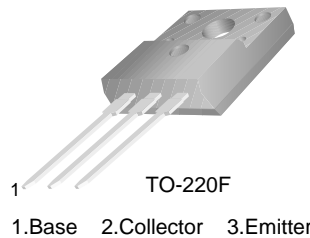


FJPF13009 NPN Silicon Transistor

High Voltage Switch Mode Application

- High Voltage Capability
- High Switching Speed
- Suitable for Motor Control and Switching Mode Power Supply



Absolute Maximum Ratings* T_C = 25°C unless otherwise noted (notes_1)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EB0}	Emitter-Base Voltage	9	V
I _C	Collector Current (DC)	12	A
I _{CP}	Collector Current (Pulse)	24	A
I _B	Base Current	6	A
P _C	Collector Dissipation (T _C = 25°C)	50	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature Range	-65 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES_1:

1) These ratings are based on a maximum junction temperature of 150°C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

h_{FE} Classification

Classification	H1	H2
h _{FE1}	8 ~ 17	15 ~ 28

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

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 10\text{mA}, I_B = 0$	400			V
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 9\text{V}, I_C = 0$			1	mA
h_{FE}	* DC Current Gain	$V_{CE} = 5\text{V}, I_C = 5\text{A} (h_{FE1})$ $V_{CE} = 5\text{V}, I_C = 8\text{A}$	8 6		40 30	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 5\text{A}, I_B = 1\text{A}$ $I_C = 8\text{A}, I_B = 1.6\text{A}$ $I_C = 12\text{A}, I_B = 3\text{A}$			1 1.5 3	V V V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = 5\text{A}, I_B = 1\text{A}$ $I_C = 8\text{A}, I_B = 1.6\text{A}$			1.2 1.6	V V
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, f = 0.1\text{MHz}$		180		pF
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 0.5\text{A}$	4			MHz
t_{ON}	Turn On Time	$V_{CC} = 125\text{V}, I_C = 8\text{A}$			1.1	μs
t_{STG}	Storage Time	$I_{B1} = -I_{B2} = 1.6\text{A}, R_L = 15,6\Omega$			3	μs
t_F	Fall Time				0.7	μs

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$ **Package Marking and Ordering Information**

Device Item (notes_2)	Device Marking	Package	Packing Method	Remarks
FJPF13009TU	J13009	TO-220F	TUBE	
FJPF13009TTU	J13009	TO-220F	TUBE	Potting Type
FJPF13009H2TU	J130092	TO-220F	TUBE	

Notes_2 :

- 1) The Affix "-H2" means the h_{FE} classification.
- 2) The Affix "-T" means the TO220F Potting type package option.
- 3) The Suffix "-TU" means the Tube packing method, which can be on fairchildsemi website at <http://www.fairchildsemi.com/packaging>.

