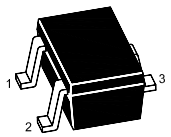
BC807W / BC808W

PNP Silicon Epitaxial Planar Transistors

for general purpose and switching applications

These transistors are subdivided into three groups –16, -25, -40 according to their current gain.



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

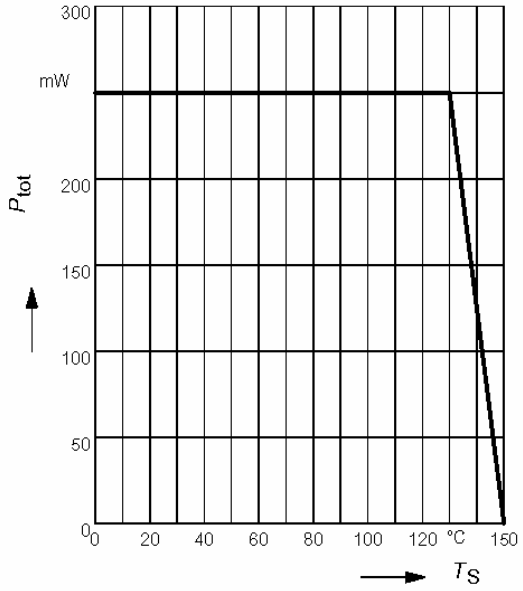
Parameter		Symbol	Value	Unit
Collector Base Voltage	BC807W BC808W	$-V_{CBO}$	50 30	V
Collector Emitter Voltage	BC807W BC808W	$-V_{CEO}$	45 25	V
Emitter Base Voltage		$-V_{EBO}$	5	V
Collector Current		$-I_C$	500	mA
Peak Collector Current		$-I_{CM}$	1	A
Peak Base Current		$-I_{BM}$	200	mA
Power Dissipation		P_{tot}	200	mW
Thermal Resistance , Junction to Ambient		$R_{\theta JA}$	625 [1)]	K/W
Junction Temperature		T_J	150	°C
Storage Temperature Range		T_s	-65 to +150	°C

[1)] Transistor mounted on an FR4 printed-circuit board.

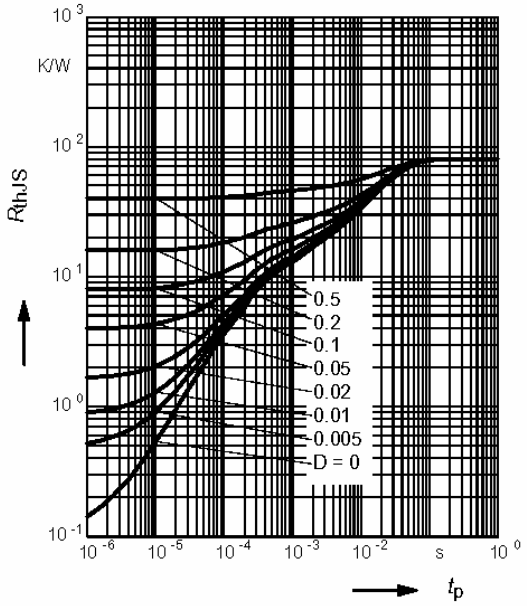
Characteristics at T_{amb} = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at $-V_{CE}$ = 1 V, $-I_C$ = 100 mA					
	-16W	h_{FE}	100	250	-
	-25W	h_{FE}	160	400	-
	-40W	h_{FE}	250	600	-
at $-V_{CE}$ = 1 V, $-I_C$ = 500 mA		h_{FE}	40	-	-
Collector Base Breakdown Voltage					
at $-I_C$ = 10 µA	BC807W	$-V_{(BR)CBO}$	50	-	V
	BC808W		30	-	
Collector Emitter Breakdown Voltage					
at $-I_C$ = 10 mA	BC807W	$-V_{(BR)CEO}$	45	-	V
	BC808W		25	-	
Emitter Base Breakdown Voltage					
at $-I_E$= 10 µA		$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage					
at $-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CEsat}$	-	0.7	V
Base Emitter Voltage					
at $-I_C$ = 500 mA, $-V_{CE}$ = 1 V		$-V_{BE}$	-	1.2	V
Collector Cutoff Current					
at $-V_{CB}$ = 20 V		$-I_{CBO}$	-	100	nA
at $-V_{CB}$ = 20 V, T_J = 150 °C			-	5	µA
Emitter Cutoff Current					
at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	100	nA
Transition Frequency					
at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 100 MHz		f_T	80	-	MHz
Collector Capacitance					
at $-V_{CB}$ = 10 V, f = 1 MHz		C_c	-	10	pF

