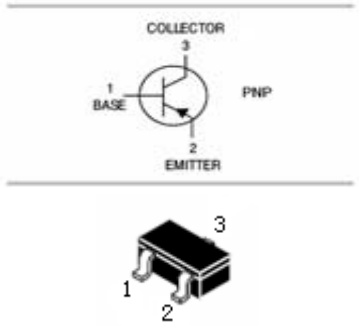
PNP Silicon Epitaxial Planar Transistor

BC807W

FEATURES

- For general AF applications.
- High collector current.
- High current gain.
- Low collector-emitter saturation voltage.
- Complements the BC817W.



SOT-323

APPLICATIONS

- For general purpose amplification and switching.

ORDERING INFORMATION

Type No.	Package Code
BC807-16W/25W/40W	SOT-323

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-500	mA
I_{CM}	Peak Collector Current	-1	A
I_B	Base Current	-0.1	A
I_{BM}	Peak Base Ccurrent	-0.2	A
P_C	Collector Dissipation	250	mW
T_j,T_{stg}	Junction and Storage Temperature	-65 to +150	℃

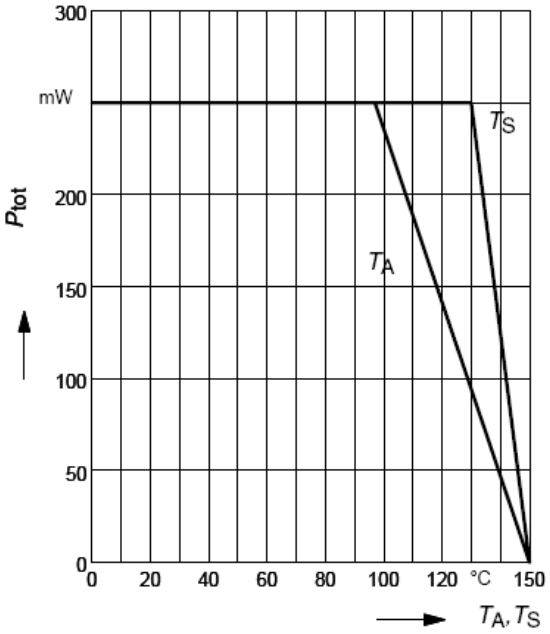
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA,I_E=0	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-20V,I_E=0			-0.1	μA
		V_{CB}=-20V,I_E=0,T_A=150℃			-50	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_B=0			-0.1	μA
DC current gain	h_{FE}	V_{CE}=-1V,I_C=-100mA				
		BC807-16W	100	160	250	
		BC807-25W	160	250	400	
		BC807-40W	250	350	600	
		V_{CE}=-1V,I_C=-300mA				
		BC807-16W	60			
		BC807-25W	100			
		BC807-40W	170			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA			-0.7	V
Base-emitter voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA			-1.2	V
Transition frequency	f_T	V_{CE}=-5V, I_C=-50mA f=100MHz		200		MHz
Collector-base capacitance	C_{cb}	V_{CB}=-10V,f=1MHz		10		pF
Emitter-base capacitance	C_{eb}	V_{EB}=-0.5V,f=1MHz		60		pF

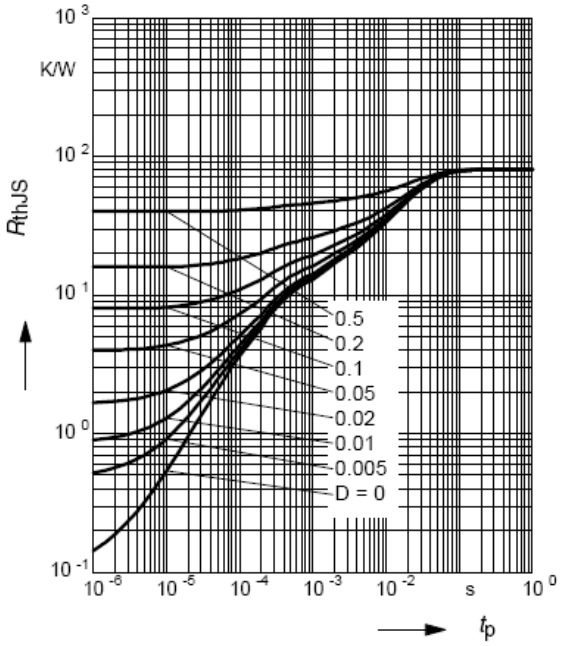
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

