

## Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[Fairchild Semiconductor](#)

[BCX20](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

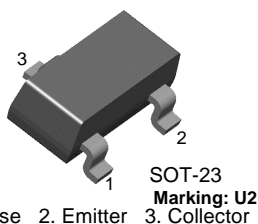


January 2005

# BCX20

## NPN Epitaxial Silicon Transistor

### Switching and Amplifier Applications



### Absolute Maximum Ratings T<sub>a</sub> = 25°C unless otherwise noted

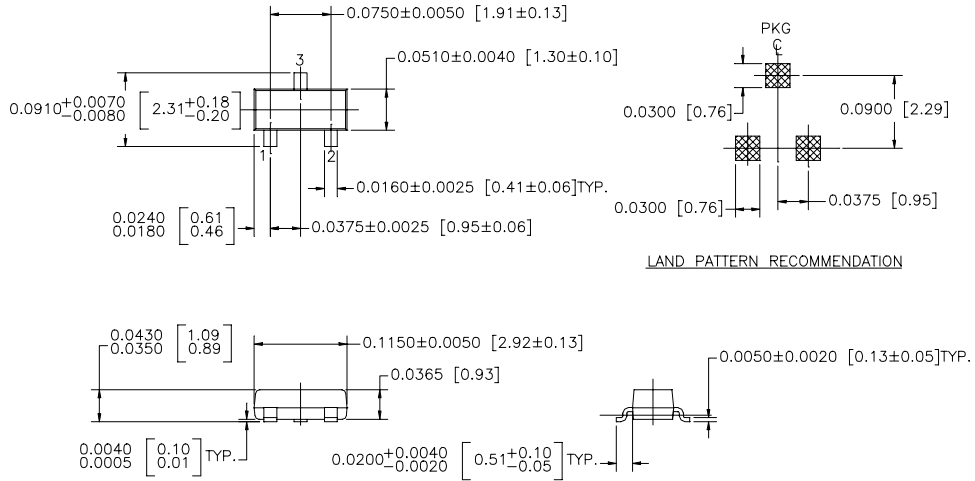
Symbol	Parameter	Value	Units
V <sub>CES</sub>	Collector-Emitter Voltage	30	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current (DC)	800	A
P <sub>C</sub>	Collector Dissipation	310	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-65 ~ 150	°C

### Electrical Characteristics T<sub>C</sub> = 25°C unless otherwise noted

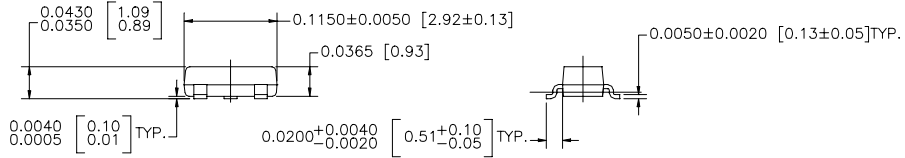
Symbol	Parameter	Conditions	Min.	Max	Units
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	25		V
BV <sub>CES</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 100μA, V <sub>BE</sub> = 0	30		V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5		V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CE</sub> = 20V, V <sub>BE</sub> = 0		100	nA
I <sub>EBO</sub>	Emitter-Base Cut-off Current	V <sub>BE</sub> = 5V, I <sub>C</sub> = 0		10	nA
h <sub>FE1</sub> h <sub>FE2</sub> h <sub>FE3</sub>	DC Current Gain	V <sub>CE</sub> = 1V, I <sub>C</sub> = 100mA V <sub>CE</sub> = 1V, I <sub>C</sub> = 300mA V <sub>CE</sub> = 1V, I <sub>C</sub> = 500mA	100 70 40	600	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 500mA, I <sub>B</sub> = 50mA		0.62	V
V <sub>BE(on)</sub>	Base-Emitter Saturation Voltage	V <sub>CE</sub> = 1A, I <sub>B</sub> = 500mA		1.2	V

**Mechanical Dimensions**

**SOT-23**



LAND PATTERN RECOMMENDATION



SOT 23, 3 LEADS LOW PROFILE

CONTROLLING DIMENSION IS INCH  
VALUES IN [ ] ARE MILLIMETERS

NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS  
MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE G, DATED JUL 1993

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™	FAST®	IntelliMAX™	POP™	SPM™
ActiveArray™	FASTr™	ISOPLANAR™	Power247™	Stealth™
Bottomless™	FPS™	LittleFET™	PowerEdge™	SuperFET™
CoolFET™	FRFET™	MICROCOUPLER™	PowerSaver™	SuperSOT™-3
CROSSVOLT™	GlobalOptoisolator™	MicroFET™	PowerTrench®	SuperSOT™-6
DOME™	GTO™	MicroPak™	QFET®	SuperSOT™-8
EcoSPARK™	HiSeC™	MICROWIRE™	QS™	SyncFET™
E <sup>2</sup> CMOS™	I <sup>2</sup> C™	MSX™	QT Optoelectronics™	TinyLogic®
EnSigna™	i-Lo™	MSXPro™	Quiet Series™	TINYOPTO™
FACT™	ImpliedDisconnect™	OCX™	RapidConfigure™	TruTranslation™
FACT Quiet Series™		OCXPro™	RapidConnect™	UHC™
Across the board. Around the world.™		OPTOLOGIC®	μSerDes™	UltraFET®
The Power Franchise®		OPTOPLANAR™	SILENT SWITCHER®	UniFET™
Programmable Active Droop™		PACMAN™	SMART START™	VCX™

**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:

- |   |   |
|---|---|
| <p>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.</p> | <p>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.</p> |
|---|---|

**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.