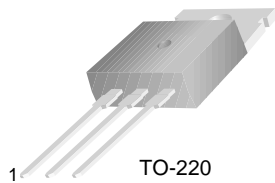


FJP13007

High Voltage Fast-Switching NPN Power Transistor

- High Voltage Capability
- High Switching Speed
- Suitable for Electronic Ballast and Switching Mode Power Supply



TO-220
1.Base 2.Collector 3.Emitter

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)	8	A
I _{CP}	Collector Current (Pulse)	16	A
I _B	Base Current	4	A
P _C	Collector Dissipation (T _C = 25°C)	80	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 _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA, I _B = 0	400			V
I _{EBO}	Emitter Cut-off Current	V _{EB} = 9V, I _C = 0			1	mA
h _{FE1} h _{FE2}	DC Current Gain *	V _{CE} = 5V, I _C = 2A V _{CE} = 5V, I _C = 5A	8 5		60 30	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A, I _B = 0.4A I _C = 5A, I _B = 1A I _C = 8A, I _B = 2A			1.0 2.0 3.0	V V V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A, I _B = 0.4A I _C = 5A, I _B = 1A			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 = 0.1MHz		110		pF
t _{ON}	Turn On Time	V _{CC} = 125V, I _C = 5A			1.6	μs
t _{STG}	Storage Time	I _{B1} = -I _{B2} = 1A R _L = 25Ω			3.0	μs
t _F	Fall Time				0.7	μs

