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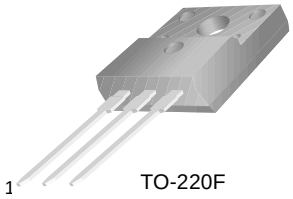
FJPF13007
High Voltage Fast-Switching NPN Power Transistor

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



TO-220F

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)	40	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

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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	µA
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 I_{B1} = -I_{B2} = 1A R_L = 25Ω			1.6	µs
t_{STG}	Storge Time				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

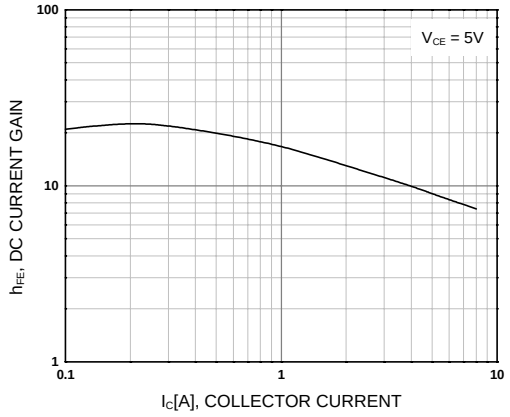


Figure 2. Saturation Voltage

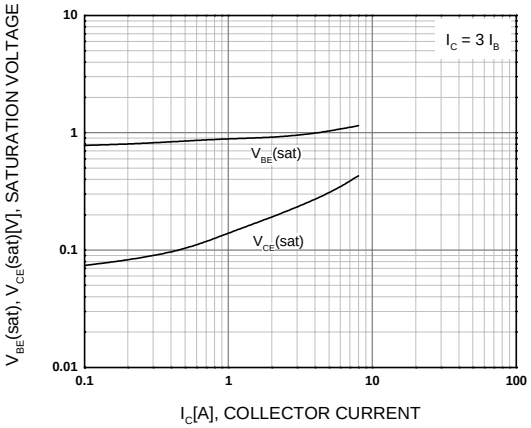


Figure 3. Collector Output Capacitance

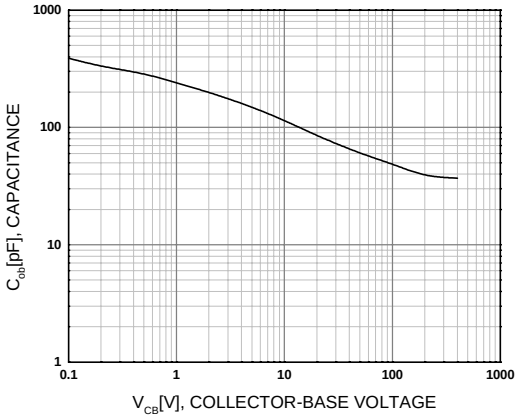


Figure 4. Turn On Time

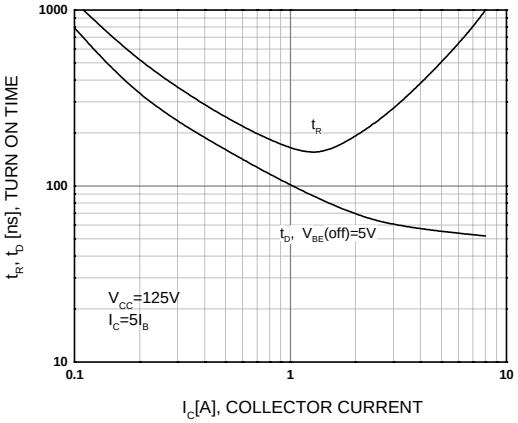


Figure 5. Turn Off Time

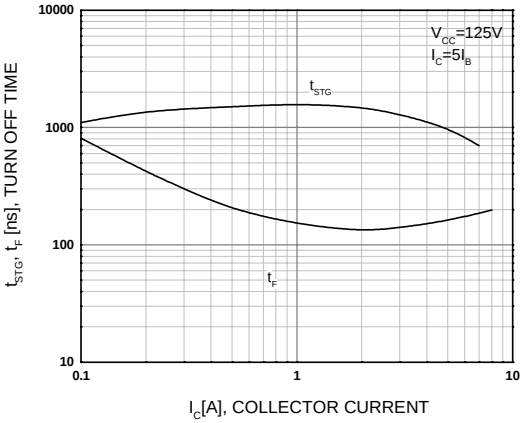
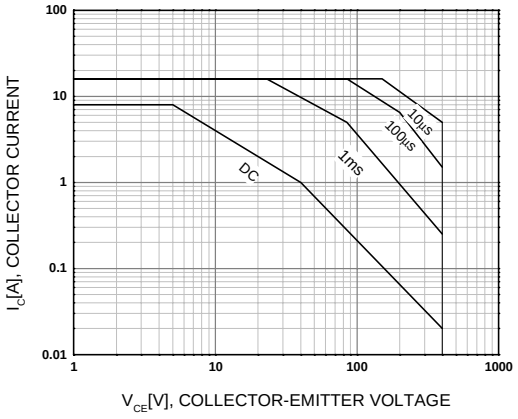


Figure 6. Forward Biased Safe Operating Area



Typical Performance Characteristics (Continued)

