



## BC807 SERIES

### PNP GENERAL PURPOSE TRANSISTORS

**VOLTAGE** 45 Volts **POWER** 225 mWatts

**SOT-23**

Unit: inch (mm)

#### FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Collector current  $I_C = 500\text{mA}$
- Pb free product are available : 99% Sn above can meet RoHS environment substance directive request

#### MECHANICAL DATA

Case: SOT-23, Plastic

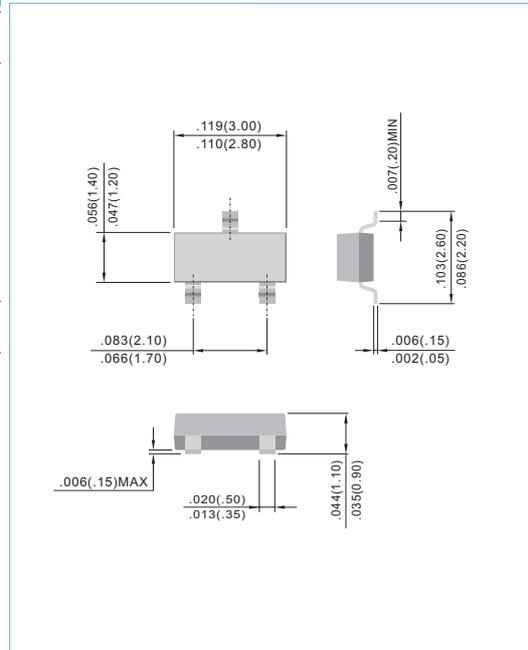
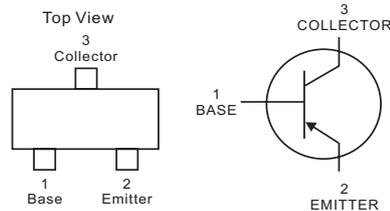
Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.008 gram

Device Marking : BC807-16 : 7A

BC807-25 : 7B

BC807-40 : 7C



#### MAXIMUM RATINGS

PARAMETER	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	mA
Max Power Dissipation (Note 1)	$P_{TOT}$	225	mW
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	°C

#### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	Value	UNIT
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	°C/W

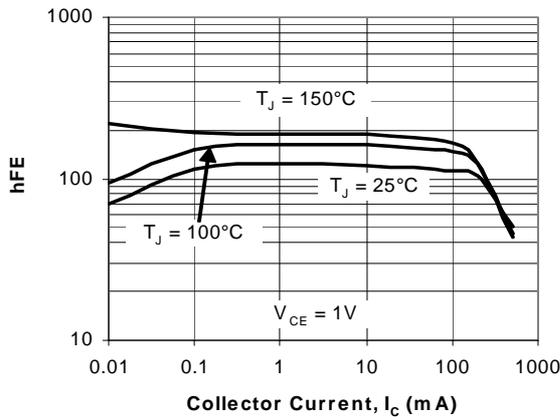
Note 1 : Transistor mounted on FR-5 board 1.0x0.75x0.062 in



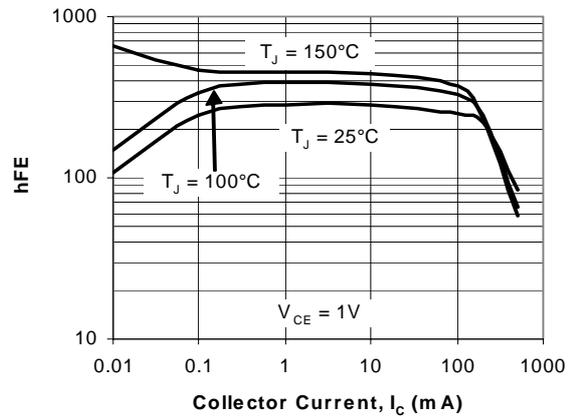
**ELECTRICAL CHARACTERISTICS(T<sub>J</sub>=25°C,unless otherwise notes)**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage (I <sub>C</sub> =-10mA, I <sub>B</sub> =0)	V <sub>(BR)CEO</sub>	-45	-	-	V
Collector-Emitter Breakdown Voltage (V <sub>EB</sub> =0V, I <sub>C</sub> =-100uA)	V <sub>(BR)CES</sub>	-50	-	-	V
Emitter-Base Breakdown Voltage (I <sub>E</sub> =-10uA, I <sub>C</sub> =0)	V <sub>(BR)EBO</sub>	-5.0	-	-	V
Emitter-Base Cutoff Current (V <sub>EB</sub> =-4V)	I <sub>EBO</sub>	-	-	-100	nA
Collector-Base Cutoff Current (V <sub>CB</sub> =-20V, I <sub>E</sub> =0)	I <sub>CBO</sub>	T <sub>J</sub> =25°C	-	-0.1	nA
		T <sub>J</sub> =150°C	-	-5.0	uA
DC Current Gain (I <sub>C</sub> =-100mA, V <sub>CE</sub> =-1V)	h <sub>FE</sub>	BC807-16	-	250	-
		BC807-25	100	400	-
(I <sub>C</sub> =-500mA, V <sub>CE</sub> =-1V)		250	600	-	
Collector-Emitter Saturation Voltage (I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA)	V <sub>CE(SAT)</sub>	-	-	-0.7	V
Base-Emitter Voltage (I <sub>C</sub> =-500mA, V <sub>CE</sub> =-1.0V)	V <sub>BE(ON)</sub>	-	-	-1.2	V
Collector-Base Capacitance (V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz)	C <sub>CB0</sub>	-	7.0	-	pF
Current Gain-Bandwidth Product (I <sub>C</sub> =-10mA, V <sub>CE</sub> =-5V, f=100MHz)	f <sub>T</sub>	100	-	-	MHz

