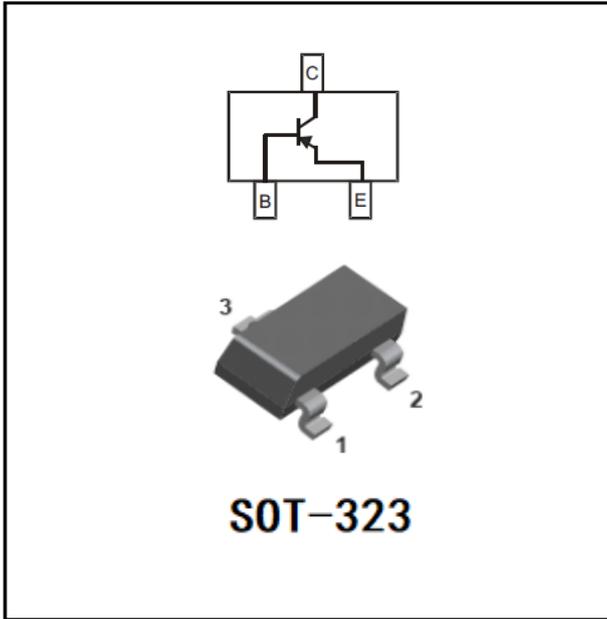


## PNP General Purpose Amplifier



### Features

- Capable of 0.2Watts( $T_A=25^{\circ}\text{C}$ ) of Power Dissipation
- Collector-current -0.5A
- Collector-base Voltage -50V
- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Device Marking:

BC807-16W	5A
BC807-25W	5B
BC807-40W	5C

### ■ Maximum Ratings ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	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	$I_C$	-0.5	A
Power dissipation	$P_D$	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Operation Junction Temperature	$T_j$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$



# BC807-16W THRU BC807-40W

## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C = -10\text{mA}$ , $I_B = 0$	-45	
Collector-Base Voltage	$V_{CBO}$	V	$I_C = -10\mu\text{A}$ , $I_E = 0$	-50	
Emitter-Base Voltage	$V_{EBO}$	V	$I_E = -1.0\mu\text{A}$ , $I_C = 0$	-5.0	
Emitter-base Cut-off Current	$I_{EBO}$	$\mu\text{A}$	$V_{EB} = -4.0\text{V}$ , $I_C = 0$		-0.1
Collector -base Cut-off Current	$I_{CBO}$	$\mu\text{A}$	$V_{CB} = -45\text{V}$ , $I_E = 0$		-0.1
Collector-emitter Cut-off Current	$I_{CEO}$	$\mu\text{A}$	$V_{CE} = -40\text{V}$ , $I_B = 0$		-0.2
DC Current Gain	$h_{FE(1)}$		$I_C = -100\text{mA}$ , $V_{CE} = -1.0\text{V}$	100	600
DC Current Gain	$h_{FE(2)}$		$I_C = -500\text{mA}$ , $V_{CE} = -1.0\text{V}$	40	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-0.7
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-1.2

## ■ Small-signal Characteristics

Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	$f_T$	MHz	$I_C = -10\text{mA}$ , $V_{CE} = -5.0\text{V}$ , $f = 100\text{MHz}$	100	

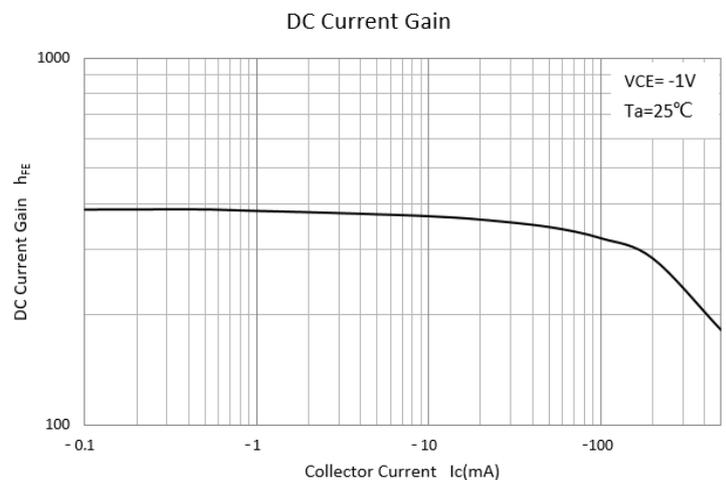
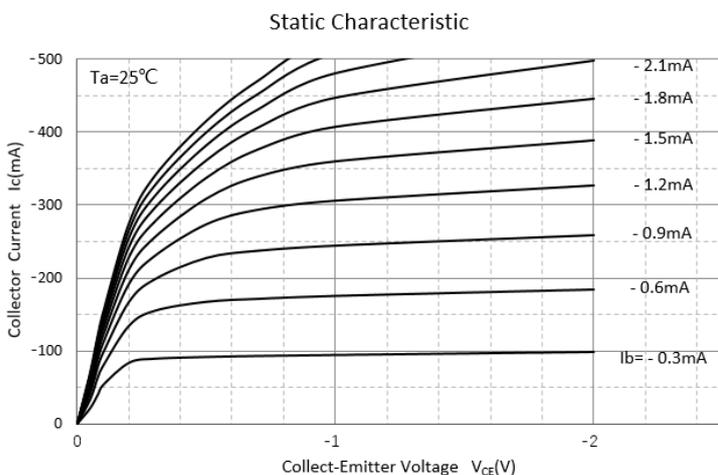
## ■ Classification of $h_{FE}$

