

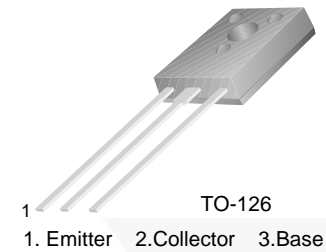
# BD135 / 137 / 139 NPN Epitaxial Silicon Transistor

## Features

- Complement to BD136, BD138 and BD140 respectively

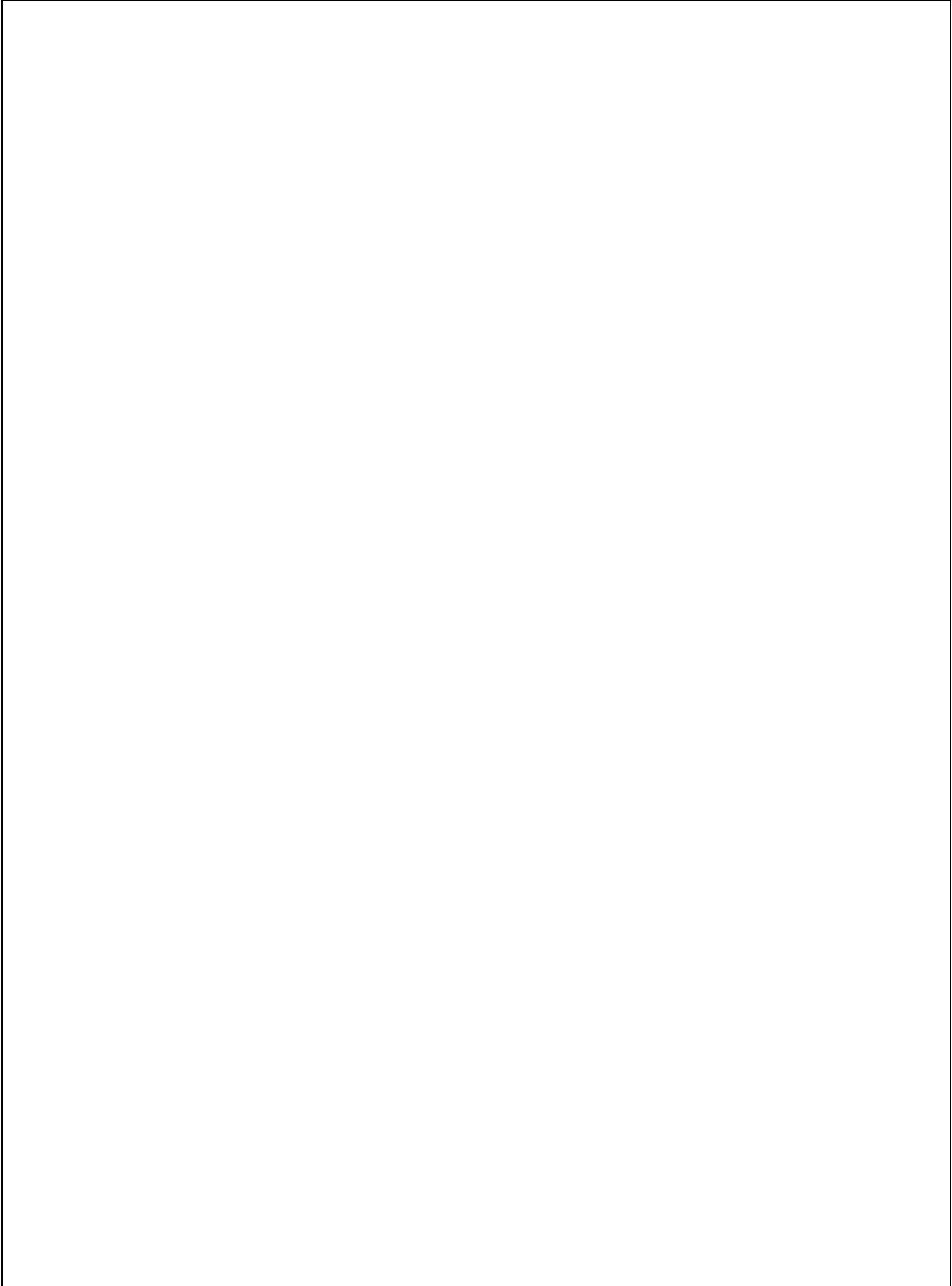
## Applications

- Medium Power Linear and Switching



## Ordering Information

Part Number	Marking	Package	Packing Method
BD13516S	BD135-16	TO-126 3L	Bulk
BD1356STU	BD135-6		Rail
BD13510STU	BD135-10		Bulk
BD13516STU	BD135-16		Rail
BD13716STU	BD137-16		Bulk
BD13710STU	BD137-10		Rail
BD13716S	BD137-16		Bulk
BD13916STU	BD139-16		Rail
BD13910S	BD139-10		Bulk
BD13916S	BD139-16		Rail
BD1396STU	BD139-6		Bulk
BD13910STU	BD139-10		Rail



