

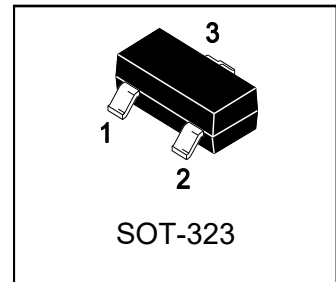
# General Purpose Transistors

## 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.

**BC807-16W  
S-BC807-16W**

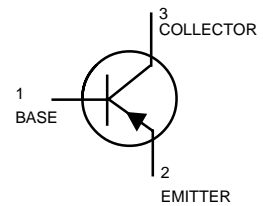


### DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
BC807-16W S-BC807-16W	5A	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 $25^\circ\text{C}$	$P_D$	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200	mW
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 ( $V_{CB} = -20\text{ V}$ ) ( $V_{CB} = -20\text{ V}, T_J = 150^\circ\text{C}$ )	$I_{CBO}$	—	—	-100 -5.0	nA $\mu\text{A}$

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

Characteristic	Symbol	Min	Typ	Max	Unit
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**ON CHARACTERISTICS**

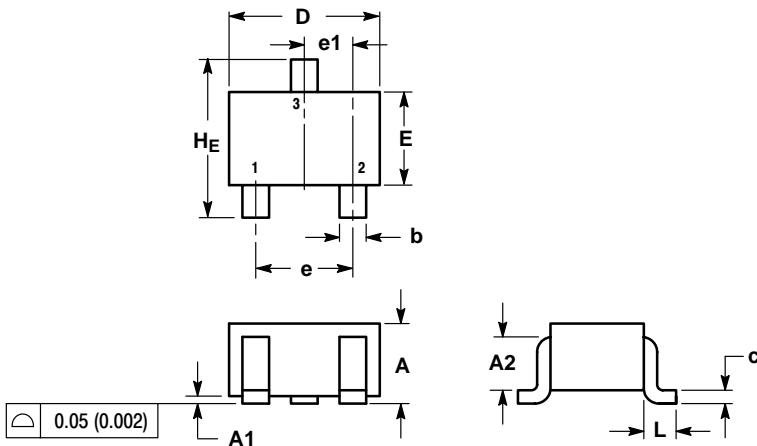
DC Current Gain ( $I_C = -100\text{ mA}, V_{CE} = -1.0\text{ V}$ )	$h_{FE}$	100	—	250	—
Collector–Emitter Saturation Voltage ( $I_C = -500\text{ mA}, I_B = -50\text{ mA}$ )	$V_{CE(sat)}$	—	—	-0.7	V
Base–Emitter On Voltage ( $I_C = -500\text{ mA}, V_{CE} = -1.0\text{ V}$ )	$V_{BE(on)}$	—	—	-1.2	V

**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



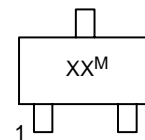
**SOT-323**



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\***