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

* Package mounted on epoxy

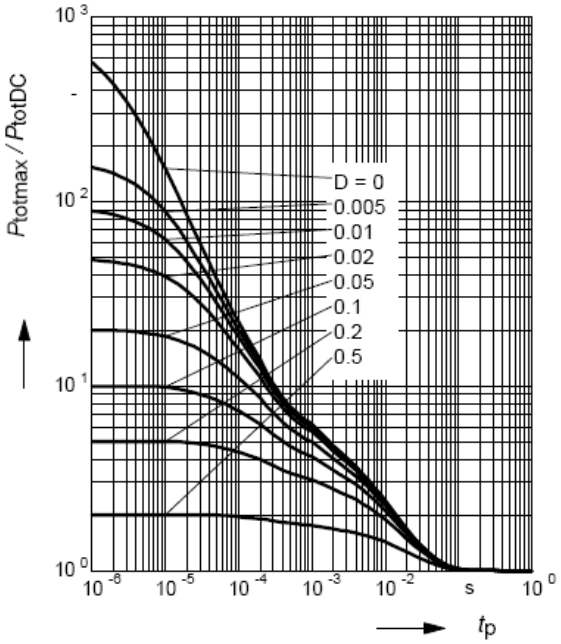


Permissible Pulse Load $R_{thJS} = f(t_p)$



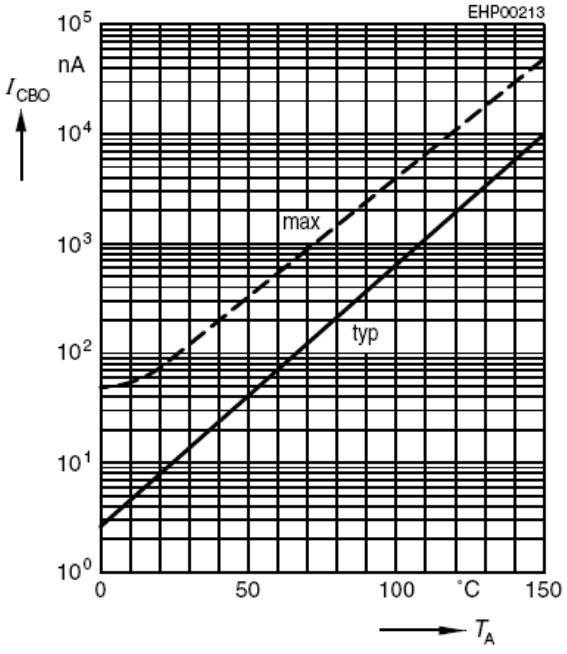
Permissible Pulse Load

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



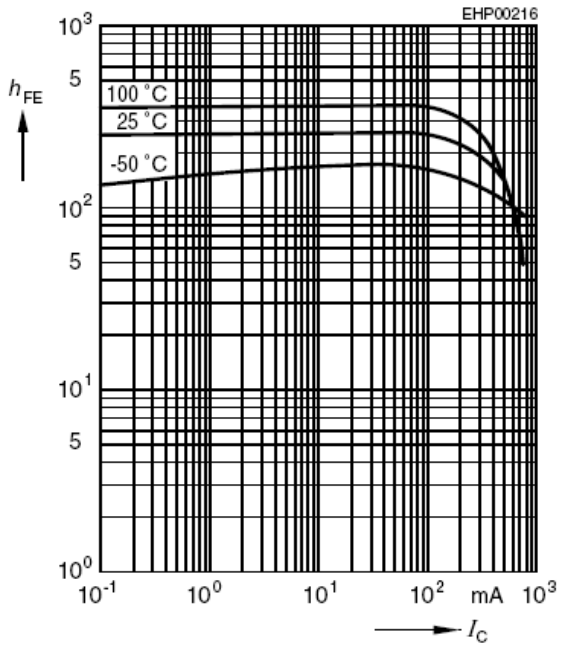
Collector cutoff current $I_{CBO} = f(T_A)$

