



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Micro Commercial Components

Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

**BC807-16**  
**BC807-25**  
**BC807-40**

## Features

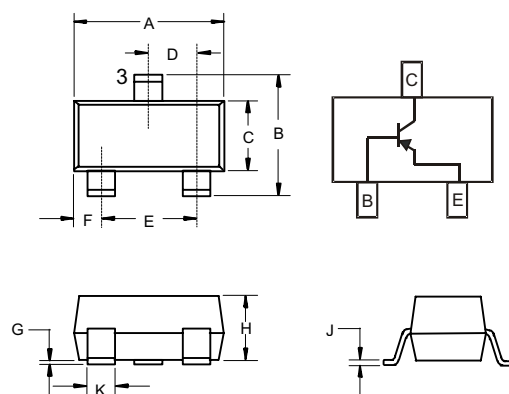
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 0.31Watts of Power Dissipation.
- Collector-current 0.5A
- Collector-base Voltage 50V
- Operating and storage junction temperature range: -55°C to +150°C
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

**PNP Silicon**  
**General Purpose**  
**Transistors**

## Mechanical Data

- Case: SOT-23 Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Weight: 0.008 grams (approx.)
- Device Marking: BC807-16 5A  
BC807-25 5B  
BC807-40 5C

## SOT-23



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

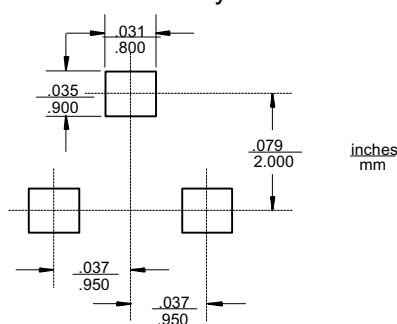
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=10mA, I_B=0$ )	45	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\mu A, I_E=0$ )	50	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=1.0mA, I_C=0$ )	5.0	---	Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=45Vdc, I_E=0$ )	---	0.1	$\mu A$
$I_{CEO}$	Collector Cutoff Current ( $V_{CE}=40Vdc, I_E=0$ )	---	0.2	$\mu A$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=4.0Vdc, I_C=0$ )	---	0.1	$\mu A$

## ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain ( $I_C=10mA, V_{CE}=1.0Vdc$ ) BC807-16 BC807-25 BC807-40	100 160 250	250 400 600	---
$h_{FE(2)}$	DC Current Gain ( $I_C=500mA, V_{CE}=1.0Vdc$ )	40	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=500mA, I_B=50mA$ )	---	0.7	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=500mA, I_B=50mA$ )	---	1.2	Vdc
$R_{\theta JA}$	$T_A = 25^\circ C$	---	403	$^\circ C/W$

