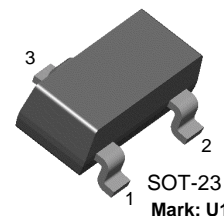


BCX19

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
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	$I_C = 10\mu\text{A}, I_E = 0$	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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