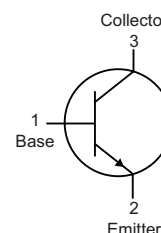
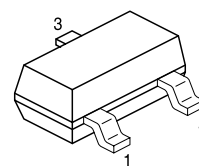




## Features

- For general AF applications
- Complementary PNP type available BC807
- High collector current
- High current gain
- Low collector-emitter saturation voltage



## Applications

- General purpose medium power amplifier
- Switching requiring collector currents up to 1.2mA

## Maximum Ratings

Parameter	Symbol	Value	Unit
Collector - Base Voltage	$V_{CBO}$	50	V
Collector - Emitter Voltage	$V_{CEO}$	45	
Emitter - Base Voltage	$V_{ebo}$	5	
Collector Current Continuous	$I_C$	500	mA
Collector Dissipation	$P_C$	300	mW
Junction and Storage Temperature	$T_J, T_{stg}$	-65 to +150	°C

### Pin Configuration:

1. Base
2. Emitter
3. Collector

## Electrical Characteristics ( $T_{amb} = 25^\circ\text{C}$ unless otherwise noted)

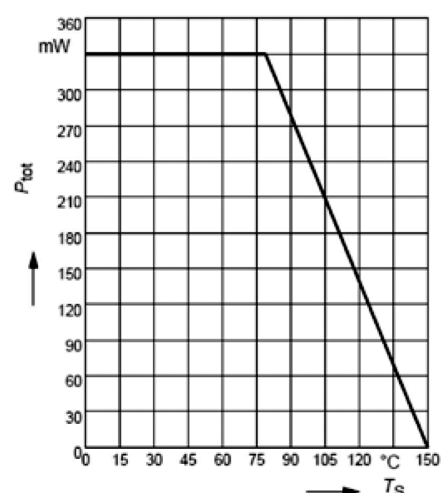
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	50			V
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	45			
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 25\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{CE} = 4\text{V}, I_E = 0$			-0.1	
DC Current Gain	$h_{FE}$	$V_{CE} = 1\text{V}, I_C = -100\text{mA}$	100		600	
			100		250	
			160		400	
			250		600	
DC Current Gain	$h_{FE}$	$V_{CE} = 1\text{V}, I_C = -300\text{mA}$	40			
			60			
			100			
			170			
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.7	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			1.2	

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Output Capacitance	$C_{obo}$	$V_{CB}=10V, f=1MHz$		6		pF
Transition Frequency	$f_T$	$V_{CE}=5V, I_C=50mA$ $f=100MHz$		170		MHz