Typical Performance Characteristics

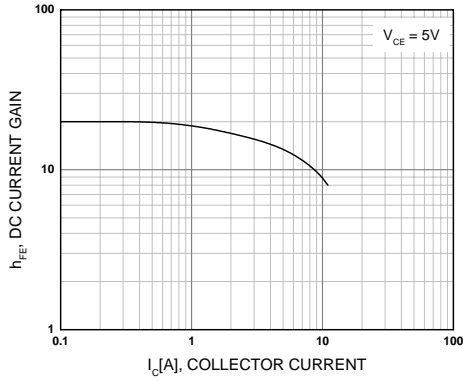


Figure 1. DC current Gain

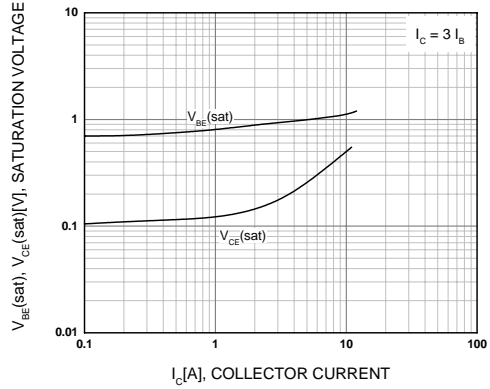


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

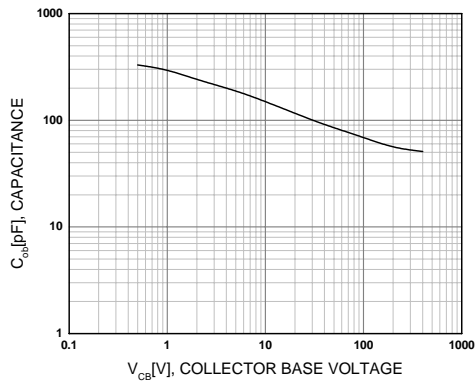


Figure 3. Collector Output Capacitance

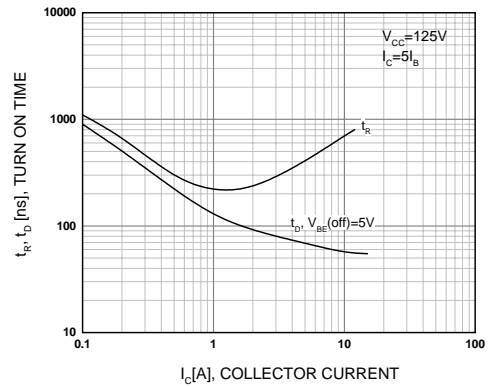


Figure 4. Turn On Time

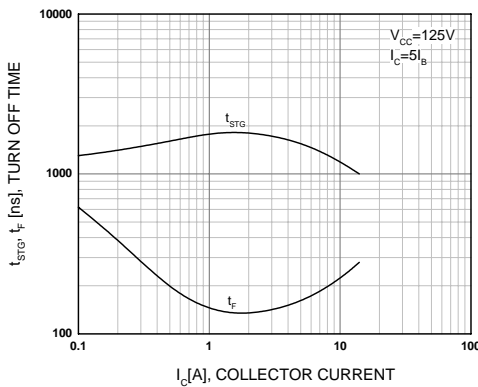


Figure 5. Turn Off Time

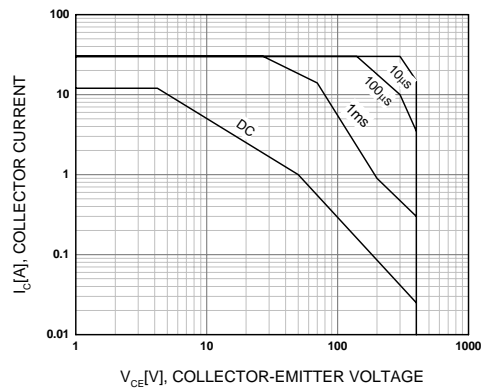


Figure 6. Forward Bias Safe Operating Area

Typical Performance Characteristics (Continued)

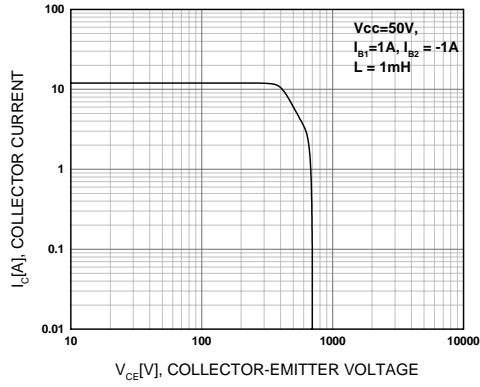


Figure 7. Reverse Bias Safe Operating Area

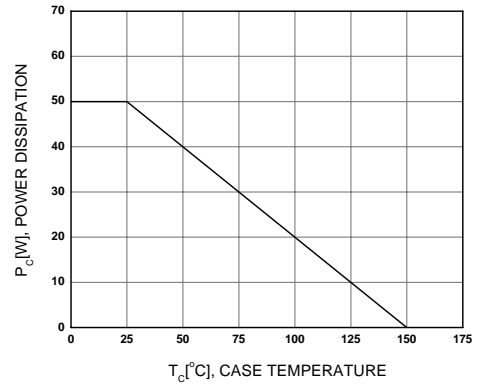


Figure 8. Power Derating



TRADEMARKS

The following are registered and unregistered trademarks and service marks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

- | | | | |
|---|---|----------------------------|---|
| ACEx® | Green FPS™ | Power247® | SuperSOT™-8 |
| Build it Now™ | Green FPS™ e-Series™ | POWEREDGE® | SyncFET™ |
| CorePLUS™ | GTO™ | Power-SPM™ | The Power Franchise® |
| CROSSVOLT™ | i-Lo™ | PowerTrench® |  |
| CTL™ | IntelliMAX™ | Programmable Active Droop™ | TinyBoost™ |
| Current Transfer Logic™ | ISOPLANAR™ | QFET® | TinyBuck™ |
| EcoSPARK® | MegaBuck™ | QS™ | TinyLogic® |
|  | MICROCOUPLER™ | QT Optoelectronics™ | TinyOPTO™ |
| Fairchild® | MicroFET™ | Quiet Series™ | TinyPower™ |
| Fairchild Semiconductor® | MicroPak™ | RapidConfigure™ | TinyPWM™ |
| FACT Quiet Series™ | MillerDrive™ | SMART START™ | TinyWire™ |
| FACT® | Motion-SPM™ | SPM® | μSerDes™ |
| FAST® | OPTOLOGIC® | STEALTH™ | UHC® |
| FastvCore™ | OPTOPLANAR® | SuperFET™ | UniFET™ |
| FPSTM |  | SuperSOT™-3 | VCX™ |
| FRFET® | PDP-SPM™ | SuperSOT™-6 | |
| Global Power Resource SM | Power220® | | |

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

- Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
- A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice 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 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.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru