

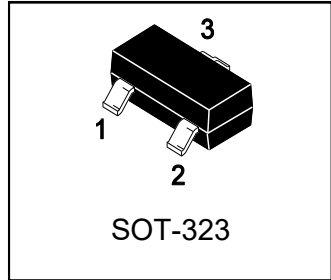
General Purpose Transistors

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.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

BC807-25W
S-BC807-25W

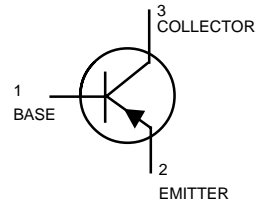


DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
BC807-25W S-BC807-25W	5B	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) $T_A = 25^\circ\text{C}$	P_D	150	mW
Derate above 25°C		1.2	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	P_D	200	mW
Derate above 25°C		1.6	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction and Storage Temperature	T_J, T_{stg}	-55to+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 ($V_{EB} = 0, I_C = -10\ \mu\text{A}$)	$V_{(BR)CES}$	-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

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

Characteristic	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS

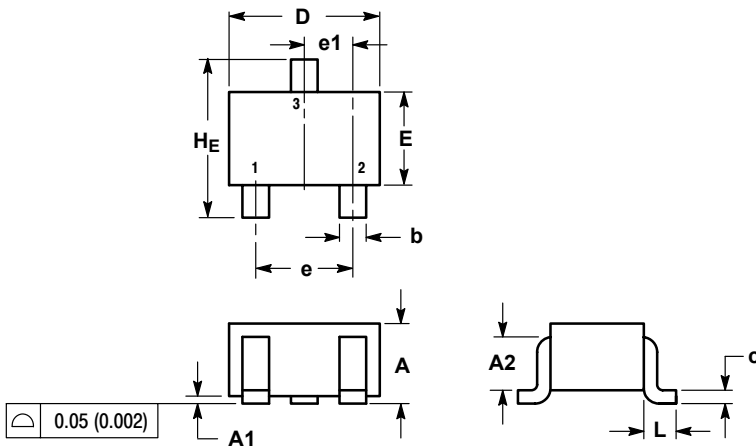
DC Current Gain ($I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}$)	h_{FE}	160	—	400	—
Collector–Emitter Saturation Voltage ($I_C = -500\text{ mA}, I_B = -50\text{ mA}$)	$V_{CE(sat)}$	—	—	-0.7	V
Base–Emitter On Voltage ($I_C = -500\text{ mA}, V_{CE} = -1.0\text{ V}$)	$V_{BE(on)}$	—	—	-1.2	V

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



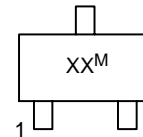
SOT-323



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

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
HE	2.00	2.10	2.40	0.079	0.083	0.095

GENERIC MARKING DIAGRAM



- XX = Specific Device Code
- M = Date Code
- = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

SOLDERING FOOTPRINT*

