



DESCRIPTION

PNP Silicon

The BC807-16L, BC807-25L and BC807-40L are available in SOT-23 package

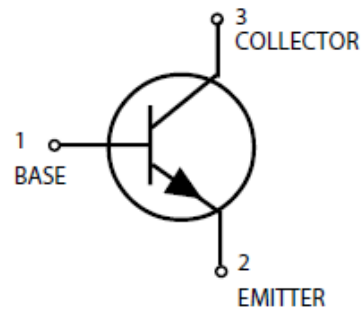
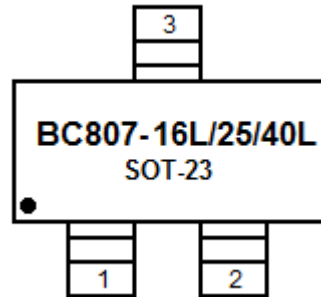
FEATURES

- Collector current capability $I_C = -500\text{mA}$.
- Collector-emitter voltage $V_{CEO(\text{MAX})} = -45\text{ V}$
- General purpose switching and amplification
- Available in SOT-23 package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	BC807-16L
	BC807-25L
	BC807-40L
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V _{CEO} , Collector–Emitter Voltage	–45V
V _{CBO} , Collector–Base Voltage	–50V
V _{EBO} , Emitter–Base Voltage	–5.0V
I _C , Collector Current — Continuous	–500mA _{dc}

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation FR– 5 Board ^{NOTE1} T _A = 25°C Derate above 25°C	P _D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate ^{NOTE2} T _A = 25°C Derate above 25°C	P _D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{STG}	–55 to +150	°C

NOTE1: FR–5 = 1.0 x 0.75 x 0.062 in.

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



ELECTRICAL CHARACTERISTICS

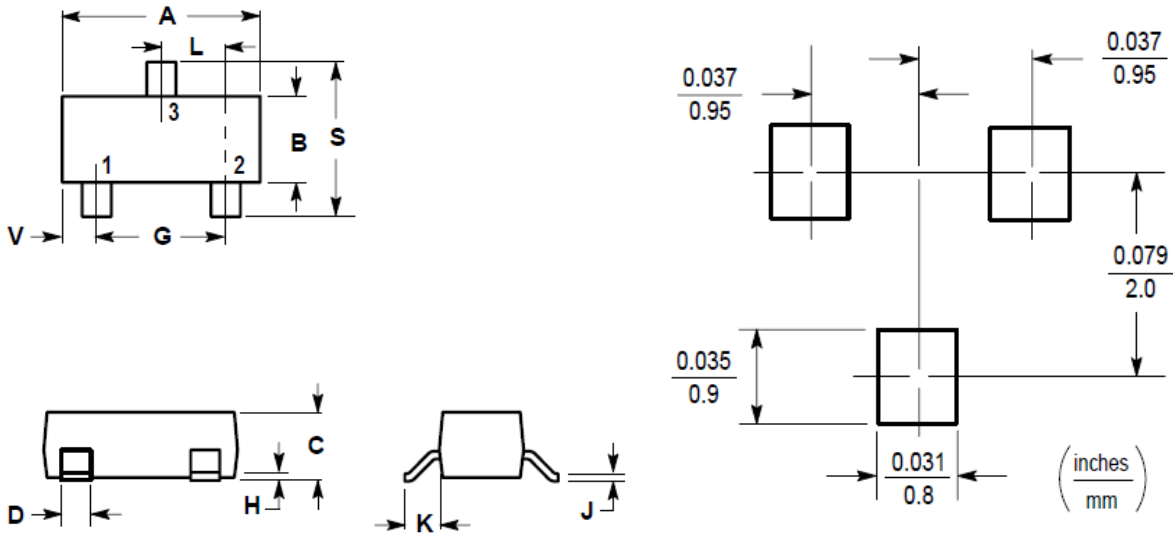
T_A = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	
OFF CHARACTERISTICS							
Collector–Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = –10mA	–45	-	-	V	
Collector–Emitter Breakdown Voltage	V _{(BR)CES}	V _{EB} = 0, I _C = –10μA	–50	-	-	V	
Emitter–Base Breakdown Voltage	V _{(BR)EBO}	I _E = –1.0 μA	–5.0	-	-	V	
Collector Cutoff Current	I _{CBO}	V _{CB} = –20V	-	-	–100	nA	
		V _{CB} = –20V, T _J = 150°C	-	-	–5.0	μA	
ON CHARACTERISTICS							
DC Current Gain	h _{FE}	I _C = –100mA, V _{CE} = –1.0V	BC807–16L	100	-	250	-
			BC807–25L	160	-	400	-
			BC807–40L	250	-	600	-
		I _C = –500mA, V _{CE} = –1.0 V	40	-	-	-	
Collector–Emitter Saturation Voltage	V _{CE(SAT)}	I _C = –500mA, I _B = –50mA	-	-	–0.7	V	
Base–Emitter On Voltage	V _{BE(ON)}	I _C = –500mA, V _{CE} = –1.0 V	-	-	–1.2	V	
SMALL–SIGNAL CHARACTERISTICS							
Current–Gain — Bandwidth Product	f _T	I _C = –10mA, V _{CE} = –5.0Vdc, f = 100MHz	100	-	-	MHz	
Output Capacitance	C _{OBO}	V _{CB} = –10 V, f = 1.0MHz	-	10	-	pF	



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



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



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