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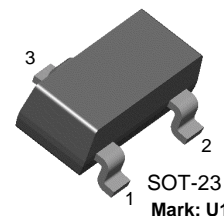
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# BCX19

## 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 $T_C=25^\circ\text{C}$ 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
<b>Off Characteristics</b>						
$V_{(BR)CEO}$	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 $\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 5.0\text{V}, I_C = 0$			10	$\mu\text{A}$
<b>On Characteristics</b>						
$h_{FE}$	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 $25^\circ\text{C}$	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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