

NPN Silicon

- We declare that the material of product compliance with RoHS requirements.
- RoHS product for packing code suffix "G"
Halogen free product for packing code suffix "H"

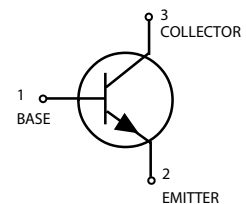


MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	45	V
Collector–Base Voltage	V_{CBO}	50	V
Emitter–Base Voltage	V_{EBO}	5.0	V
Collector Current — Continuous	I_C	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) $T_A = 25^\circ\text{C}$ 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, (2) $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C}$



DEVICE MARKING

BC817–16LT1 = 6A; BC817–25LT1 = 6B; BC817–40LT1 = 6C

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 ($I_C = \dot{E}0\text{ mA}$)	$V_{(BR)CEO}$	45	—	—	V
Collector–Emitter Breakdown Voltage ($V_{EB} = 0, I_C = \dot{E}0\ \mu\text{A}$)	$V_{(BR)CES}$	50	—	—	V
Emitter–Base Breakdown Voltage ($I_E = \dot{E}.0\ \mu\text{A}$)	$V_{(BR)EBO}$	5.0	—	—	V
Collector Cutoff Current ($V_{CB} = 20\text{ V}$)	I_{CBO}	—	—	100	nA
($V_{CB} = 20\text{ V}, T_A = 150^\circ\text{C}$)		—	—	5.0	μA

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.

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

Characteristic	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS

DC Current Gain ($I_C = 100\text{ mA}$, $V_{CE} = 1.0\text{ V}$)	h_{FE}	100	—	250	
	BC817-16	160	—	400	
	BC817-25	250	—	600	
	BC817-40	40	—	—	
($I_C = 500\text{ mA}$, $V_{CE} = 1.0\text{ V}$)					
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

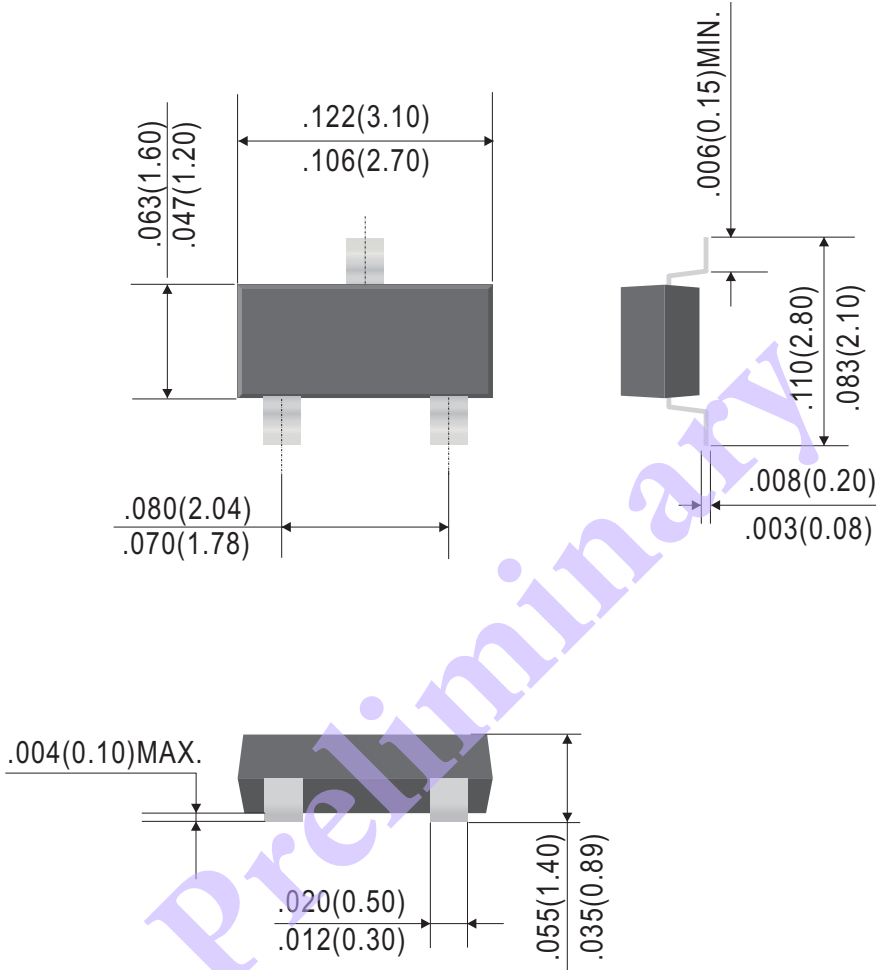
SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product ($I_C = 10\text{ mA}$, $V_{CE} = 5.0\text{ V}_{dc}$, $f = 100\text{ MHz}$)	f_T	100	—	—	MHz
Output Capacitance ($V_{CB} = 10\text{ V}$, $f = 1.0\text{ MHz}$)	C_{obo}	—	10	—	pF

ORDERING INFORMATION

Device	Marking	Shipping
BC817-16LT1	6A	3000/Tape&Reel
BC817-25LT1	6B	3000/Tape&Reel
BC817-40LT1	6C	3000/Tape&Reel

SOT-23



Dimensions in inches and (millimeters)

