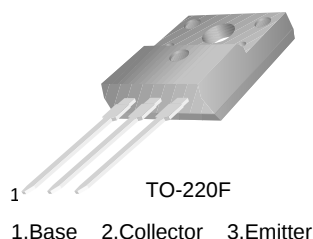


FJPF13009

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 _{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)	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°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
V _{CEO(sus)}	Collector-Emitter Sustaining Voltage	I _C = 10mA, I _B = 0	400			V
I _{EBO}	Emitter Cut-off Current	V _{EB} = 9V, I _C = 0			1	mA
h _{FE}	* DC Current Gain	V _{CE} = 5V, I _C = 5A (h _{FE1}) V _{CE} = 5V, I _C = 8A	8 6		40 30	
V _{CE(sat)}	* Collector-Emitter Saturation Voltage	I _C = 5A, I _B = 1A I _C = 8A, I _B = 1.6A I _C = 12A, I _B = 3A			1 1.5 3	V V V
V _{BE(sat)}	* Base-Emitter Saturation Voltage	I _C = 5A, I _B = 1A I _C = 8A, I _B = 1.6A			1.2 1.6	V V
C _{ob}	Output Capacitance	V _{CB} = 10V, f = 0.1MHz		180		pF
f _T	Current Gain Bandwidth Product	V _{CE} = 10V, I _C = 0.5A	4			MHz
t _{ON}	Turn On Time	V _{CC} = 125V, I _C = 8A I _{B1} = - I _{B2} = 1.6A, R _L = 15,6Ω			1.1	μs
t _{STG}	Storage Time				3	μs
t _F	Fall Time				0.7	μs

* Pulse Test: PW ≤ 300μs, Duty Cycle ≤ 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 hFE 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

