

## Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

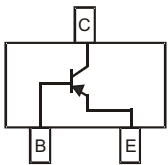
## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 403°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-500	mA
Peak Collector Current	$I_{CM}$	-1000	mA
Collector Power Dissipation	$P_C$	300	mW

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

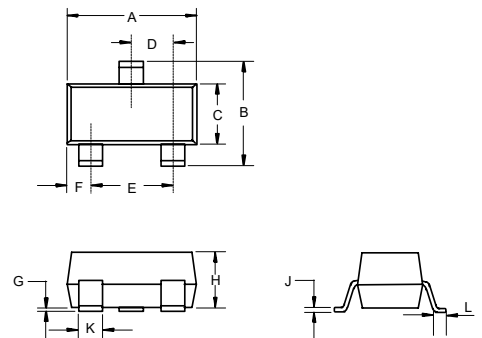
## Internal Structure



**Marking:**  
**BC807-16: 5A**  
**BC807-25: 5B**  
**BC807-40: 5C**

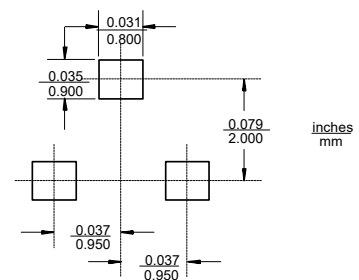
# PNP Small Signal Transistor 300mW

## SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.014	0.020	0.35	0.51	
L	0.007	0.020	0.20	0.50	

## Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	$I_C = -10\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-45			V	$I_C = -10mA, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -1\mu A, I_C = 0$
Collector Cutoff Current	$I_{CBO}$			-0.1	$\mu A$	$V_{CB} = -45V, I_E = 0$
Collector Cutoff Current	$I_{CEO}$			-0.2	$\mu A$	$V_{CB} = -40V, I_E = 0$
Emitter-Base Cutoff Current	$I_{EBO}$			-0.1	$\mu A$	$V_{EB} = -4V, I_C = 0$
DC Current Gain	$h_{FE1}$	100		600		$V_{CE} = -1V, I_C = -100mA$
	$h_{FE2}$	40				$V_{CE} = -1V, I_C = -500mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.7	V	$I_C = -500mA, I_B = -50mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.2	V	$I_C = -500mA, I_B = -50mA$
Transition Frequency	$f_T$	100			MHz	$V_{CE} = -5V, I_C = -10mA, f = 100MHz$