Figure 7. Reverse Biased Safe Operating Area

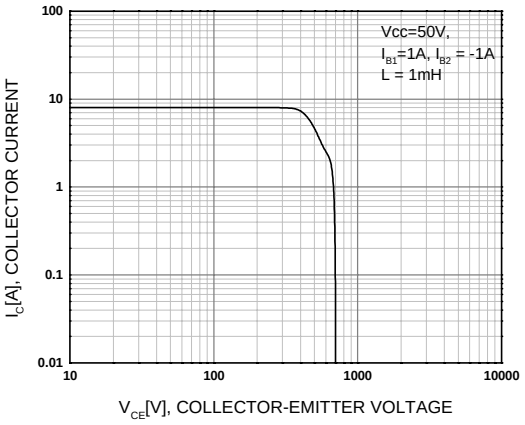
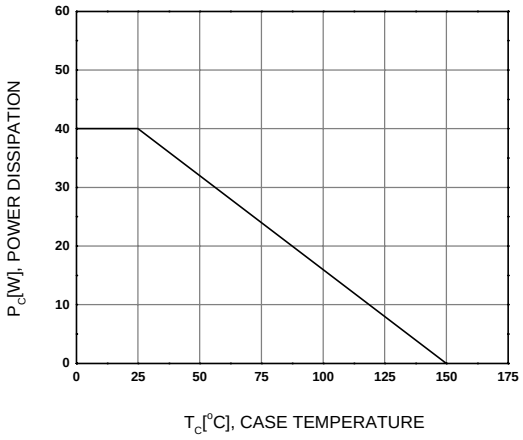
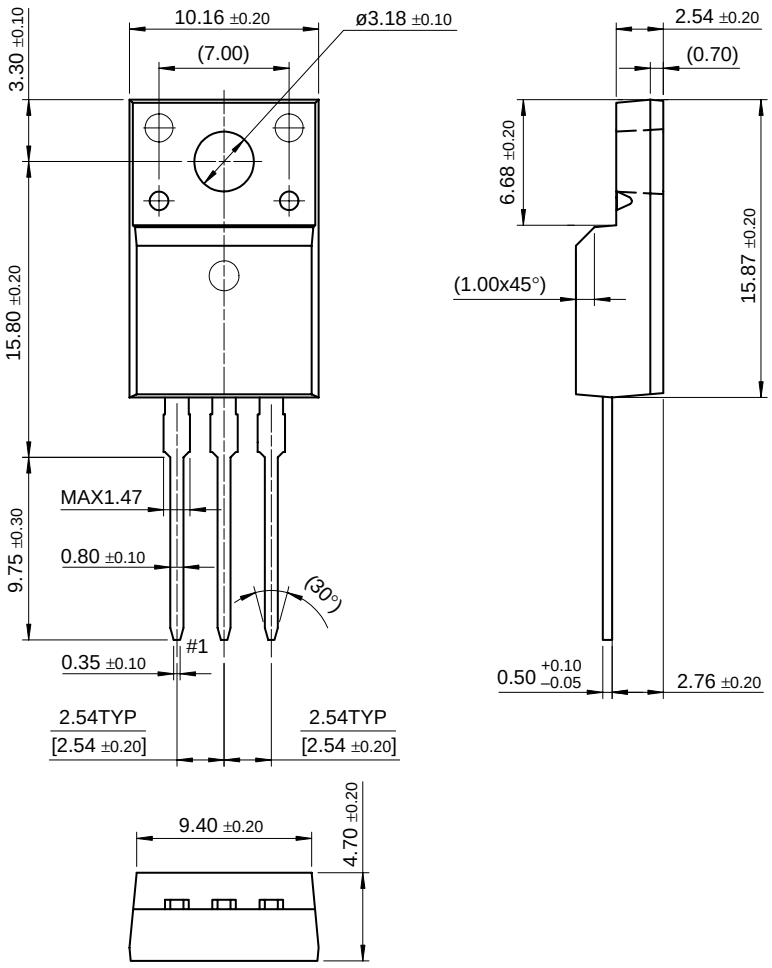


Figure 8. Power Derating



Mechanical Dimensions

TO-220F



Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I15

FJPF13007

NPN Silicon Transistor

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e-mail this datasheet

This page

Print version

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- Request samples
- How to order products
- Product Change Notices (PCNs)
- Support
- Sales support
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- Design center

Features

- High Voltage Capability
- High Speed Switching
- Suitable for Switching Regulator and Motor Control

back to top

Product status/pricing/packaging

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
FJPF13007H2TTU	Full Production	Full Production	$0.54	TO-220F	3	RAIL	Line 1: **$Y** (Fairchild logo) Line 2: &3 Line 3: J13007-2
FJPF13007TU	Full Production	Full Production	$0.54	TO-220F	3	RAIL	Line 1: **$Y** (Fairchild logo) Line 2: J13007 Line 3: &3

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a Fairchild distributor to obtain samples

Indicates product with Pb-free second-level interconnect. For more information click here.

Package marking information for product FJPF13007 is available. Click here for more information .

back to top

Qualification Support

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Product
FJPF13007H2TTU
FJPF13007TU

back to top

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