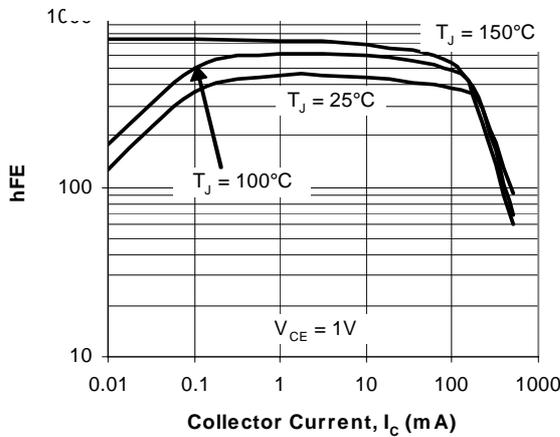
**ELECTRICAL CHARACTERISTICS CURVES**



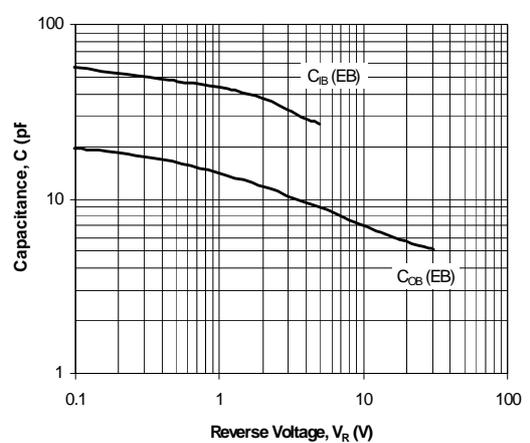
**Fig. 1. BC807-16 Typical h<sub>FE</sub> vs. I<sub>C</sub>**



**Fig. 2. BC807-25 Typical h<sub>FE</sub> vs. I<sub>C</sub>**



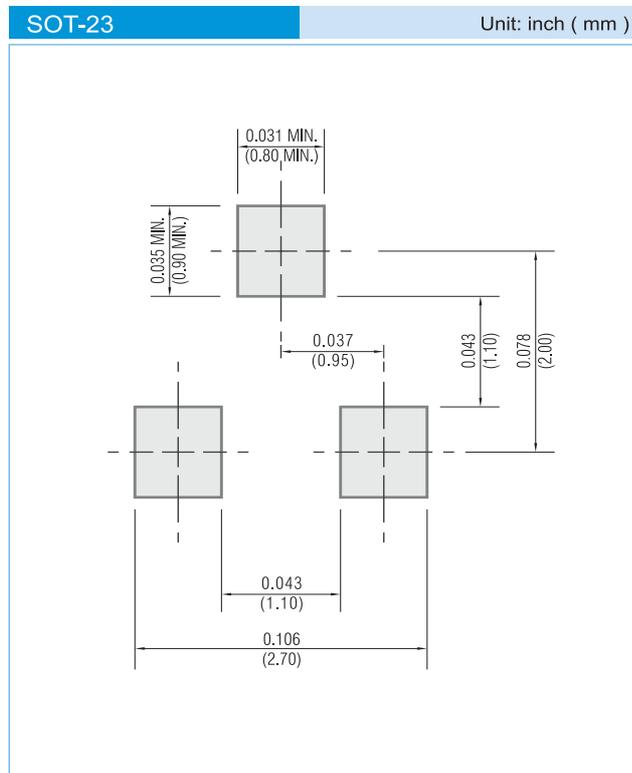
**Fig. 3. BC807-40 Typical h<sub>FE</sub> vs. I<sub>C</sub>**



**Fig. 4. Typical Capacitances**



## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

## LEGAL STATEMENT

### IMPORTANT NOTICE

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

### Copyright Pan Jit International Inc. 2003

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.

The information presented in this document does not form part of any quotation or contract. The information presented is believed to be accurate and reliable, and may change without notice in advance. No liability will be accepted by the publisher for any consequence of use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.