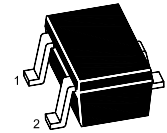


BC807W / BC808W

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 ($T_a = 25^\circ\text{C}$)

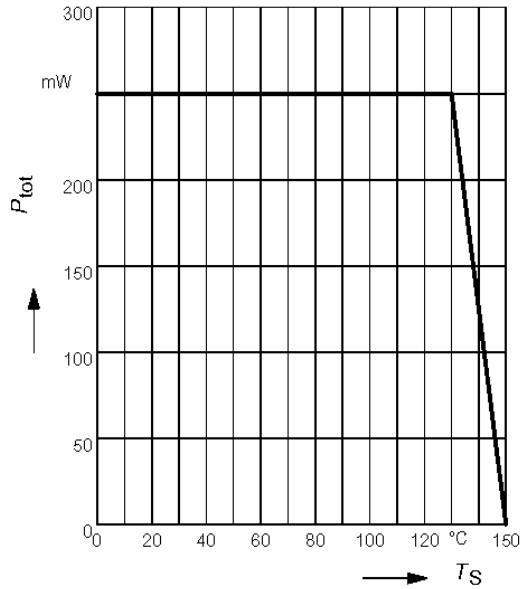
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50 30	V
Collector Emitter Voltage	$-V_{CEO}$	45 25	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	500	mA
Peak Collector Current	$-I_{CM}$	1	A
Peak Base Current	$-I_{BM}$	200	mA
Power Dissipation	P_{tot}	200	mW
Thermal Resistance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

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

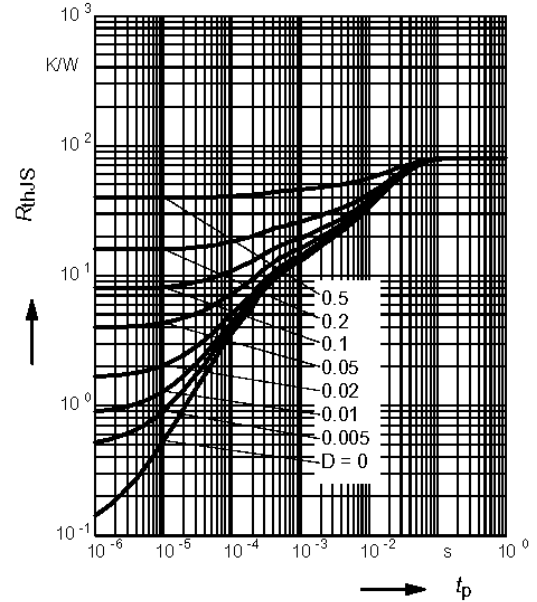
Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

