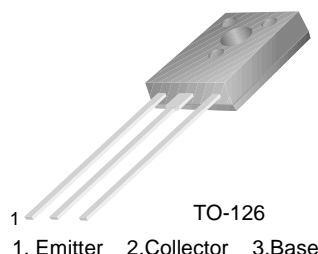


**High Voltage Switching  
Low Power Switching Regulator  
DC-DC Converter**

- High Breakdown Voltage
- Low Collector Saturation Voltage
- High Speed Switching



**PNP Silicon Transistor**

**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

| Symbol    | Parameter  | Ratings    | Units            |
|-----------|--|------------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                           | - 400      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                        | - 400      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                             | - 7        | V                |
| $I_B$     | Base Current                                     | - 0.25     | A                |
| $I_C$     | Collector Current (DC)                           | - 0.5      | A                |
| $I_{CP}$  | Collector Current (Pulse)                        | - 1        | A                |
| $P_C$     | Collector Dissipation ( $T_a=25^\circ\text{C}$ ) | 1          | W                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 10         | W                |
| $T_J$     | Junction Temperature                             | 150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                              | - 55 ~ 150 | $^\circ\text{C}$ |

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

| Symbol         | Parameter                            | Test Condition  | Min.  | Max.  | Units         |
|----------------|--------------------------------------|---|-------|-------|---------------|
| $V_{CEO(sus)}$ | Collector-Emitter Sustaining Voltage | $I_C = - 100\text{mA}$ , $I_B = - 10\text{mA}$<br>$L = - 20\text{mH}$   | - 400 |       | V             |
| $V_{CEX(sus)}$ | Collector-Emitter Sustaining Voltage | $I_C = - 200\text{mA}$ , $I_{B1} = - I_{B2} = - 20\text{mA}$<br>$V_{BE(off)} = 5\text{V}$ , $L = 10\text{mH}$                       | - 400 |       | V             |
| $I_{CBO}$      | Collector Cut-off Current            | $V_{CB} = - 400\text{V}$ , $I_E = 0$  |       | - 100 | $\mu\text{A}$ |
| $I_{EBO}$      | Emitter Cut-off Current              | $V_{EB} = - 5\text{V}$ , $I_C = 0$  |       | - 10  | $\mu\text{A}$ |
| $I_{CEX1}$     | Collector Cut-off Current            | $V_{CE} = - 400\text{V}$ , $V_{BE(off)} = 1.5\text{V}$  |       | - 100 | $\mu\text{A}$ |
| $I_{CEX2}$     | Collector Cut-off Current            | $V_{CE} = - 400\text{V}$ , $V_{BE(off)} = 1.5\text{V}$<br>$T_C = 125^\circ\text{C}$   |       | - 1   | mA            |
| $h_{FE}$       | DC Current Gain                      | $V_{CE} = - 5\text{V}$ , $I_C = - 100\text{mA}$   | 30    | 200   |               |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C = - 100\text{mA}$ , $I_B = - 10\text{mA}$  |       | - 1   | V             |
| $V_{BE(sat)}$  | Base-Emitter Saturation Voltage      | $I_C = - 100\text{mA}$ , $I_B = - 10\text{mA}$  |       | - 1.2 | V             |
| $t_{ON}$       | Turn On Time                         | $V_{CC} = - 150\text{V}$ , $I_C = - 100\text{mA}$<br>$I_{B1} = - 10\text{mA}$ , $I_{B2} = 20\text{mA}$<br>$R_L = 1.5\text{K}\Omega$ |       | 1     | $\mu\text{s}$ |
| $t_{STG}$      | Storage Time                         |   |       | 4     | $\mu\text{s}$ |
| $t_F$          | Fall Time                            |   |       | 1     | $\mu\text{s}$ |

**$h_{FE}$  Classification**

| Classification | N       | R       | O        | Y         |
|----------------|---------|---------|----------|-----------|
| $h_{FE}$       | 30 ~ 60 | 40 ~ 80 | 60 ~ 120 | 100 ~ 200 |

