

PNP Silicon

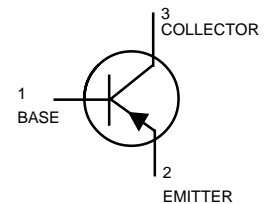
FEATURE

- Collector current capability $I_C = -500$ mA.
- Collector-emitter voltage $V_{CEO(max)} = -45$ V.
- General purpose switching and amplification.
- PNP complement: BC807 Series.
- 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"



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
BC807-16LT1	5A1	3000/Tape&Reel
BC807-25LT1	5B1	3000/Tape&Reel
BC807-40LT1	5C1	3000/Tape&Reel



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 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°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.

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 ($I_C = -10\text{ mA}$)	$V_{(BR)CEO}$	-45	—	—	V
Collector–Emitter Breakdown Voltage ($V_{EB} = 0, I_C = -10\text{ A}$)	$V_{(BR)CES}$	-50	—	—	V
Emitter–Base Breakdown Voltage ($I_E = -1.0\text{ A}$)	$V_{(BR)EBO}$	-5.0	—	—	V
Collector Cutoff Current ($V_{CB} = -20\text{ V}$)	I_{CBO}	—	—	-100	nA
($V_{CB} = -20\text{ V}, T_J = 150^\circ\text{C}$)		—	—	-5.0	A

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

Characteristic	Symbol	Min	Typ	Max	Unit
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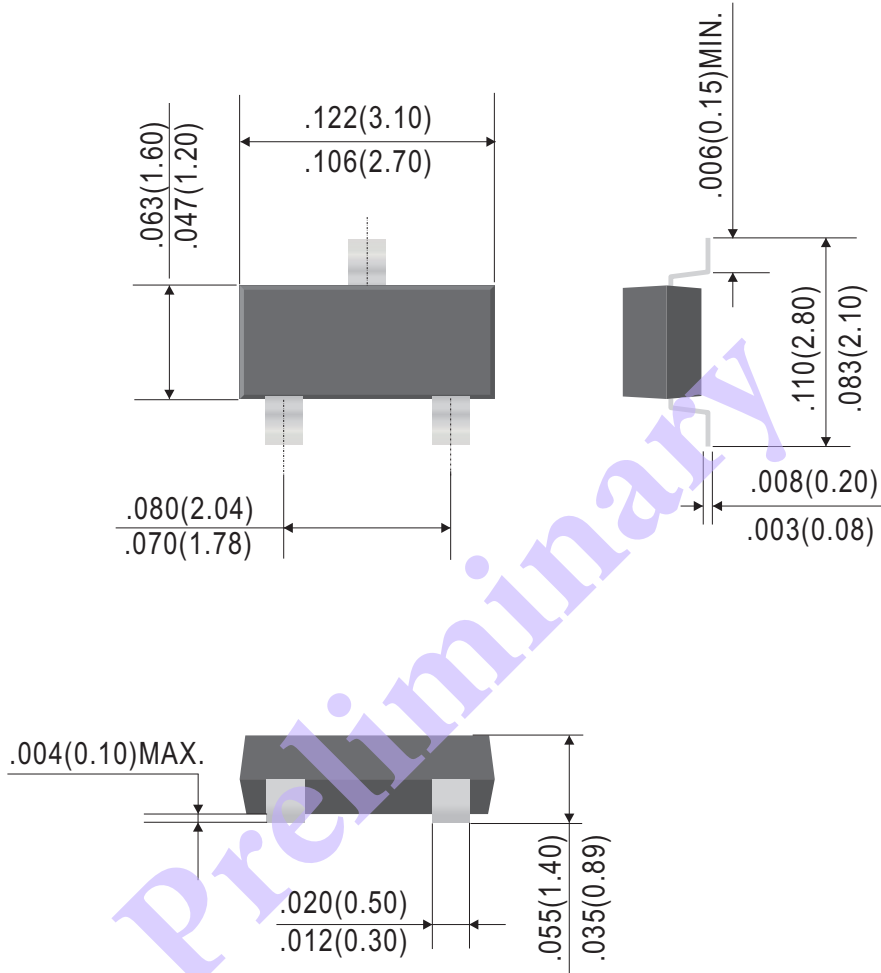
ON CHARACTERISTICS

DC Current Gain ($I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}$)	h_{FE}				—
	BC807-16	100	—	250	
	BC807-25	160	—	400	
	BC807-40	250	—	600	
($I_C = -500\text{ mA}, V_{CE} = -1.0\text{ V}$)		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 ($I_C = -10\text{ mA}, V_{CE} = -5.0\text{ V}_{dc}, f = 100\text{ MHz}$)	f_T	100	—	—	MHz
Output Capacitance ($V_{CB} = -10\text{ V}, f = 1.0\text{ MHz}$)	C_{obo}	—	10	—	pF

SOT-23



Dimensions in inches and (millimeters)

