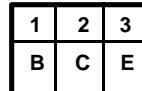


# BC182LB

## SILICON NPN SMALL SIGNAL TRANSISTOR

BVCEO . . . . 50 V (Min)

hFE . . . . 80 (Min) @ VCE = 5.0 V, IC = 100 mA



### ABSOLUTE MAXIMUM RATINGS (NOTE 1)

#### TEMPERATURES

Storage Temperature -55 Degrees C to 150 Degrees C

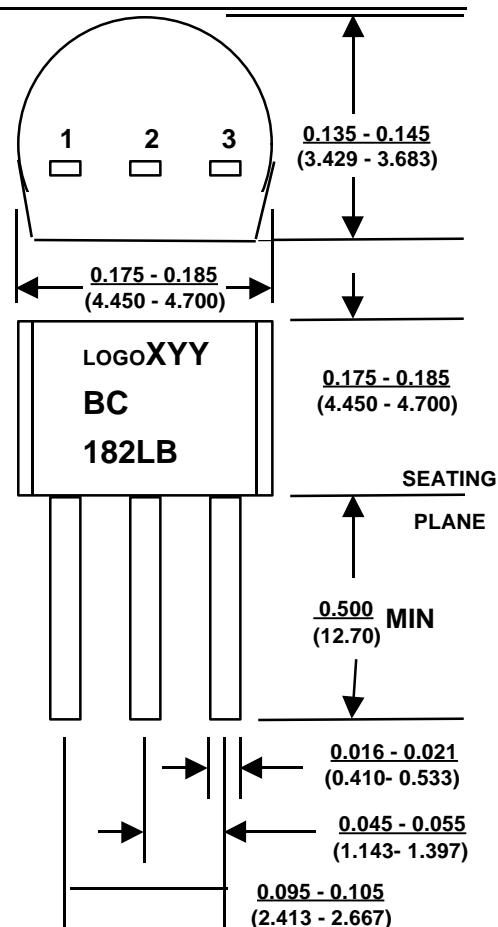
Operating Junction Temperature 150 Degrees C

#### POWER DISSIPATION (NOTES 2 & 3)

Total Device Dissipation at TA = 25 Deg C 625 mW

#### VOLTAGES & CURRENT

VCEO	Collector to Emitter	50 V
V <sub>CBO</sub>	Collector to Base	60 V
V <sub>EBO</sub>	Emitter to Base	5 V
I <sub>C</sub>	Collector Current	500 mA



### ELECTRICAL CHARACTERISTICS (25 Degrees C Ambient Temperature unless otherwise stated)

SYM	CHARACTERISTICS	MIN	MAX	UNITS	TEST CONDITIONS
B <sub>VCBO</sub>	Collector to Base Voltage	60		V	I <sub>C</sub> = 10 uA
B <sub>VCEO</sub>	Collector to Emitter Voltage	50		V	I <sub>C</sub> = 2.0 mA
B <sub>VEBO</sub>	Emitter to Base Voltage	5		V	I <sub>E</sub> = 10 uA
I <sub>CB0</sub>	Collector Cutoff Current		15	nA	V <sub>CB</sub> = 50 V
I <sub>EBO</sub>	Emitter Cutoff Current		15	nA	V <sub>EB</sub> = 4.0 V
h <sub>FE</sub>	DC Current Gain	40	80		V <sub>CE</sub> = 5.0 V I <sub>C</sub> = 10 uA V <sub>CE</sub> = 5.0 V I <sub>C</sub> = 100 mA
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage		0.25 0.6	V	I <sub>C</sub> = 10mA I <sub>B</sub> = 0.5mA I <sub>C</sub> = 100mA I <sub>B</sub> = 5.0mA
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage		1.2	V	I <sub>C</sub> = 100mA I <sub>B</sub> = 5.0mA
V <sub>BE(on)</sub>	Base -Emitter On Voltage	0.55	0.7	V	V <sub>CE</sub> = 5.0 V I <sub>C</sub> = 2mA

# **BC182LB**

## **SILICON NPN SMALL SIGNAL TRANSISTOR**

**ELECTRICAL CHARACTERISTICS Con't** (25 Degrees C Ambient Temperature unless otherwise stated)

<b>SYM</b>	<b>CHARACTERISTICS</b>	<b>MIN</b>	<b>MAX</b>	<b>UNITS</b>	<b>TEST CONDITIONS</b>
COB	Output Capacitance		5.0	pF	V <sub>CB</sub> = 10 V, f = 1 MHz
f <sub>T</sub>	Current Gain - Bandwidth Product	150		MHz	V <sub>CE</sub> = 5 V I <sub>C</sub> = 10 mA f = 100 MHz
h <sub>FE</sub>	Small Signal Current Gain	240	500	-	V <sub>CE</sub> = 5 V, I <sub>C</sub> =2.0 mA, f = 1KHz
NF	Noise Figure		10	dB	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 200 uA, R <sub>G</sub> = 2 Kohms, f = 1 KHz

NOTES:

1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3. These ratings are based on a maximum junction temperature of 150 degrees C.

## 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.

ACE<sup>TM</sup>  
CoolFET<sup>TM</sup>  
CROSSVOLT<sup>TM</sup>  
E<sup>2</sup>CMOS<sup>TM</sup>  
FACT<sup>TM</sup>  
FACT Quiet Series<sup>TM</sup>  
FAST<sup>®</sup>  
FAST<sub>r</sub><sup>TM</sup>  
GTO<sup>TM</sup>  
HiSeC<sup>TM</sup>

ISOPLANAR<sup>TM</sup>  
MICROWIRE<sup>TM</sup>  
POP<sup>TM</sup>  
PowerTrench<sup>TM</sup>  
QS<sup>TM</sup>  
Quiet Series<sup>TM</sup>  
SuperSOT<sup>TM</sup>-3  
SuperSOT<sup>TM</sup>-6  
SuperSOT<sup>TM</sup>-8  
TinyLogic<sup>TM</sup>

UHC<sup>TM</sup>  
VCX<sup>TM</sup>

## 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 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, 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.