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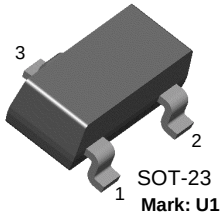
BCX19

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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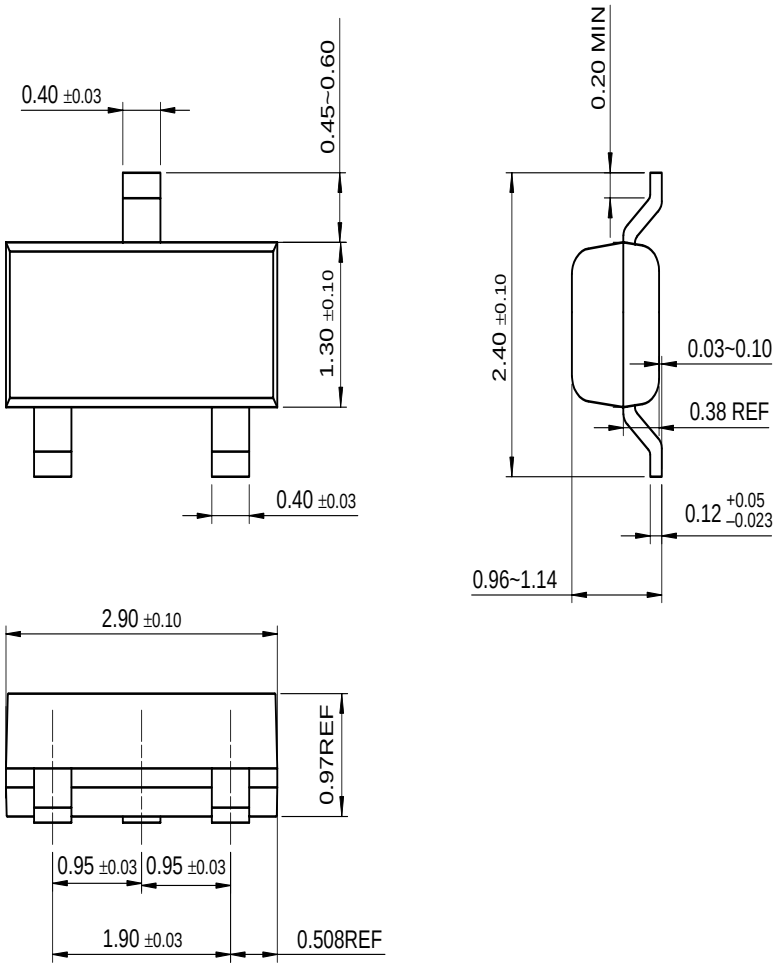
Package Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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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.
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