

## BC807-16W SERIES

### PNP GENERAL PURPOSE TRANSISTORS

**VOLTAGE** 45 Volts **POWER** 300 mWatts

**SOT-323**

Unit : inch(mm)

#### FEATURES

- General purpose amplifier applications
- PNP epitaxial silicon, planar design
- Collector current  $I_C = 500\text{mA}$
- In compliance with EU RoHS 2002/95/EC directives

#### MECHANICAL DATA

- Case: SOT-323, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Apporx. Weight: 0.0001 ounce, 0.005 gram
- Device Marking : BC807-16W : 7S  
BC807-25W : 7V  
BC807-40W : 7W

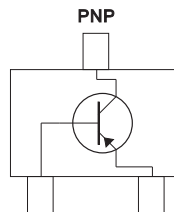
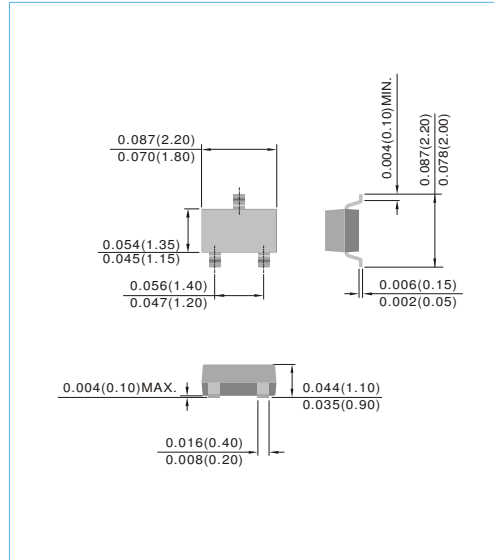


Fig.35



#### MECHANICAL DATA

PARAMETER	SYMBOL	Value	UNIT
Collector-Emitter Voltage	$V_{CEO}$	-45	V
Collector-Base Voltage	$V_{CBO}$	-50	V
Emitter-Base Voltage	$V_{EB0}$	-5.0	V
Collector Current - Continuous	$I_C$	-500	mA
Total Power Dissipation (Note 1)	$P_{TOT}$	300	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 (Note 1)	$R_{\theta JA}$	420	°C/W

Note 1 : Transistor mounted on FR-5 board minimum pad mounting conditions.

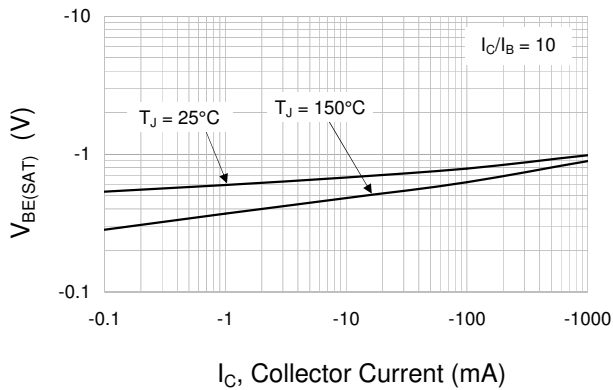


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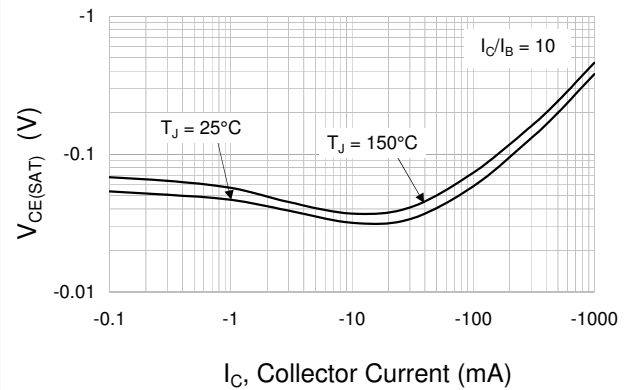
### ELECTRICAL CHARACTERISTICS( $T_J=25^{\circ}\text{C}$ , unless otherwise notes)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage ( $I_C=-10\text{mA}$ , $I_B=0$ )	$V_{(BR)CEO}$	-45	-	-	V
Collector-Base Breakdown Voltage ( $V_{EB}=0\text{V}$ , $I_C=-10\mu\text{A}$ )	$V_{(BR)CBO}$	-50	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=-1\mu\text{A}$ , $I_C=0$ )	$V_{(BR)EBO}$	-5.0	-	-	V
Emitter-Base Cutoff Current ( $V_{EB}=-5\text{V}$ )	$I_{EBO}$	-	-	-100	nA
Collector-Base Cutoff Current ( $V_{CB}=-20\text{V}$ , $I_E=0$ )	$I_{CBO}$	-	-	-100	nA
				-5.0	$\mu\text{A}$
DC Current Gain ( $I_C=-100\text{mA}$ , $V_{CE}=-1\text{V}$ )	$h_{FE}$	100	-	250	-
		160	-	400	
(BC807-16W BC807-25W BC807-40W)		250	-	600	
		40	-	-	
( $I_C=-500\text{mA}$ , $V_{CE}=-1\text{V}$ )					
Collector-Emitter Saturation Voltage ( $I_C=-500\text{mA}$ , $I_B=-50\text{mA}$ )	$V_{CE(SAT)}$	-	-	-0.7	V
Base-Emitter Voltage ( $I_C=-500\text{mA}$ , $V_{CE}=-1.0\text{V}$ )	$V_{BE(ON)}$	-	-	-1.2	V
Collector-Base Capacitance ( $V_{CB}=-10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$ )	$C_{CBO}$	-	7.0	-	pF
Current Gain-Bandwidth Product ( $I_C=-10\text{mA}$ , $V_{CE}=-5\text{V}$ , $f=100\text{MHz}$ )	$f_T$	100	-	-	MHz