# Typical Characteristics

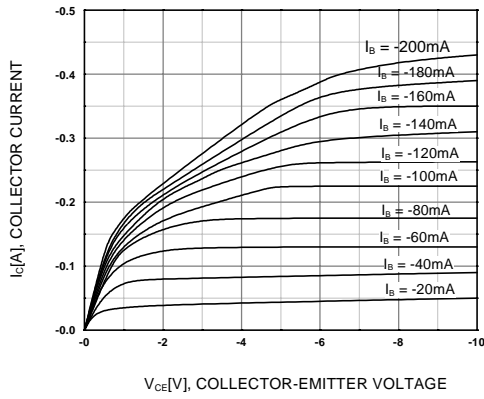


Figure 1. Static Characteristic

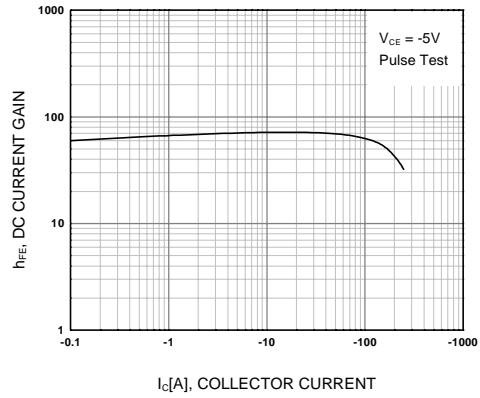


Figure 2. DC current Gain

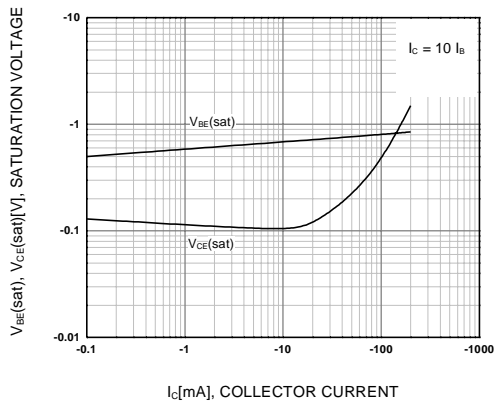


Figure 3. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

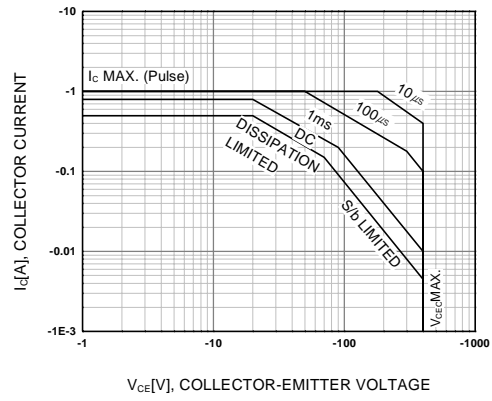


Figure 4. Safe Operating Area

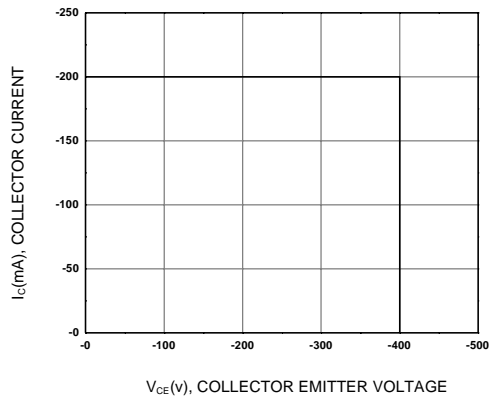


Figure 5. Reverse Bias Safe Operating Area

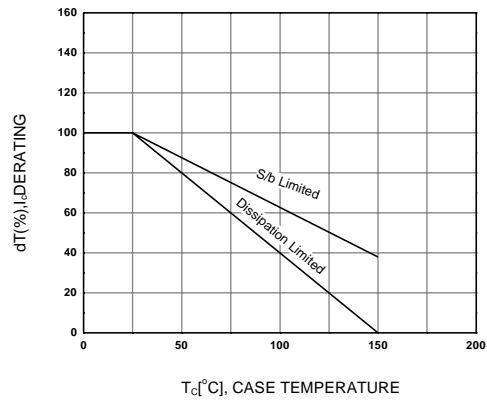


Figure 6. Derating Curve of Safe Operating Areas

### Typical characteristics (Continued)

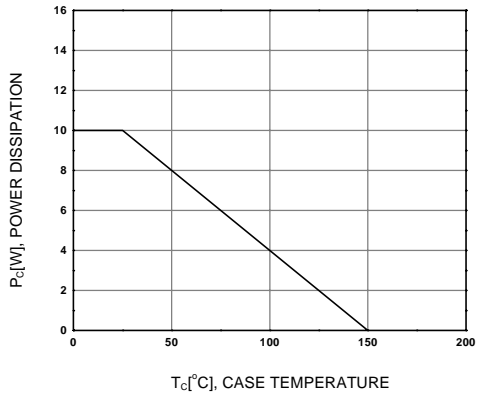


Figure 7. Power Derating

# Package Dimensions

KS A1156

## TO-126



Dimensions in Millimeters

## TRADEMARKS

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

|                      |               |             |
|----------------------|---------------|-------------|
| ACEx™                | HiSeC™        | SuperSOT™-8 |
| Bottomless™          | ISOPLANAR™    | SyncFET™    |
| CoolFET™             | MICROWIRE™    | TinyLogic™  |
| CROSSVOLT™           | POP™          | UHC™        |
| E <sup>2</sup> CMOS™ | PowerTrench®  | VCX™        |
| FACT™                | QFET™         |             |
| FACT Quiet Series™   | QS™           |             |
| FAST®                | Quiet Series™ |             |
| FASTr™               | SuperSOT™-3   |             |
| GTO™                 | 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.

## 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 INTERNATIONAL.

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, or (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, 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.   |



## 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](mailto:sales@st-electron.ru)

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