**CLASSIFICATION OF  $h_{FE}$  (1)**

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

**Curve Characteristics**

Fig. 1 - Static Characteristics

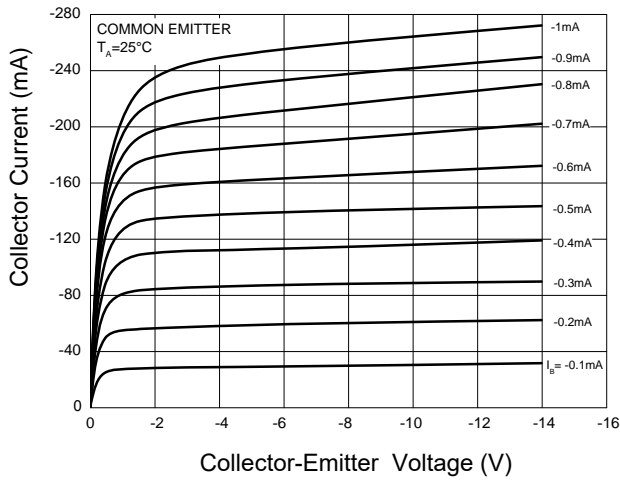


Fig. 2 - DC Current Gain Characteristics

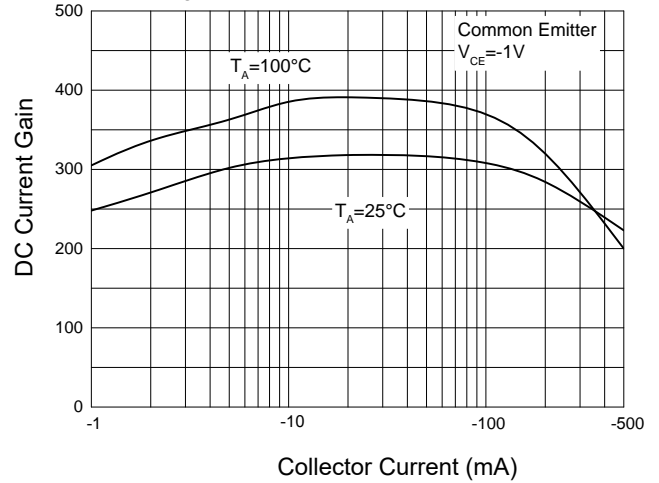


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

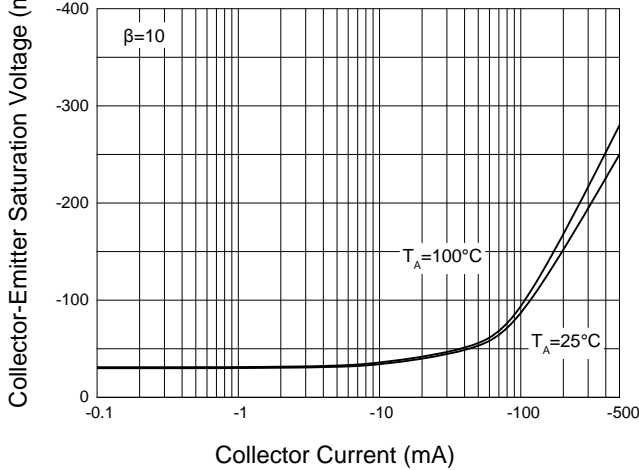


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

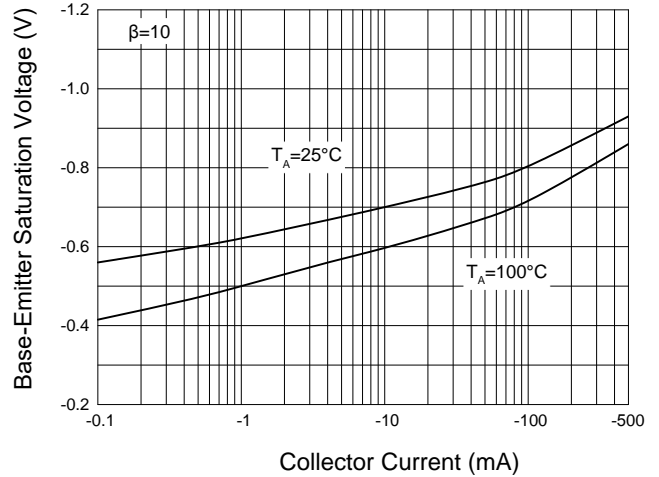


Fig. 5 - Base-Emitter Voltage Characteristics

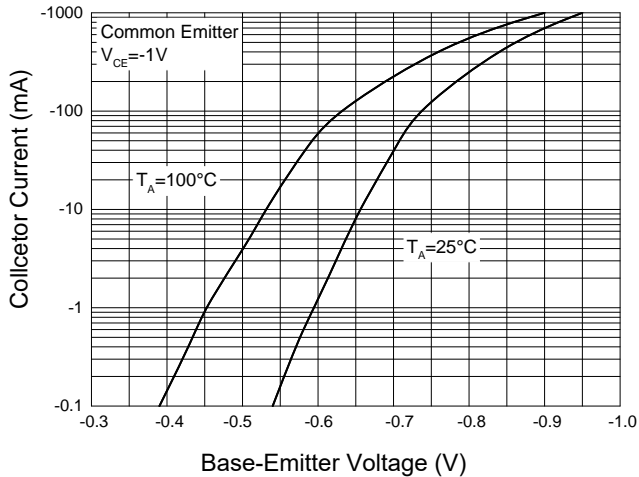


Fig. 6 - Power Derating Curve