## Typical Performance Characteristics

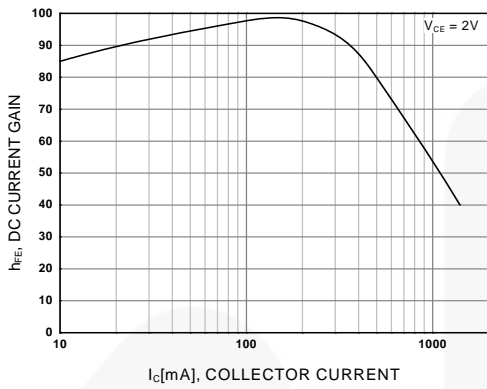


Figure 1. DC current Gain

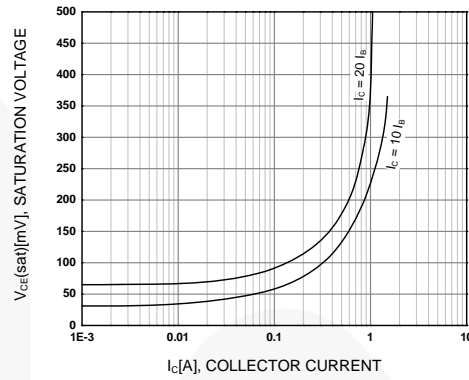


Figure 2. Collector-Emitter Saturation Voltage

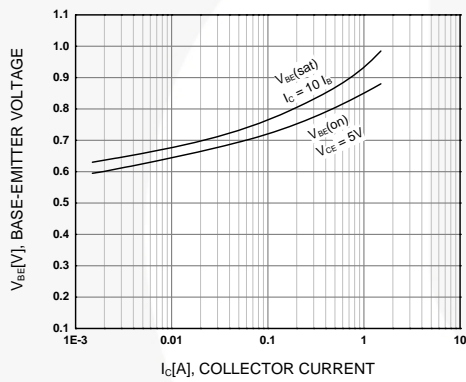


Figure 3. Base-Emitter Voltage

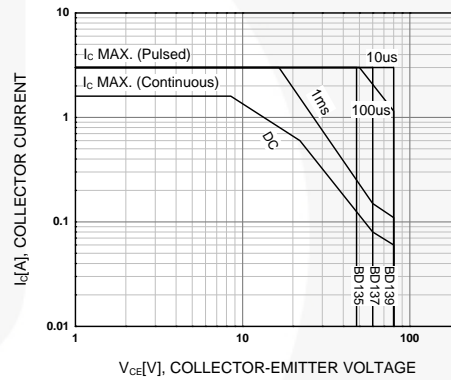


Figure 4. Safe Operating Area

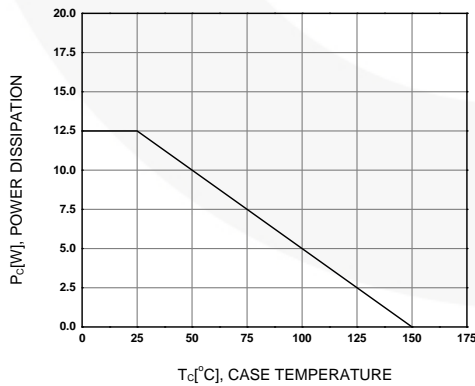
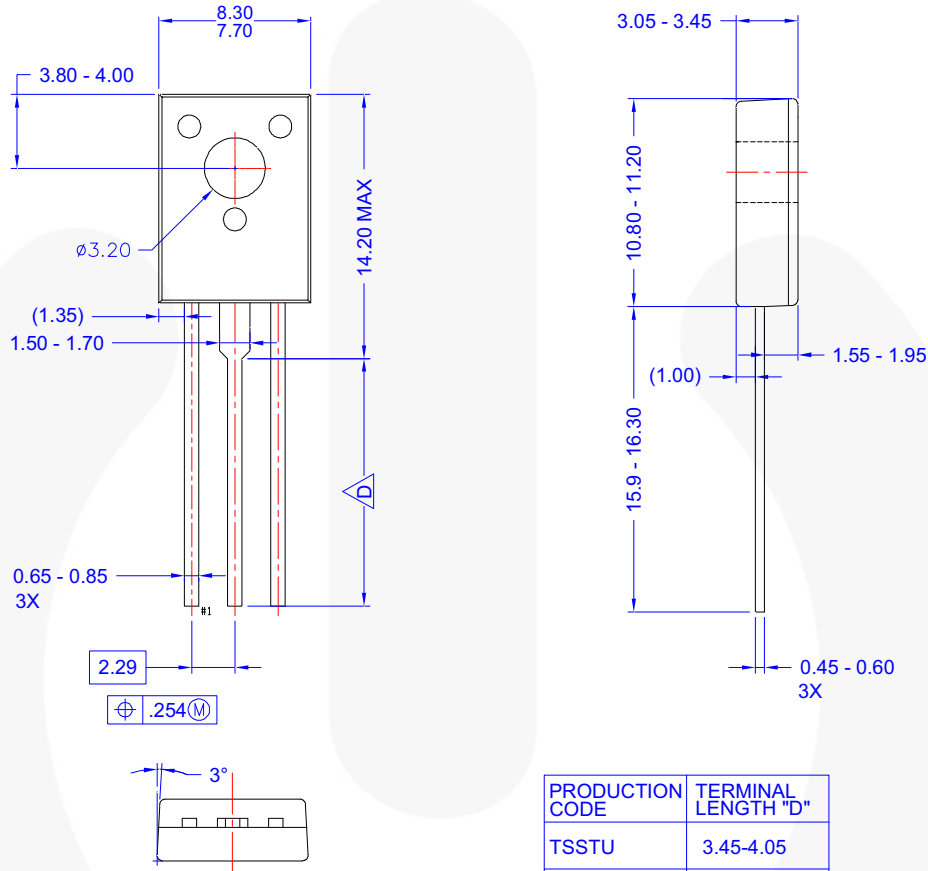


Figure 5. Power Derating

Physical Dimensions

TO-126 3L



- NOTES:
- A) THIS PACKAGE DOES NOT COMPLY TO ANY CURRENT PACKAGING STANDARD.
  - B) ALL DIMENSIONS ARE IN MILLIMETERS.
  - C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
  - D) FOR TERMINAL LENGTH SEE TABLE
  - E) DRAWING FILE NAME AND REVISION : MKT-TO126AArev1

Figure 6. TO-126 (SOT-32) UNIFIED DRAWING (TSTU, TSSTU, STANDARD)

Package drawings are provided as a service to customers considering Fairchild components. Drawings may change in any manner without notice. Please note the revision and/or date on the drawing and contact a Fairchild Semiconductor representative to verify or obtain the most recent revision. Package specifications do not expand the terms of Fairchild's worldwide terms and conditions, specifically the warranty therein, which covers Fairchild products.







Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings:  
<http://www.fairchildsemi.com/dwg/TO/TO126AA.pdf>

For current tape and reel specifications, visit Fairchild Semiconductor's online packaging area:  
[http://www.fairchildsemi.com/packing\\_dwg/PKG-TO126AA\\_BK.pdf](http://www.fairchildsemi.com/packing_dwg/PKG-TO126AA_BK.pdf)



**TRADEMARKS**

The following includes registered and unregistered trademarks and service marks, owned by Fairchild Semiconductor and/or its global subsidiaries, and is not intended to be an exhaustive list of all such trademarks.

2Cool™	FPS™		Sync-L
AccuPower™	F-PFS™	PowerTrench®	 SYSTEM GENERAL®
AX-CAP®*	FRFET®	S	TinyBoost®
BitSiC™	Global Power Resource™	Programmable Active Droop™	TinyBuck®
Build it Now™	GreenBridge™	QFET®	TinyCalc™
CorePLUS™	Green FPS™	QS™	TinyLogic®
CorePOWER™	Green FPS™ e-Series™	Quiet Series™	TINYOPTO™
CROSSVOLT™	Gmax™	RapidConfigure™	TinyPower™
CTL™	GTO™	 Saving our world, 1mW/WkVA a im	TinyPWM™
Current Transfer Logic™	IntelliMAX™	SignalWise™	TinyWire™
DEUXPEED®	ISOPLANAR™	SmartMax™	TranSiC™
Dual C	Making Small Speakers Sound Louder	SMART START™	TriFault Detect™
EcoSPARK®	 MegaBuck™	Solutions for Your Success™	TRUECURRENT®*
EfficientMax™	MICROCOUPLER™	SPM®	µSerDes™
ESBC™	MicroFET™	STEALTH™	 SerDes™
	MicroPak™	SuperFET®	UHC®
Fairchild®	MicroPak2™	SuperSOT™-3	Ultra FRFET™
Fairchild Semiconductor®	MillerDrive™	SuperSOT™-6	UniFET™
FACT Quiet Series™	MotionMax™	SuperSOT™-8	VCX™
FACT®	mWSaver®	SupreMOS®	VisualMax™
FAST®	OptoHi™	SyncFET™	VoltagePlus™
FastvCore™	OPTOLOGIC®		S
FETBench™	OPTOPLANAR®		

\* Trademarks of System General Corporation, used under license by Fairchild Semiconductor.

**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 ARE THE PROPERTY OF FAIRCHILD SEMICONDUCTOR CORPORATION AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF FAIRCHILD SEMICONDUCTOR CORPORATION.

**LIFE SUPPORT POLICY**

FAIRCHILD'S DESIGNATED LIFE SUPPORT DEVICES ARE DEFINED AS LIFE SUPPORT DEVICES AS SET FORTH IN 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 a significant injury of the user.
2. A critical component in 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.

**ANTI-COUNTERFEITING POLICY**

Fairchild Semiconductor Corporation's Anti-Counterfeiting Policy. Fairchild's Anti-Counterfeiting Policy is also stated on our external website, [www.fairchildsemi.com](http://www.fairchildsemi.com), under Sales Support.

Counterfeiting of semiconductor parts is a growing problem in the industry. All manufacturers of semiconductor products are experiencing counterfeiting of their parts. Customers who inadvertently purchase counterfeit parts experience many problems such as loss of brand reputation, substandard performance, failed applications, and increased cost of production and manufacturing delays. Fairchild is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. Fairchild strongly encourages customers to purchase Fairchild parts either directly from Fairchild or from Authorized Fairchild Distributors who are listed by country on our web page cited above. Products customers buy either from Fairchild directly or from Authorized Fairchild Distributors are genuine parts, have full traceability, meet Fairchild's quality standards for handling and storage and provide access to Fairchild's full range of up-to-date technical and product information. Fairchild and our Authorized Distributors will stand behind all warranties and will appropriately address any warranty issues that may arise. Fairchild will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources. Fairchild is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

**PRODUCT STATUS DEFINITIONS**

**Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	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	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.