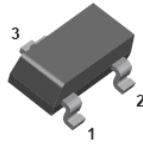
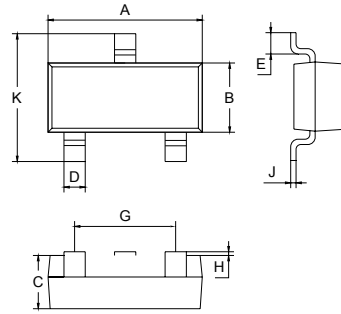


## FEATURES

- For general AF application.
- Complementary PNP type available BC807.
- High collector current, high current gain.
- Low collector-emitter saturation voltage.



1. BASE
2. EMITTER
3. COLLECTOR



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

## ORDERING INFORMATION

Type No.	Marking	Package Code
BC817-16	6A	SOT-23
BC817-25	6B•	SOT-23
BC817-40	6C	SOT-23

## MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	45	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	500	mA
P <sub>C</sub>	Collector Dissipation	300	mW
T <sub>j</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-55 to +150	°C

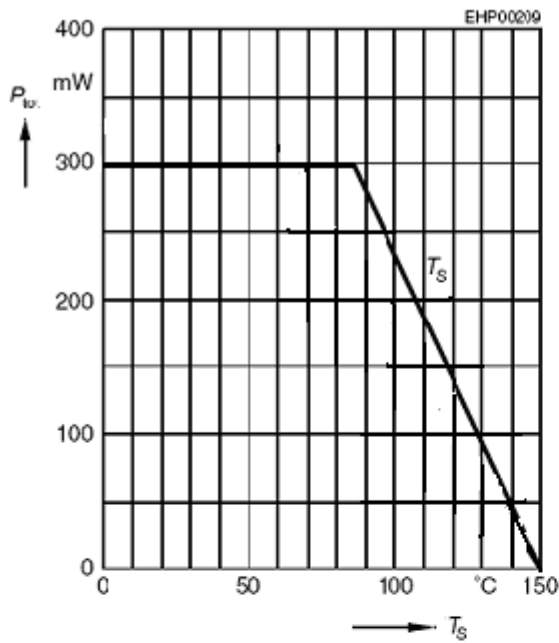
## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA I <sub>E</sub> =0	50			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA I <sub>B</sub> =0	45			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =25V I <sub>E</sub> =0			0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V I <sub>C</sub> =0			0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =1V I <sub>C</sub> =100mA	100 160 250		250 400 600	
		V <sub>CE</sub> =1V I <sub>C</sub> =300mA	60 100 170			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =500mA I <sub>B</sub> =50mA			0.7	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =500mA I <sub>B</sub> =50mA			1.2	V
Collector capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		6		pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =5V I <sub>C</sub> =50mA f=100MHz		170		MHz

## CLASSIFICATION OF H<sub>FE(1)</sub>

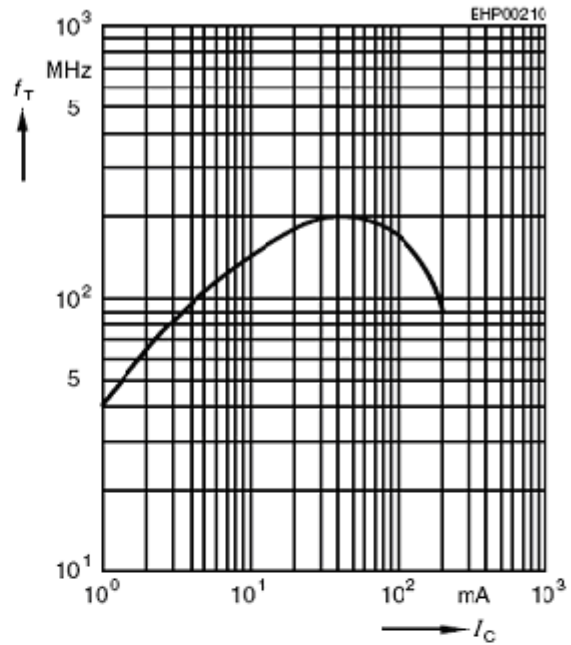
Rank	BC817-16	BC817-25	BC817-40
Range	100-250	160-400	250-600
Marking	6A	6B•	6C

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



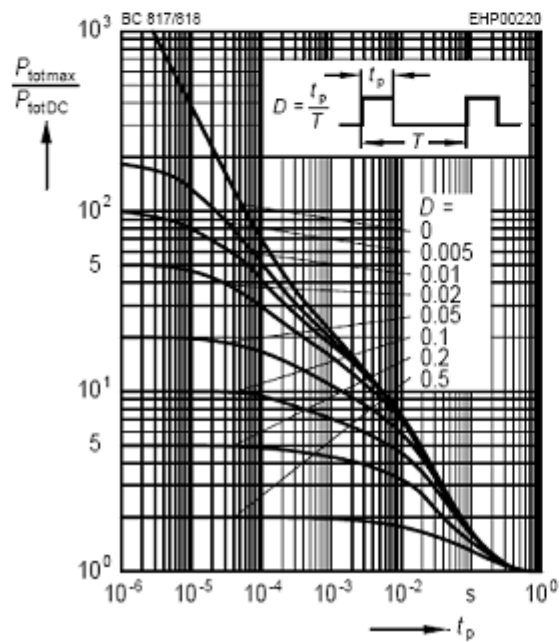
**Transition frequency  $f_T = f(I_C)$**

