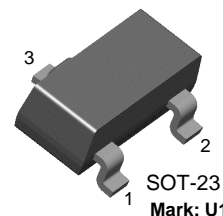


BCX19

BCX19

NPN Medium Power Transistor

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



1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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	$^\circ\text{C}$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

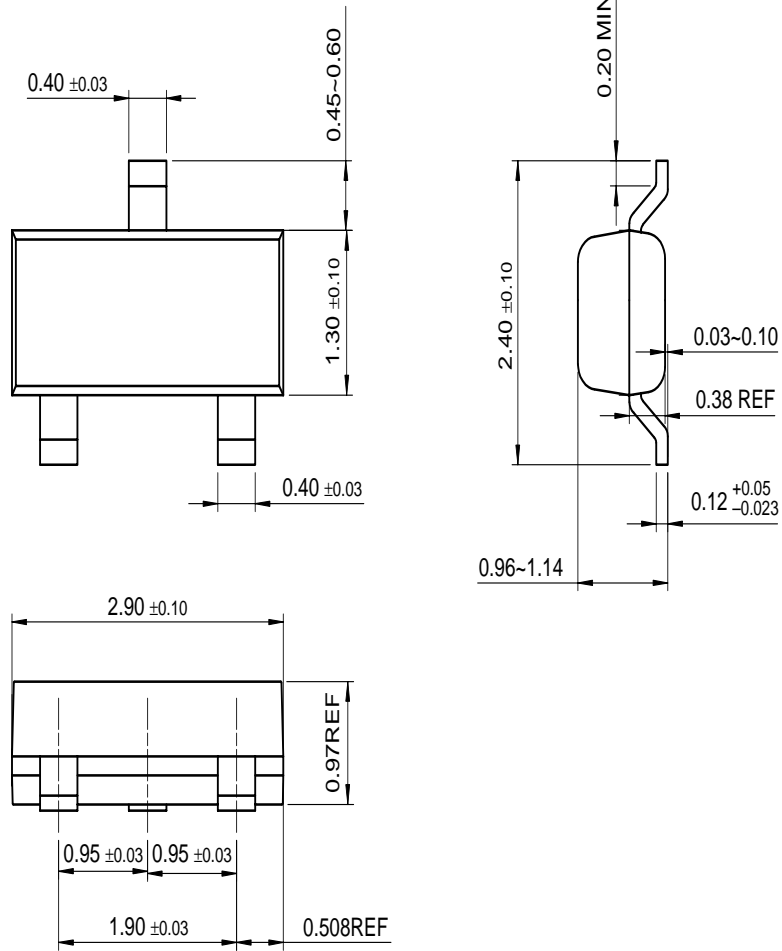
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	45			V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	$I_C = 10\mu\text{A}, I_C = 0$	50			V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 20\text{V},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

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

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

Package Dimensions

SOT-23



Dimensions in Millimeters

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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.

Definition of Terms

Datasheet Identification	Product Status	Definition	Board	Life	ii	perp	1.0	use f2	del	4 ii	0e
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