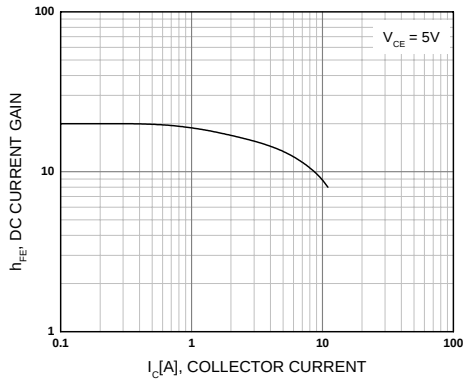


Figure 1. DC current Gain

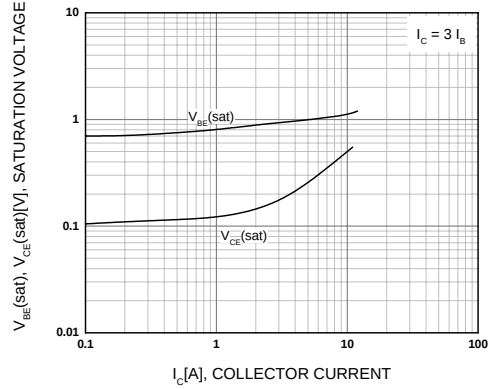


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

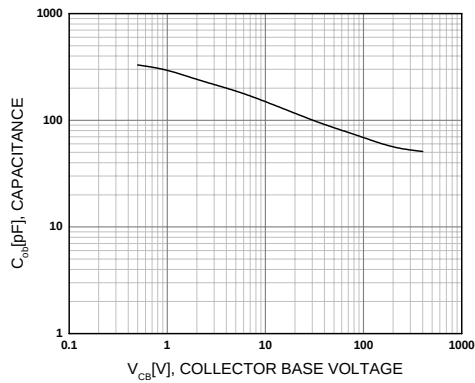


Figure 3. Collector Output Capacitance

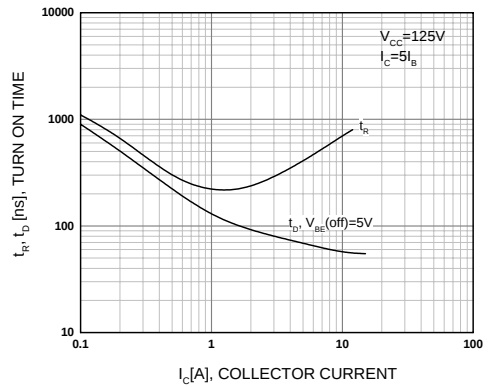


Figure 4. Turn On Time

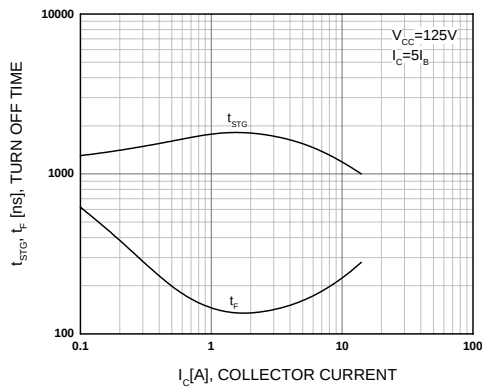


Figure 5. Turn Off Time

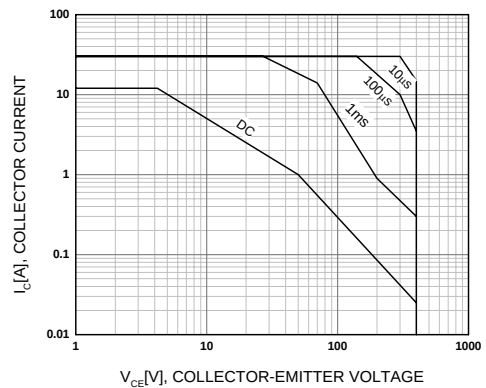


Figure 6. Forward Bias Safe Operating Area

Typical Performance Characteristics (Continued)

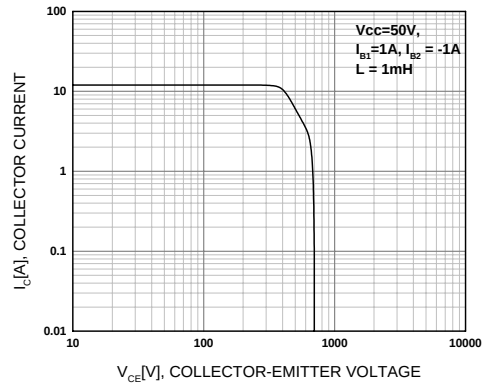


Figure 7. Reverse Bias Safe Operating Area

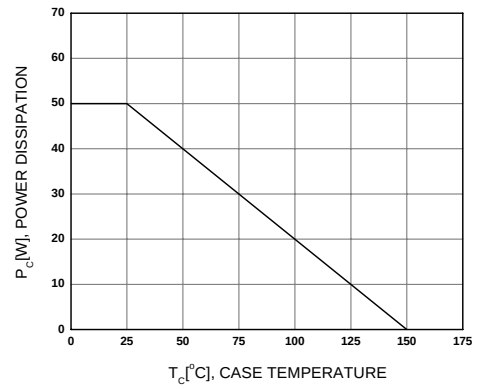


Figure 8. Power Derating



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®
 Fairchild®	MICROCOUPLER™	QT Optoelectronics™	TINYOPTO™
Fairchild Semiconductor®	MicroFET™	Quiet Series™	TinyPower™
FACT Quiet Series™	MicroPak™	RapidConfigure™	TinyPWM™
FACT®	MillerDrive™	SMART START™	TinyWire™
FAST®	Motion-SPM™	SPM®	μSerDes™
FastvCore™	OPTOLOGIC®	STEALTH™	UHC®
FPS™	OPTOPLANAR®	SuperFET™	UniFET™
FRFET®	 PDP-SPM™	SuperSOT™-3	VCX™
Global Power ResourceSM	Power220®	SuperSOT™-6	

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:

1. 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.
2. 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.



**Стандарт
Электрон
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331