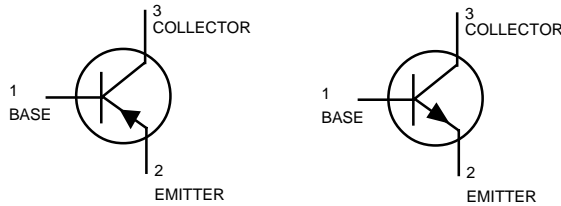


# General Purpose Transistors

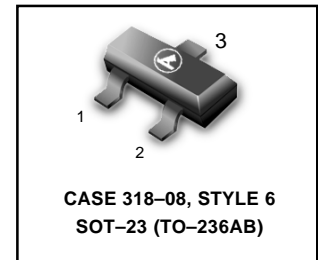


**PNP**  
**BCX17LT1**  
**BCX18LT1**  
**NPN**  
**BCX19LT1**  
**BCX20LT1**

Voltage and current are negative  
for PNP transistors

## MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		BCX17LT1 BCX19LT1	BCX18LT1 BCX20LT1	
Collector–Emitter Voltage	$V_{CEO}$	45	25	Vdc
Collector–Base Voltage	$V_{CBO}$	50	30	Vdc
Emitter–Base Voltage	$V_{EBO}$	5.0	5.0	Vdc
Collector Current — Continuous	$I_C$	500	500	mAdc



## DEVICE MARKING

BCX17LT1 = T1; BCX18LT1 = T2; BCX19LT1 = U1; BCX20LT1 = U2

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	$T_J, T_{stg}$	–55 to +150	$^\circ\text{C}$

1. FR–5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

**PNP BCX17LT1 BCX18LT1**  
**NPN BCX19LT1 BCX20LT1**

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Collector–Emitter Breakdown Voltage ( $I_C = 10 \text{ mAdc}, I_B = 0$ )	$V_{(BR)CEO}$	45	—	—	Vdc
	BCX17, 19	25	—	—	
	BCX18, 20				
Collector–Emitter Breakdown Voltage ( $I_C = 10 \mu\text{Adc}, I_C = 0$ )	$V_{(BR)CES}$	50	—	—	Vdc
	BCX17, 19	30	—	—	
	BCX18, 20				
Collector Cutoff Current ( $V_{CB} = 20 \text{ Vdc}, I_E = 0$ )	$I_{CBO}$	—	—	100	nAdc
( $V_{CB} = 20 \text{ Vdc}, I_E = 0, T_A = 150^\circ\text{C}$ )		—	—	5.0	$\mu\text{Adc}$
Emitter Cutoff Current ( $V_{EB} = 5.0 \text{ Vdc}, I_C = 0$ )	$I_{EBO}$	—	—	10	$\mu\text{Adc}$

**ON CHARACTERISTICS**

DC Current Gain ( $I_C = 100 \text{ mAdc}, V_{CE} = 1.0 \text{ Vdc}$ )	$h_{FE}$	100	—	600	—
( $I_C = 300 \text{ mAdc}, V_{CE} = 1.0 \text{ Vdc}$ )		70	—	—	
( $I_C = 500 \text{ mAdc}, V_{CE} = 1.0 \text{ Vdc}$ )		40	—	—	
Collector–Emitter Saturation Voltage ( $I_C = 500\text{mAdc}, I_B = 50\text{mAdc}$ )	$V_{CE(sat)}$	—	—	0.62	Vdc
Base–Emitter On Voltage ( $I_C = 500 \text{ mAdc}, V_{CE} = 1.0 \text{ Vdc}$ )	$V_{BE(on)}$	—	—	1.2	Vdc