

MAXIMUM RATINGS

Rating	Symbol	BC817	BC818	Unit
Collector-Emitter Voltage	V_{CEO}	45	25	V
Collector-Base Voltage	V_{CBO}	50	30	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	V
Collector Current — Continuous	I_C	500	500	mA

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
		1.8	mW/ $^\circ\text{C}$
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
		2.4	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	$^\circ\text{C}$

*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

BC817-16L = 6A; BC817-25L = 6B; BC817-40L = 6C; BC818-16L = 6E;
BC818-25L = 6F; BC818-40L = 6G

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	45	—	—	V
BC817 Series BC818 Series		25	—	—	
Collector-Emitter Breakdown Voltage ($V_{EB} = 0$)	$V_{(BR)CES}$	50	—	—	V
BC817 Series BC818 Series		30	—	—	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5.0	—	—	V
BC817 Series BC818 Series		5.0	—	—	
Collector Cutoff Current ($V_{CB} = 20\text{ V}$) ($V_{CB} = 20\text{ V}, T_A = 150^\circ\text{C}$)	I_{CBO}	—	—	100	nA
		—	—	5.0	μA

ON CHARACTERISTICS

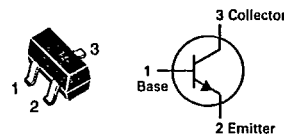
DC Current Gain ($I_C = 100\text{ mA}, V_{CE} = 1.0\text{ V}$)	h_{FE}	100	—	250	
BC817-16L BC818-16L BC817-25L BC818-25L BC817-40L BC818-40L		160	—	400	
($I_C = 500\text{ mA}, V_{CE} = 1.0\text{ V}$)		250	—	600	
		40	—	—	
Collector-Emitter Saturation Voltage ($I_C = 500\text{ mA}, I_B = 50\text{ mA}$)	$V_{CE(sat)}$	—	—	0.7	V
Base-Emitter On Voltage ($I_C = 500\text{ mA}, V_{CE} = 1.0\text{ V}$)	$V_{BE(on)}$	—	—	1.2	V

SMALL-SIGNAL CHARACTERISTICS

Current-Gain Bandwidth Product ($I_C = 10\text{ mA}, V_{CE} = 5.0\text{ Vdc}, f = 35\text{ MHz}$)	f_T	200	—	—	MHz
Output Capacitance ($V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$)	C_{obo}	—	10	—	pF

BC817-16L, -25L, -40L
BC818-16L, -25L, -40L

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



GENERAL PURPOSE
TRANSISTORS

NPN SILICON