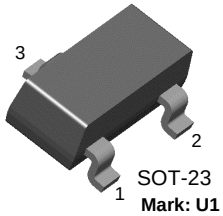
FAIRCHILD
SEMICONDUCTOR®

BCX19

NPN Medium Power Transistor

- This device is designed for general purpose amplifiers.
- Sourced from process 38.



SOT-23
Mark: U1

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	45	V
V_{CBO}	Collector-Base Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector current - Continuous	500	mW
T_J, T_{stg}	Junction and Storage Temperature	-55 ~ +150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_B = 0	45			V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	I_C = 10μA, I_C = 0	50			V
I_{CBO}	Collector Cutoff Current	V_{CB} = 20V, I_E = 0 V_{CB} = 20V, I_E = 0, T_A = 150°C			100 5.0	nA μA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 5.0V, I_C = 0			10	μA
On Characteristics						
h_{FE}	DC Current Gain	I_C = 100mA, V_{CE} = 1.0V I_C = 300mA, V_{CE} = 1.0V I_C = 500mA, V_{CE} = 1.0V	100 70 40		600	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 500mA, I_B = 50mA			0.62	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 500mA, V_{CE} = 1.0V			1.2	V

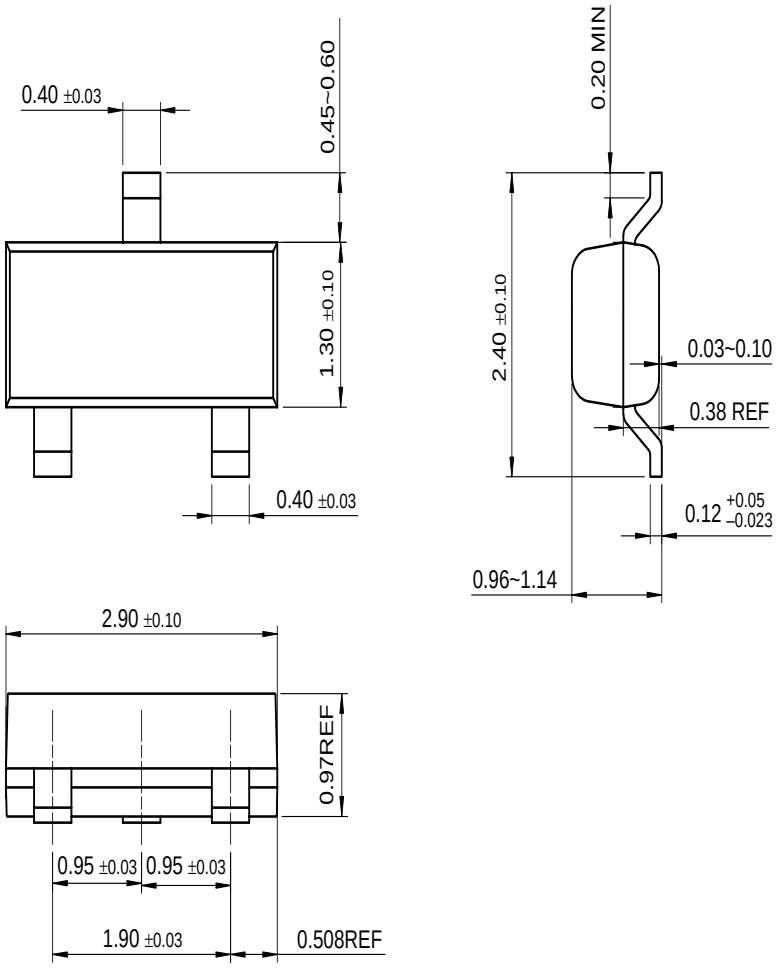
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	300 2.4	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	417	°C/W

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Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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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.

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Definition of Terms

Datasheet Identification	Product Status	Definition
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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.

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