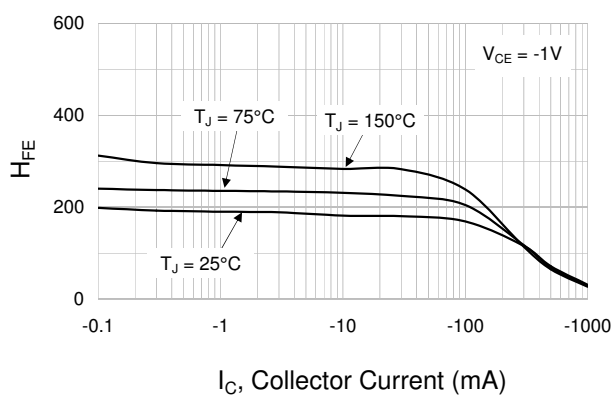
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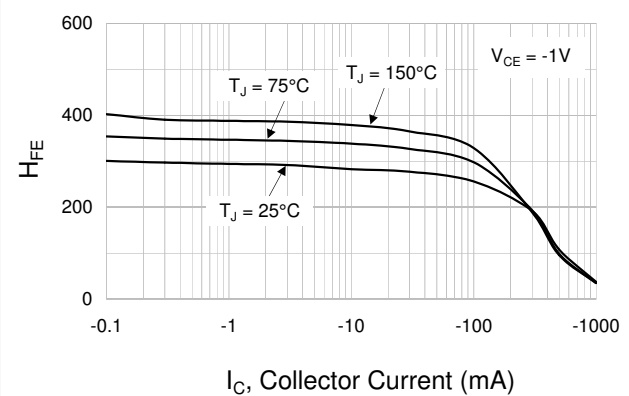
**Fig.1 Base-Emitter Saturation Voltage**



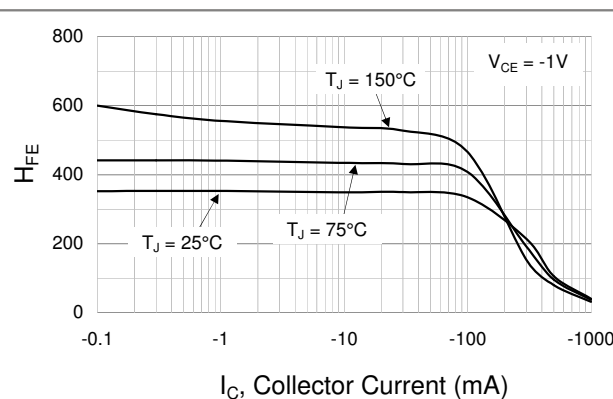
**Fig.2 Collector-Emitter Saturation Voltage**



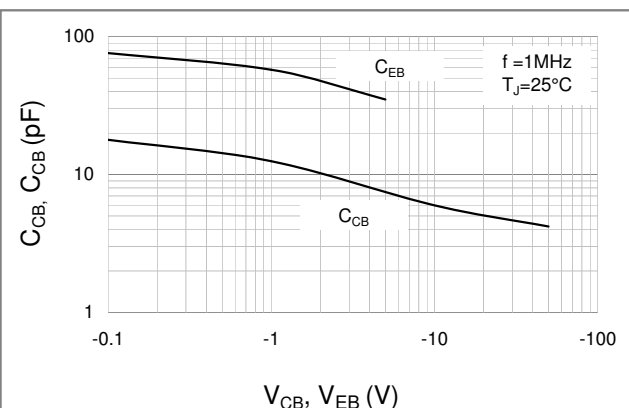
**Fig.3 BC807-16W: Typical DC Current Gain**



**Fig.4 BC807-25W: Typical DC Current Gain**



**Fig.5 BC807-40W: DC Current Gain**



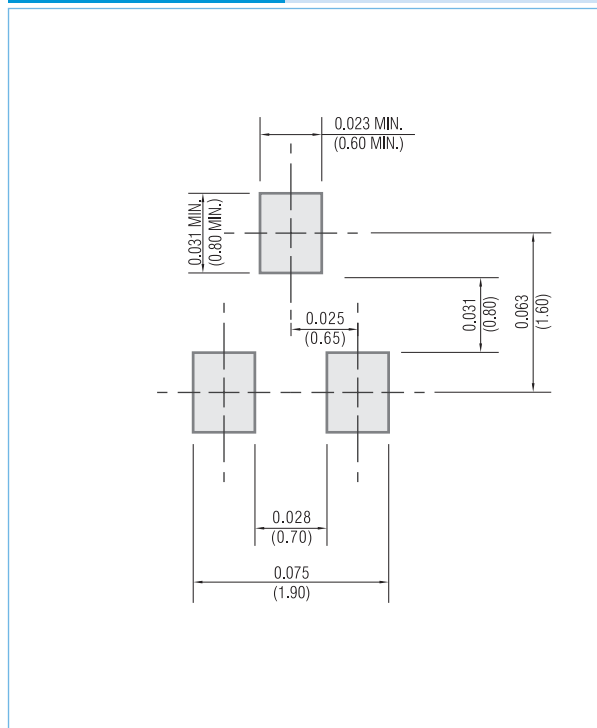
**Fig.6 Typical Capacitance**

## BC807-16W SERIES

### MOUNTING PAD LAYOUT

SOT-323

Unit: inch ( mm )



### ORDER INFORMATION

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

### LEGAL STATEMENT

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