Rank	BC807-16W	BC807-25W	BC807-40W
Range	100-250	160-400	250-600

## ■ Ordering Information (Example)

Preferred P/N	Packing Code	Unit Weight(g)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
BC807-16W THRU BC807-40W	F2	Approximate 0.005	3000	30000	120000	7" reel

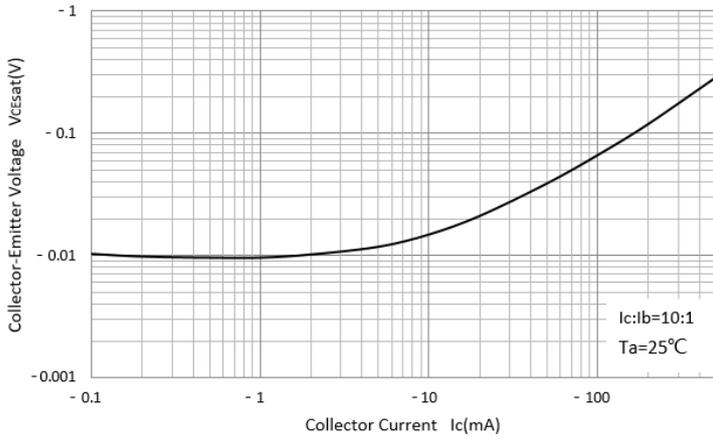
## ■ Characteristics (Typical)



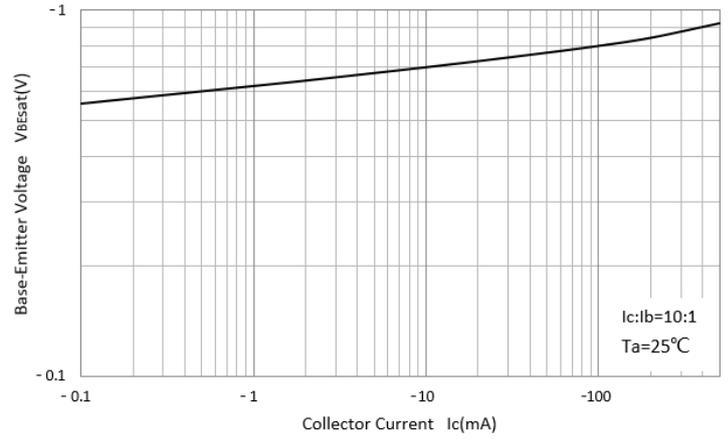


# BC807-16W THRU BC807-40W

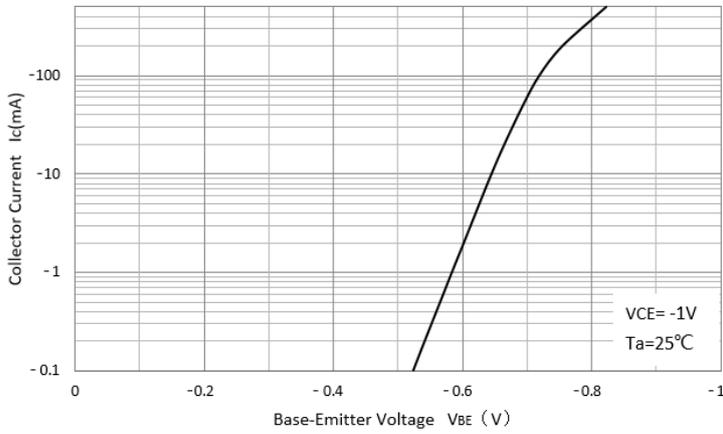
### Collector-Emitter Saturation Voltage



