



DATA SHEET

SEMICONDUCTOR

BC807-16-25-40

General Purpose Transistors



PNP Silicon

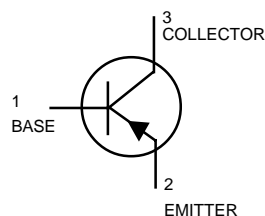
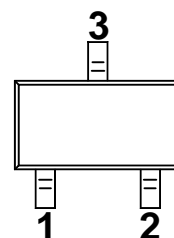
MAXIMUM RATINGS

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) $T_A = 25^\circ\text{C}$	P_D	225	mW
Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	P_D	300	mW
Derate above 25°C		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	$^\circ\text{C}$

SOT-23 (TO-236AB)



DEVICE MARKING

BC807-16 = 5A1; BC807-25 = 5B1; BC807-40 = 5C1

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

BC807-16-25-40

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	—
BC807-16		160	—	400	
BC807-25		250	—	600	
BC807-40		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 ($I_C = -500\text{ mA}$, $I_B = -1.0\text{ V}$)	$V_{BE(on)}$	—	—	-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

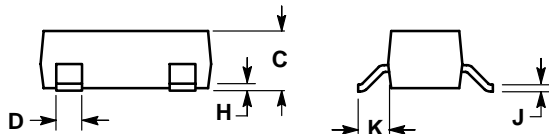
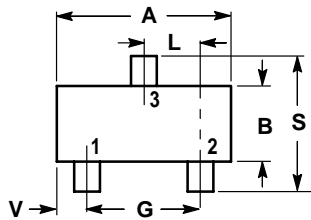
PACKAGE OUTLINE & DIMENSIONS

BC807-16-25-40

SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

