter Saturation Voltage

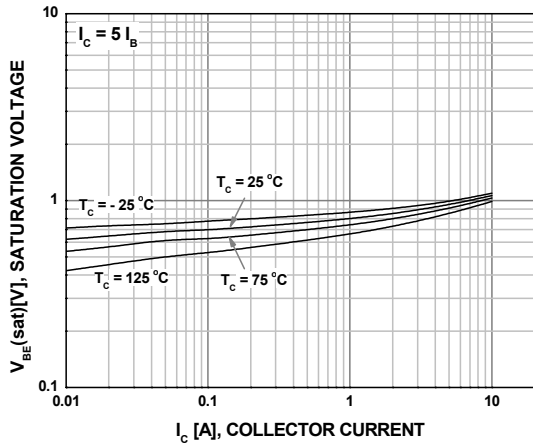
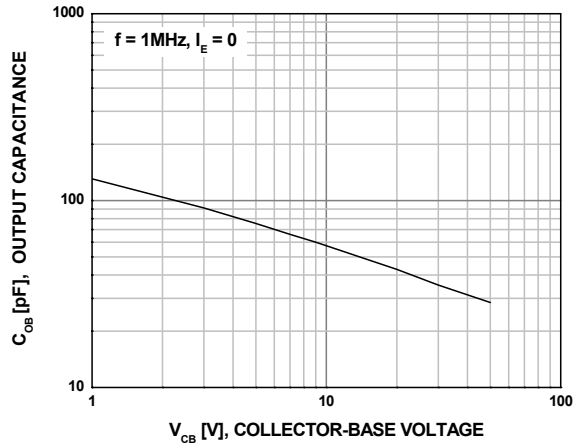


Figure 6. Output Capacitance



Typical Performance Characteristics (Continued)

Figure 7. Power Derating

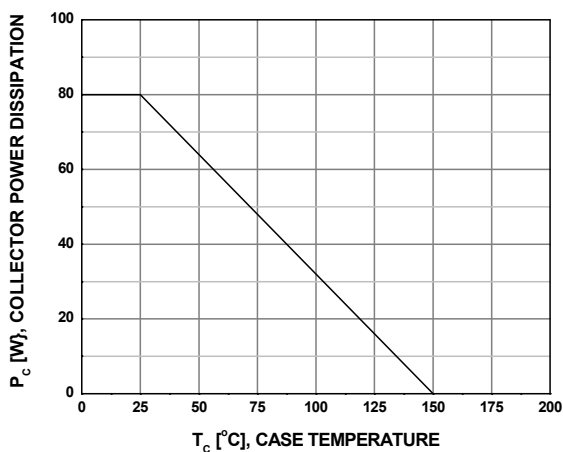


Figure 8. Reverse Biased Safe Operating Area

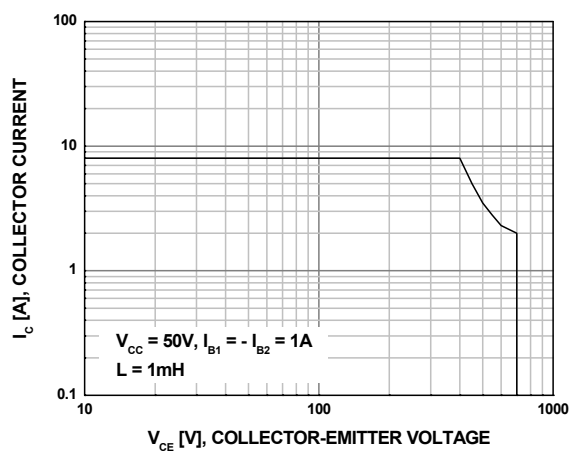
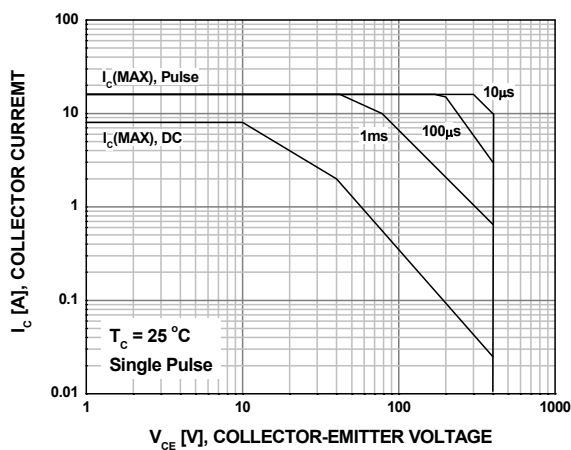
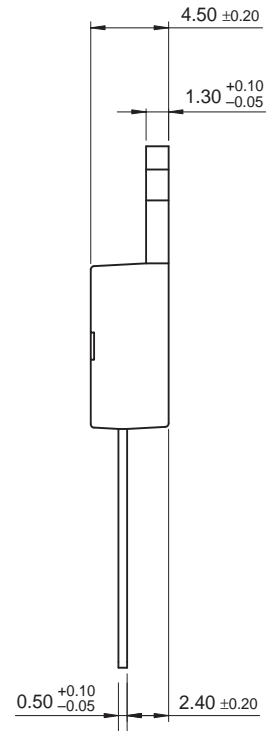
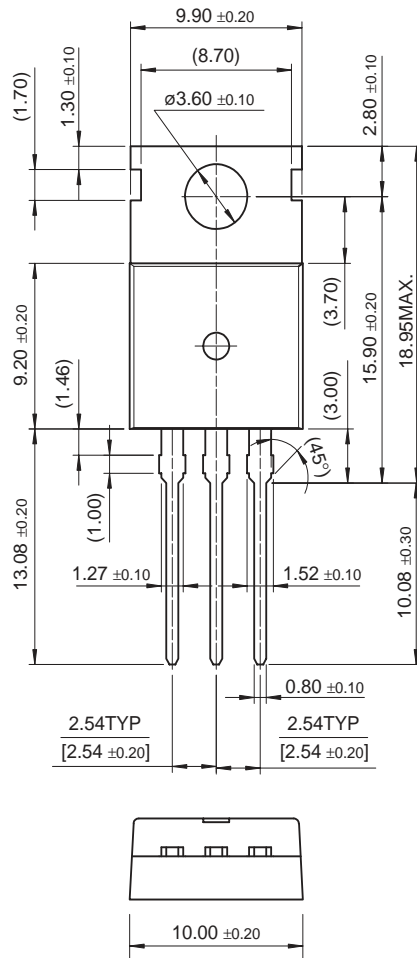


Figure 9. Forward Biased Safe Operating Area



Mechanical Dimensions

TO-220



Dimensions in Millimeters

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FJP3307D

High Voltage Fast Switching NPN Power Transistor

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Features

- Built-in Diode between Collector and Emitter
- Suitable for Electronic Ballast and Switch Mode Power Supplies

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Product status/pricing/packageing

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
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