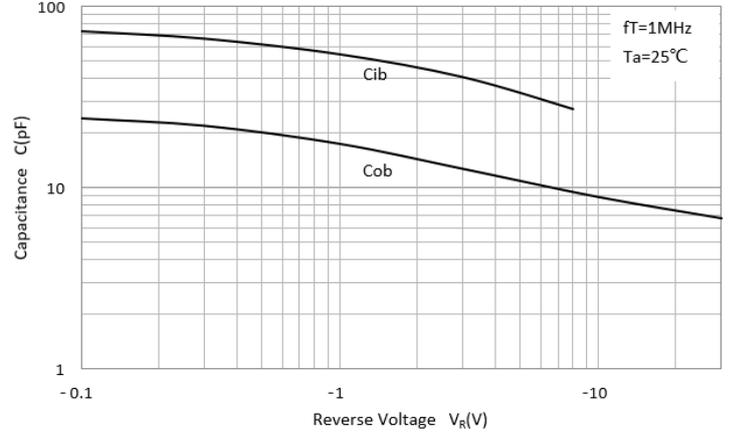
### Base-Emitter Saturation Voltage



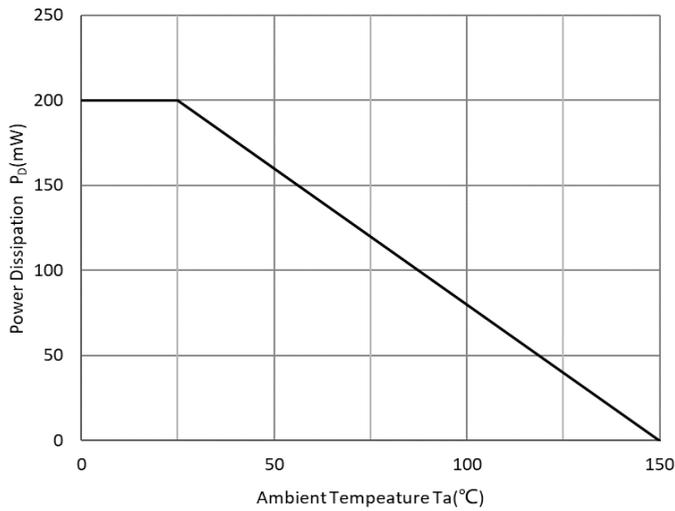
### Base-Emitter On Voltage



### $C_{ob}/C_{ib}-V_{CB}/V_{EB}$



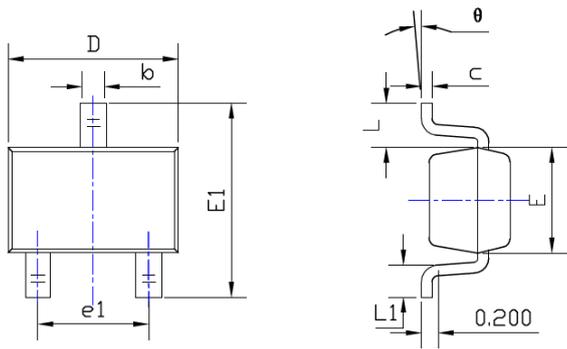
### Power Derating Curve





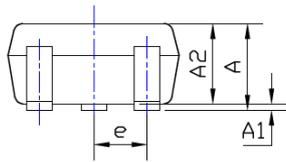
# BC807-16W THRU BC807-40W

## ■ SOT-323 Package Outline Dimensions



TOP VIEW

SIDE VIEW



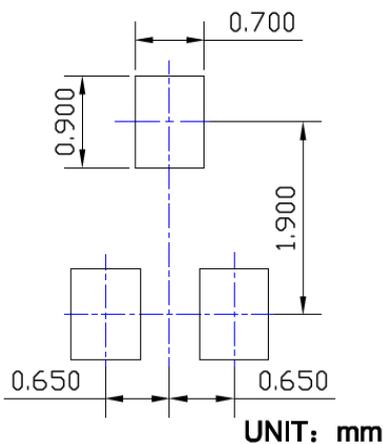
SIDE VIEW

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

Note:

- All dimensions are in millimeters (mm) unless otherwise specified.  
[所有尺寸均以毫米为单位，除非另有说明]
- General tolerances:  $\pm 0.10\text{mm}$  unless otherwise specified.  
[通用公差为 $\pm 0.10\text{mm}$ ，除非另有说明]
- Dimensions and tolerances per ASME Y14.5M-2018.  
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
- All dimensions shown are exclusive of burrs and gate residues.  
Burrs and gate vestiges shall not exceed 0.15 mm in maximum.  
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
- Dimension b does not include dambar protrusion of max 0.100 mm per side.  
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
- Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.  
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
- Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.  
[成型的管脚应为同一平面，共面性最大为0.1mm]
- ★It is the key size.  
[★ 标记为关键尺寸]

## ■ SOT-323 Soldering Footprint





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