

T-27-09

MAXIMUM RATINGS

Rating	Symbol	Value		Unit
		BCX17L BCX19L	BCX18L BCX20L	
Collector-Emitter Voltage	V_{CEO}	45	25	Vdc
Collector-Base Voltage	V_{CBO}	50	30	Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Collector Current — Continuous	I_C	500		mA dc

THERMAL CHARACTERISTICS

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

*FR-5 = 1.0 x 0.75 x 0.062 in.

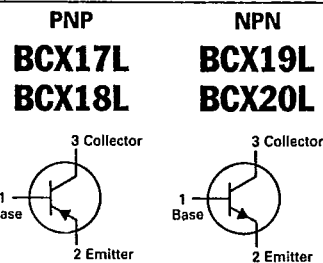
**Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

DEVICE MARKING

BCX17L = T1; BCX18L = T2; BCX19L = U1; BCX20L = U2

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

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage ($I_C = 10 \text{ mA dc}$, $I_B = 0$)	$V_{(BR)CEO}$	45 25	—	—	Vdc
Collector-Emitter Breakdown Voltage ($I_C = 10 \mu\text{A dc}$, $I_C = 0$)	$V_{(BR)CES}$	50 30	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 20 \text{ Vdc}$, $I_E = 0$) ($V_{CB} = 20 \text{ Vdc}$, $I_E = 0$, $T_A = 150^\circ\text{C}$)	I_{CBO}	—	—	100 5.0	nA dc $\mu\text{A dc}$
Emitter Cutoff Current ($V_{BE} = 5.0 \text{ Vdc}$, $I_C = 0$)	I_{EBO}	—	—	10	$\mu\text{A dc}$
ON CHARACTERISTICS					
DC Current Gain ($I_C = 100 \text{ mA dc}$, $V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 300 \text{ mA dc}$, $V_{CE} = 1.0 \text{ Vdc}$) ($I_C = 500 \text{ mA dc}$, $V_{CE} = 1.0 \text{ Vdc}$)	h_{FE}	100 70 40	—	600	—
Collector-Emitter Saturation Voltage ($I_C = 500 \text{ mA dc}$, $I_B = 50 \text{ mA dc}$)	$V_{CE(sat)}$	—	—	0.62	Vdc
Base-Emitter On Voltage ($I_C = 500 \text{ mA dc}$, $V_{CE} = 1.0 \text{ Vdc}$)	$V_{BE(on)}$	—	—	1.2	Vdc

CASE 318-03, STYLE 6
SOT-23 (TO-236AB)GENERAL PURPOSE
TRANSISTORS