$V_{CE} = 5V$



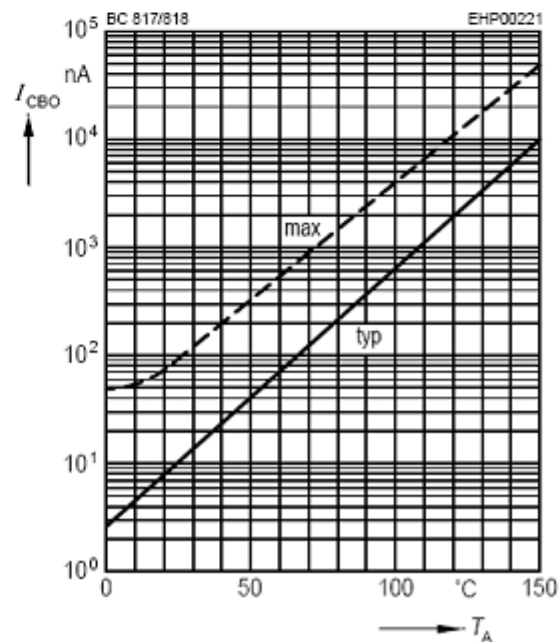
**Permissible pulse load**

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



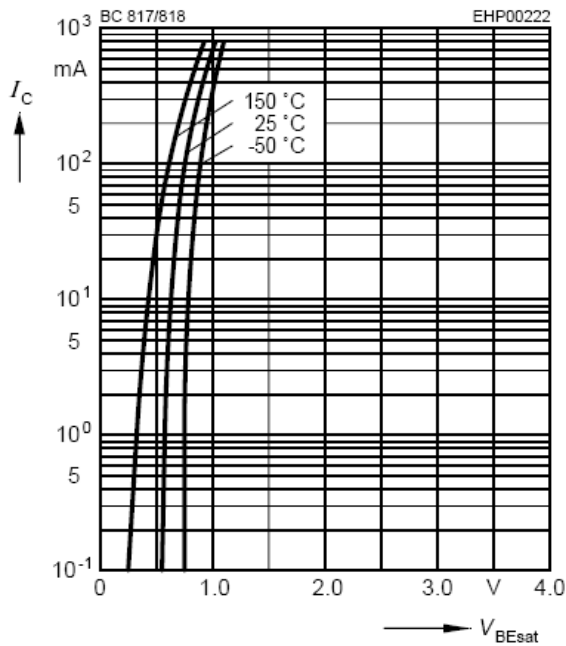
**Collector cutoff current  $I_{CBO} = f(T_A)$**

$V_{CBO} = 25V$



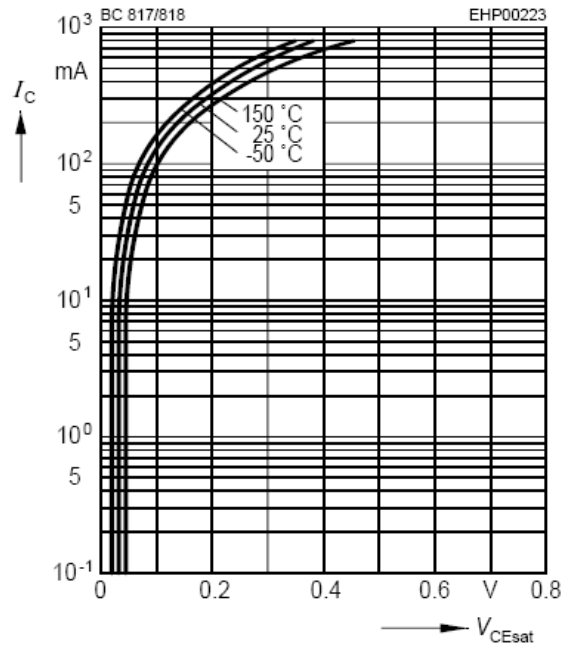
### Base-emitter saturation voltage

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



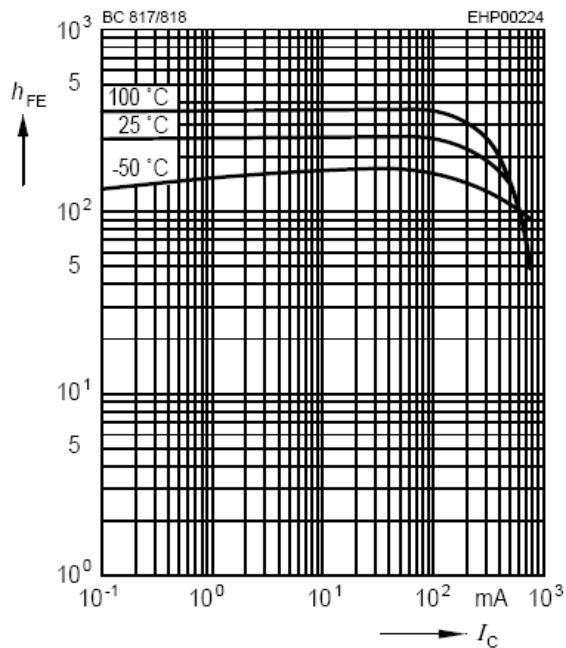
### Collector-emitter saturation voltage

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



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

$$V_{CE} = 1V$$



Device	Package	Shipping
BC817-16/-25/-40	SOT-23	3000/Tape&Reel

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