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

h_{FE} Classification

Classification	H1	H2
h _{FE1}	15 ~ 28	26 ~ 39

Typical Performance Characteristics

Figure 1. DC Current Gain

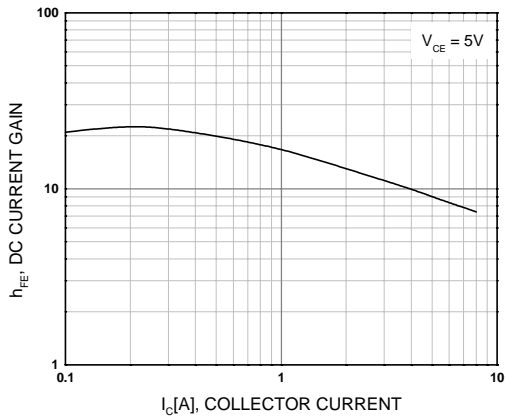


Figure 2. Saturation Voltage

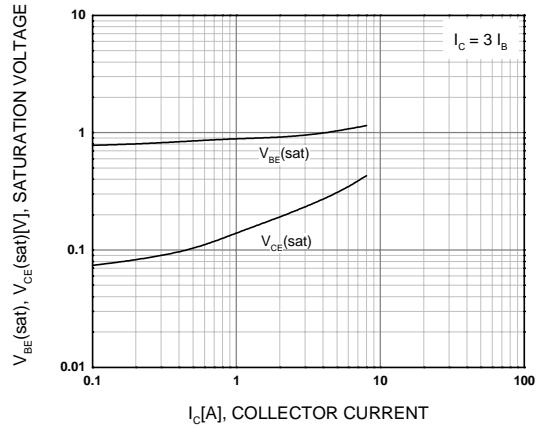


Figure 3. Collector Output Capacitance

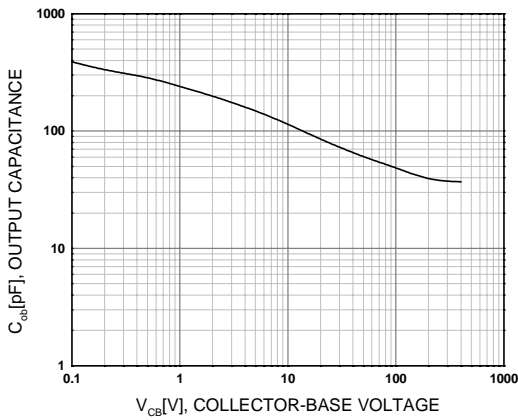


Figure 4. Turn On Time

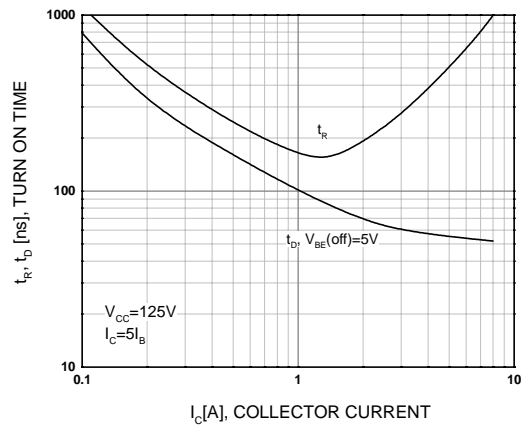


Figure 5. Turn Off Time

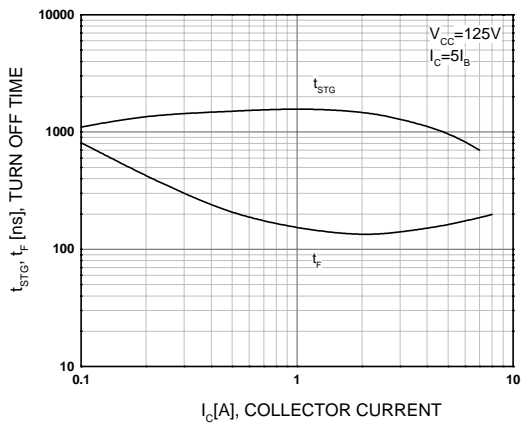
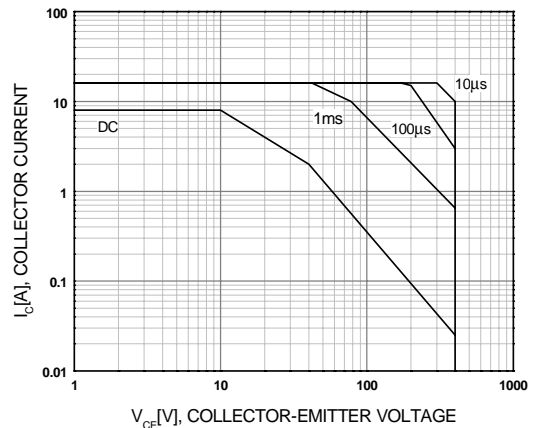


Figure 6. Forward Biased Safe Operating Area



Typical Performance Characteristics (Continued)

Figure 7. Reverse Biased Safe Operating Area

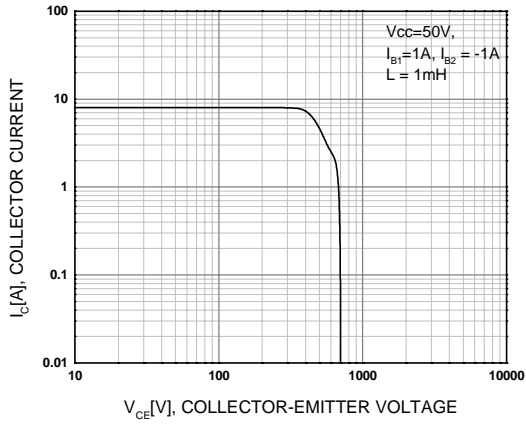
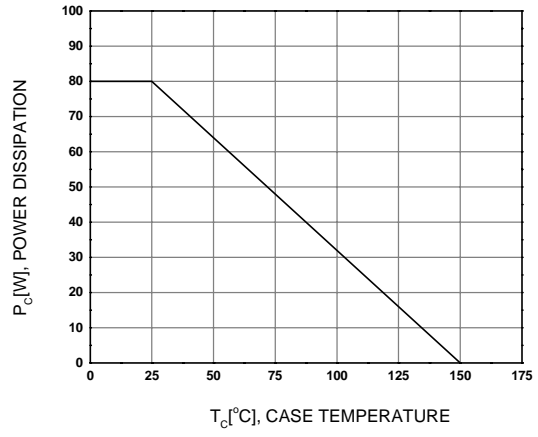
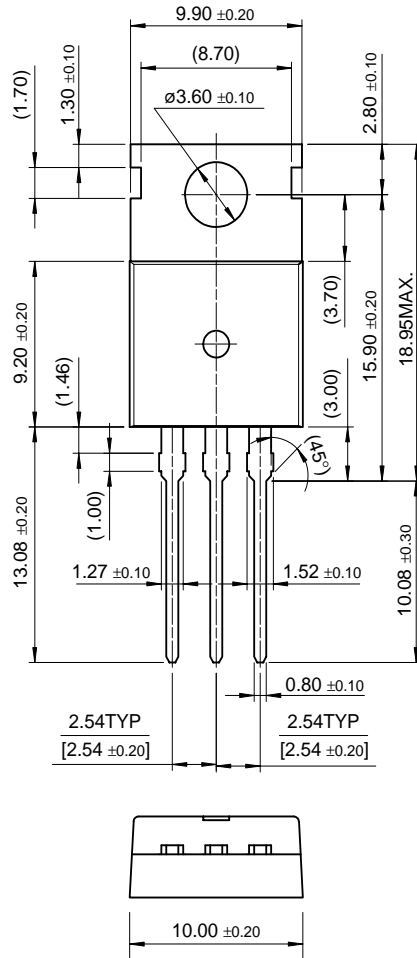


Figure 8. Power Derating



Mechanical Dimensions

TO-220



Dimensions in Millimeters

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EnSigna™	<i>i-Lo</i> ™	MSXPro™	Quiet Series™	TINYOPTO™
FACT™	ImpliedDisconnect™	OCX™	RapidConfigure™	TruTranslation™
FACT Quiet Series™		OCXPro™	RapidConnect™	UHC™
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Programmable Active Droop™		PACMAN™	SMART START™	VCX™

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