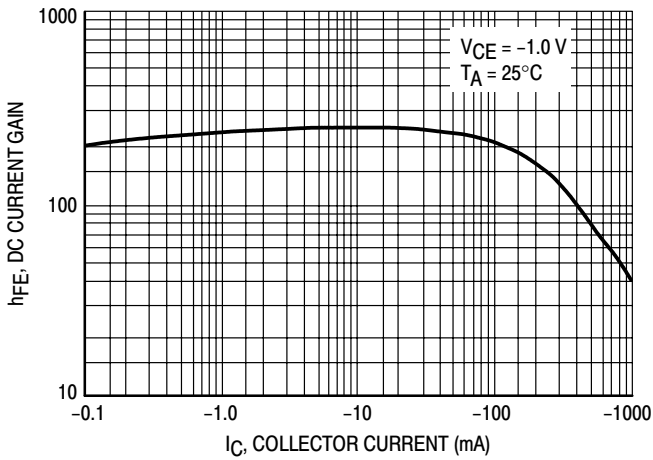
## Suggested Solder Pad Layout



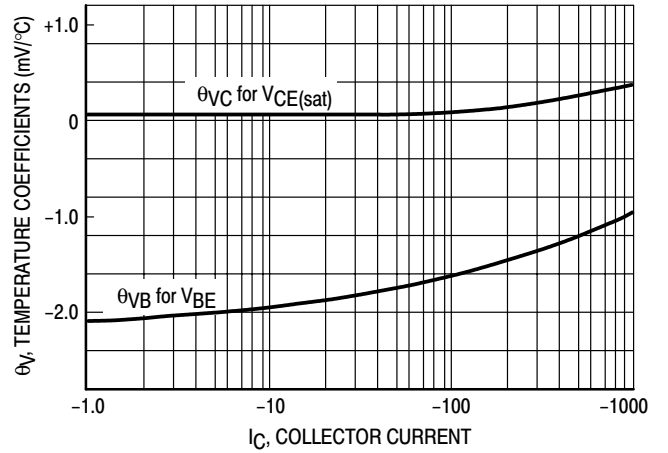
## SMALL SIGNAL CHARACTERISTICS

$f_T$	Current-Gain-Bandwidth Product ( $V_{CE}=5.0V, f=100MHz, I_C=10mA$ )	100	---	MHz
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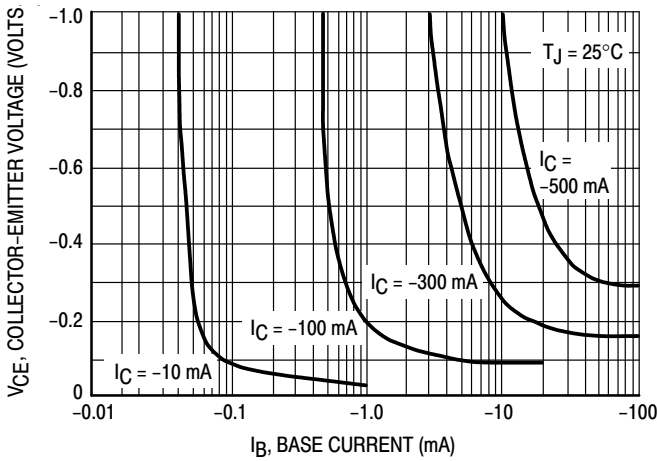
# BC807-16 thru BC807-40



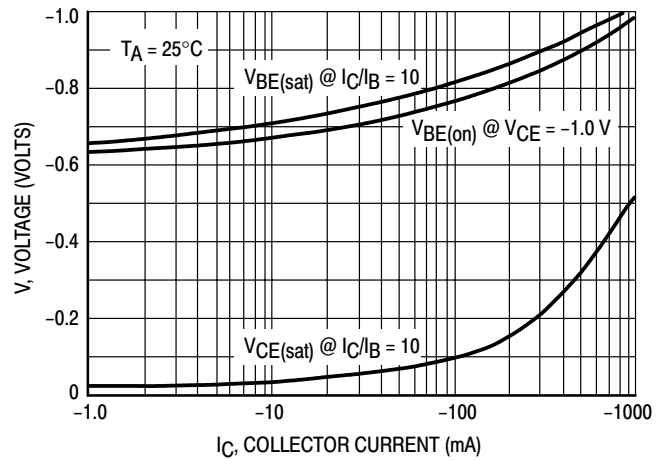
**Figure 1. DC Current Gain**



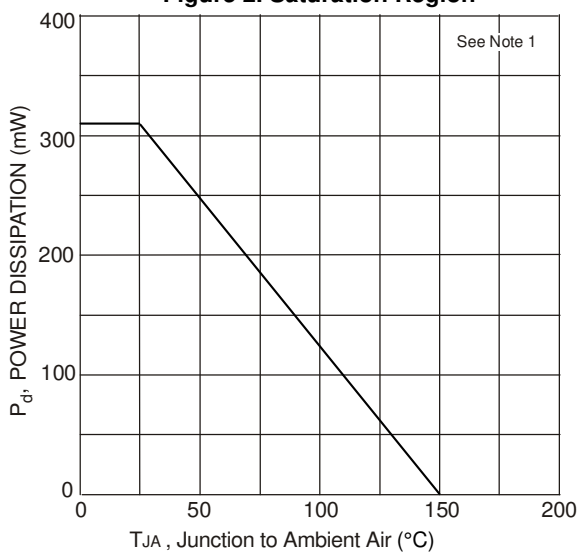
**Figure 4. Temperature Coefficients**



**Figure 2. Saturation Region**



**Figure 5. "On" Voltages**



**Figure 3. Power Derating Curve**



Micro Commercial Components

### Ordering Information :

Device	Packing
Part Number-TP	Tape & Reel; 3 Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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