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

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

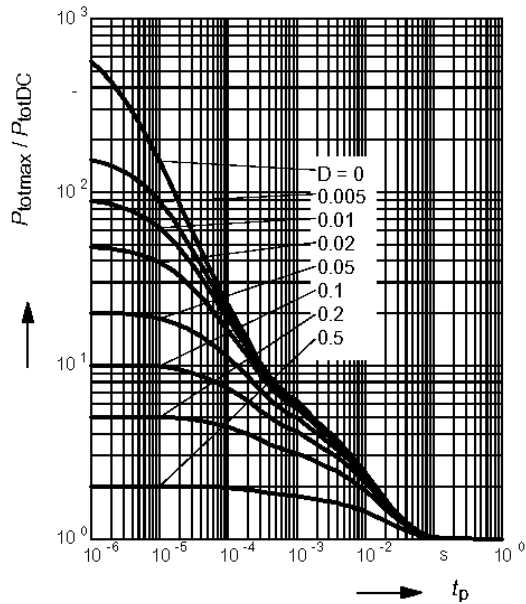


Permissible Pulse Load $R_{thJS} = f(t_p)$



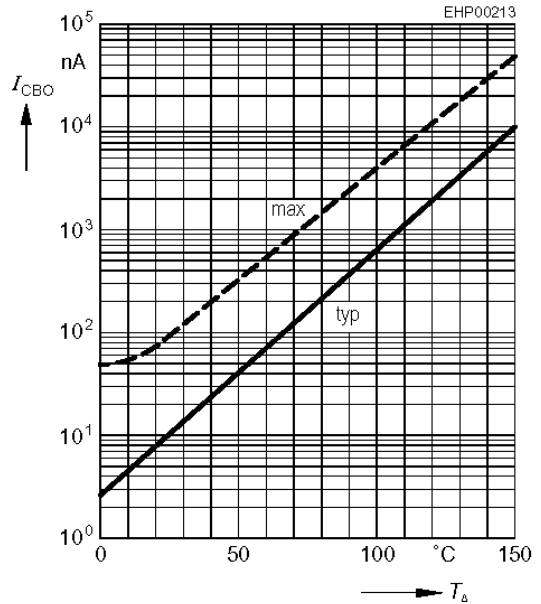
Permissible Pulse Load

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



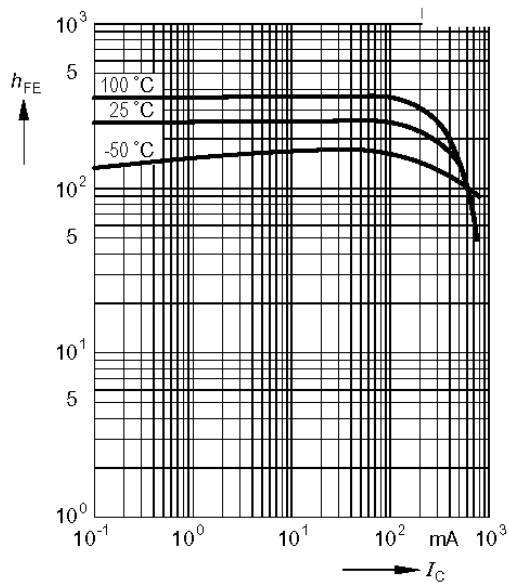
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 25V$



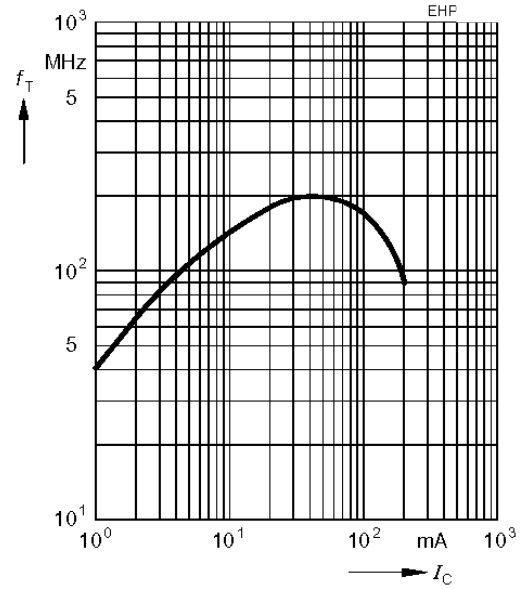
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 1V$



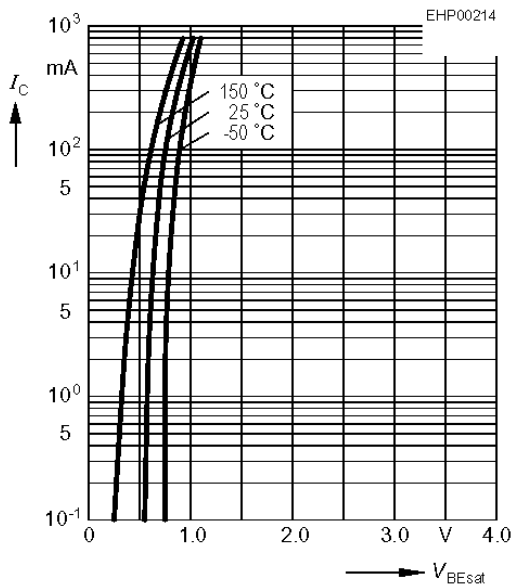
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5V$



Base-emitter saturation voltage

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



Collector-emitter saturation voltage

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