V_{CB} = 25V



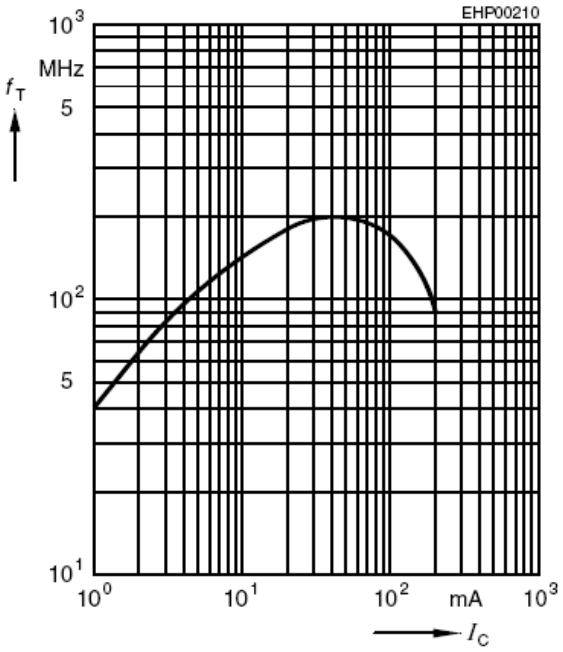
DC current gain $h_{FE} = f(I_C)$

V_{CE} = 1V



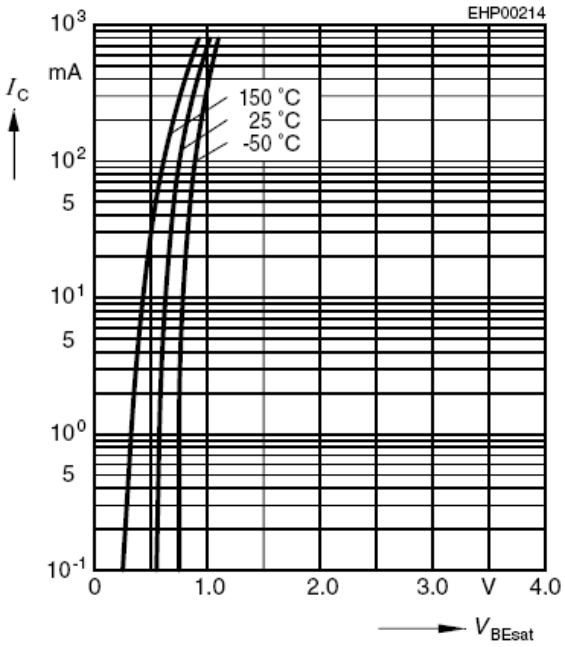
Transition frequency $f_T = f(I_C)$

V_{CE} = 5V



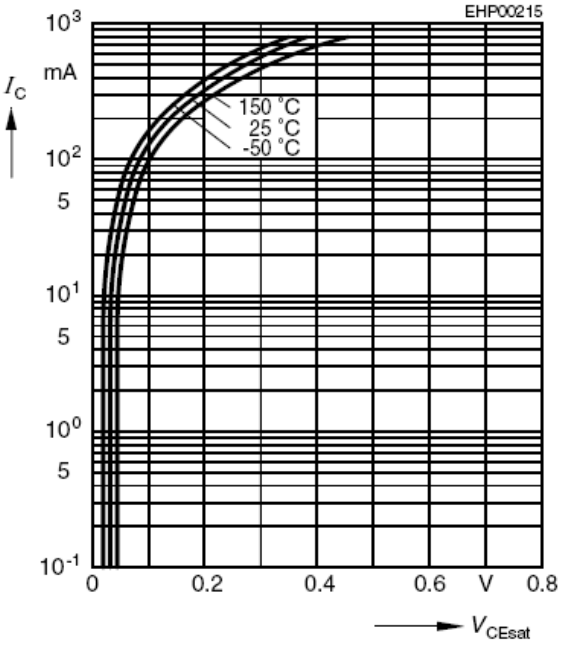
Base-emitter saturation voltage

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



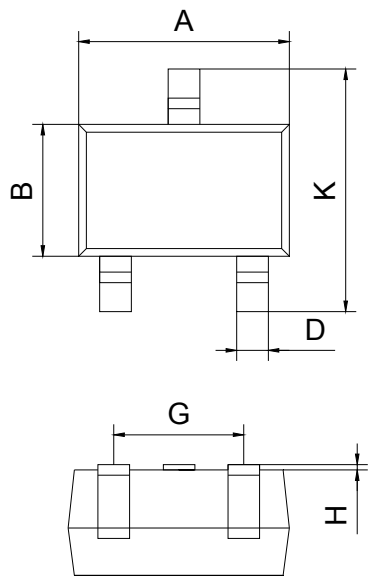
Collector-emitter saturation voltage

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



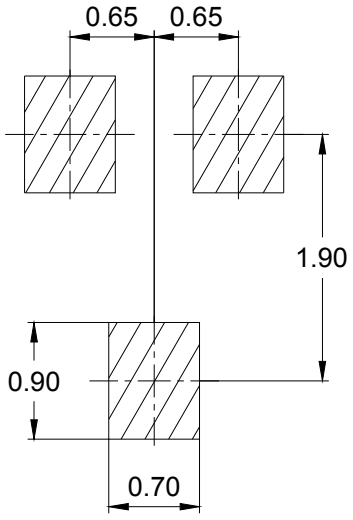
PACKAGE OUTLINE

Plastic surface mounted package SOT-323



SOT-323		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.95 Typical	
D	0.30 Typical	
E	0.25	0.40
G	1.2	1.4
H	0.02	0.10
J	0.10 Typical	
K	2.20	2.40
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BC807W	SOT-323	3000/Tape&Reel