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

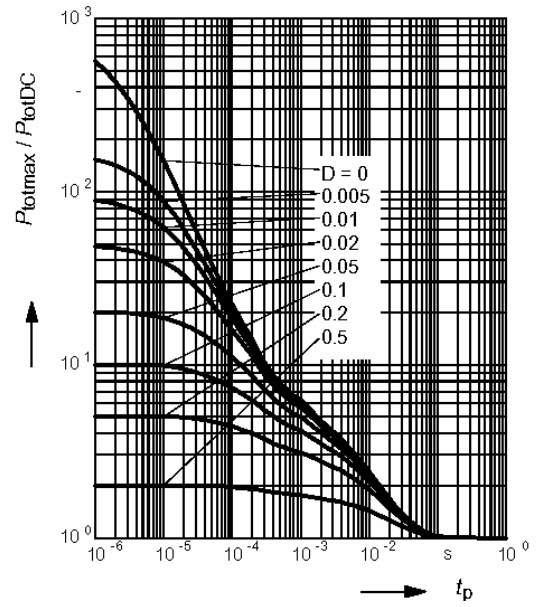


Permissible Pulse Load $R_{thJS} = f(t_p)$



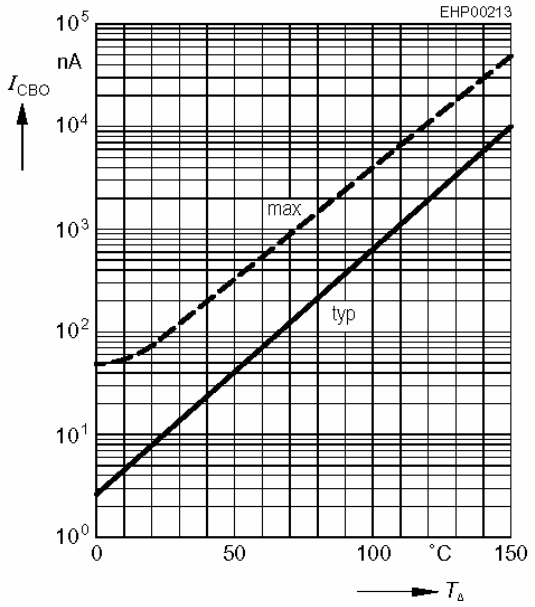
Permissible Pulse Load

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



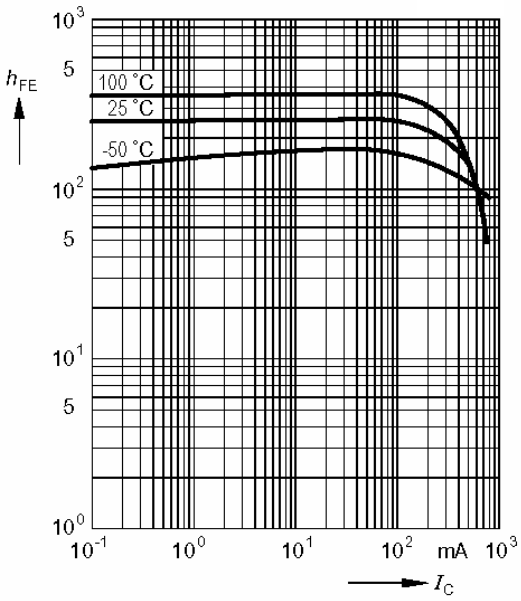
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 25V$



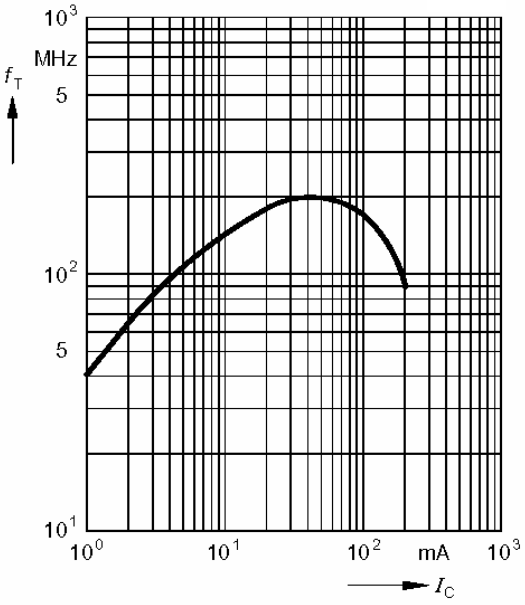
DC current gain $h_{FE} = f(I_C)$

V_{CE} = 1V



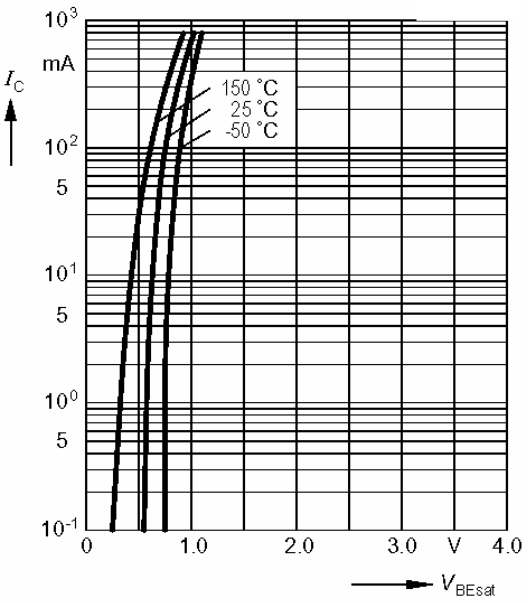
Transition frequency $f_T = f(I_C)$

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