## Typical Characteristics: $T_{amb}=25^{\circ}C$ unless otherwise specified

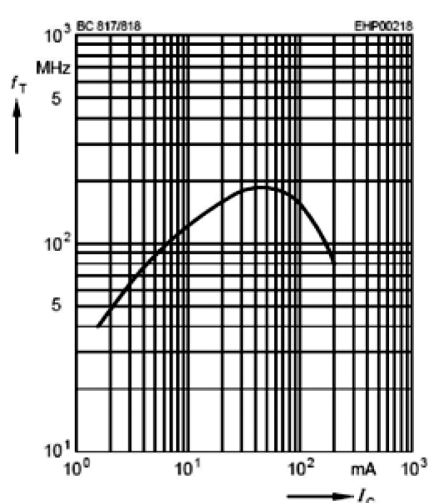
### Ratings & Characteristic Curves

Total power dissipation  $P_{tot} = f(T_S)$



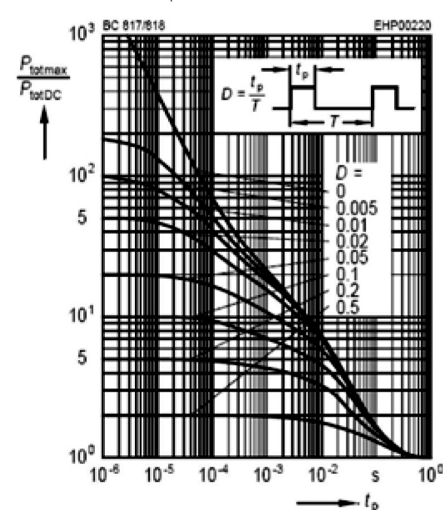
Transition frequency  $f_T = f(I_C)$

$V_{CE} = 5V$



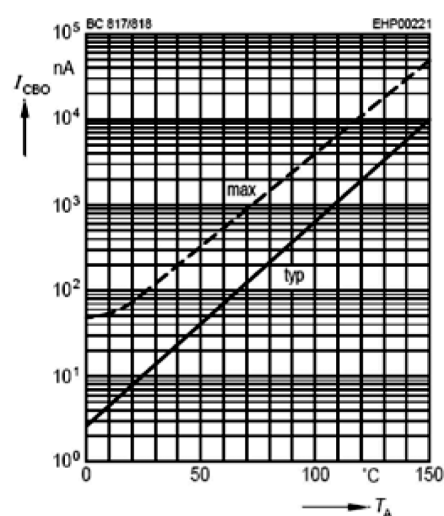
Permissible pulse load

$P_{totmax} / P_{totDC} = f(t_p)$



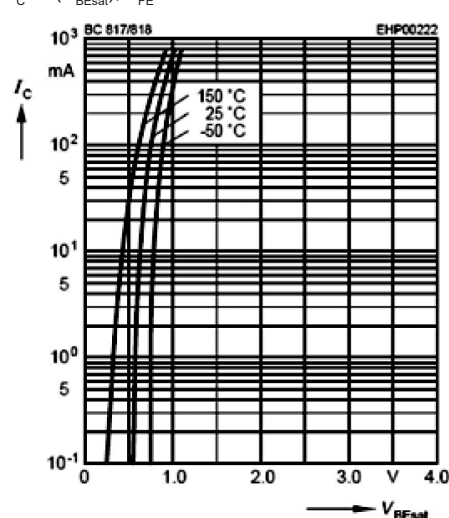
Collector cutoff current  $I_{CBO} = f(T_A)$

$V_{CBO} = 25V$



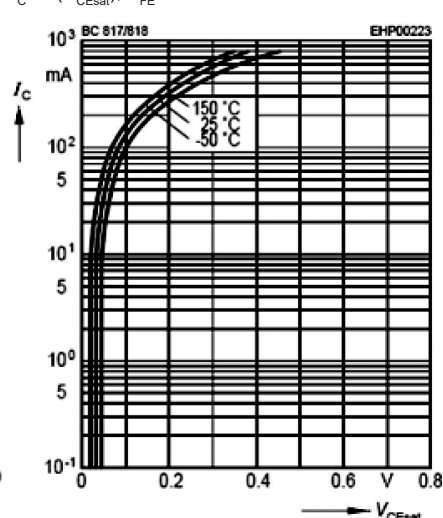
Base-emitter saturation voltage

$I_C = f(V_{BEsat}), h_{FE} = 10$



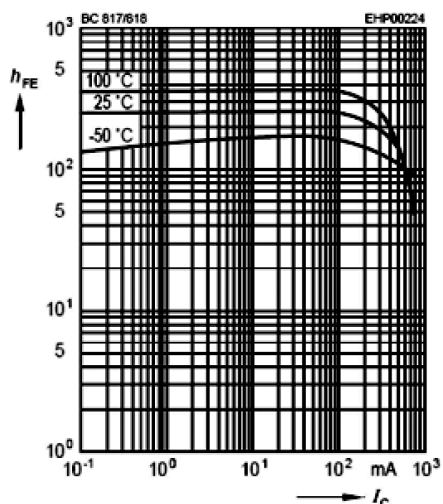
Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$



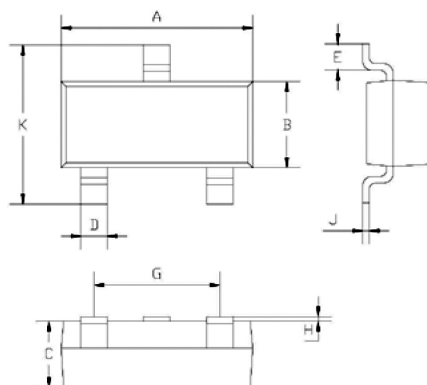
DC current gain  $h_{FE} = f(I_C)$

$V_{CE} = 1V$



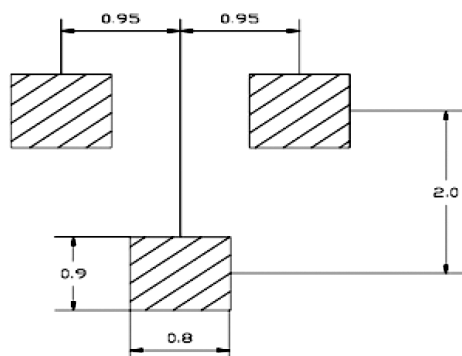
## Package Outline

Plastic surface mounted package



Dimensions	Min.	Max.
A	1.8	2.2
B	1.15	1.35
C	1 Typical	
D	0.15	0.35
E	0.25	0.4
G	1.2	1.4
H	0.02	0.1
J	0.1 Typical	
K	2.1	2.3

## Soldering Footprint



## Device marking – 6B

## Part Number Table

Description	Part Number
Transistor, NPN, 0.5A, 45V, SOT23	BC817
	BC817-16
	BC817-25
	BC817-40

Dimensions : Millimetres

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