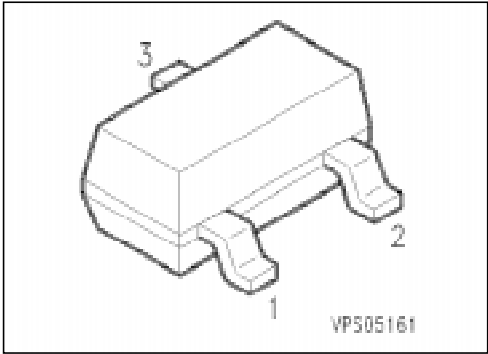


PNP Silicon AF Transistors

BC 807
BC 808

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BC 817, BC 818 (NPN)



Type	Marking	Ordering Code	Pin Configuration			Package ¹⁾
			1	2	3	
BC 807-16	5As	Q62702-C1735	B	E	C	SOT-23
BC 807-25	5Bs	Q62702-C1689				
BC 807-40	5Cs	Q62702-C1721				
BC 808-16	5Es	Q62702-C1736				
BC 808-25	5Fs	Q62702-C1504				
BC 808-40	5Gs	Q62702-C1692				

¹⁾ For detailed information see chapter Package Outlines.

Maximum Ratings

Parameter	Symbol	Values		Unit
		BC 807	BC 808	
Collector-emitter voltage	V_{CE0}	45	25	V
Collector-base voltage	V_{CB0}	50	30	
Emitter-base voltage	V_{EB0}	5	5	
Collector current	I_C	500		mA
Peak collector current	I_{CM}	1		A
Base current	I_B	100		mA
Peak base current	I_{BM}	200		
Total power dissipation, $T_C = 79\text{ }^{\circ}\text{C}$	P_{tot}	330		mW
Junction temperature	T_j	150		$^{\circ}\text{C}$
Storage temperature range	T_{stg}	− 65 ... + 150		

Thermal Resistance

Junction - ambient ¹⁾	$R_{th\ JA}$	≤ 285	K/W
Junction - soldering point	$R_{th\ JS}$	≤ 215	

¹⁾ Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

Electrical Characteristics

at $T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC characteristics

Collector-emitter breakdown voltage $I_C = 10\text{ mA}$	$V_{(BR)CE0}$				V
BC 807		45	—	—	
BC 808		25	—	—	
Collector-base breakdown voltage $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CB0}$				
BC 807		50	—	—	
BC 808		30	—	—	
Emitter-base breakdown voltage, $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EB0}$	5	—	—	
Collector cutoff current $V_{CB} = 25\text{ V}$ $V_{CB} = 25\text{ V}$, $T_A = 150\text{ }^{\circ}\text{C}$	I_{CB0}	—	—	100	nA
		—	—	50	μA
Emitter cutoff current, $V_{EB} = 4\text{ V}$	I_{EB0}	—	—	100	nA
DC current gain ¹⁾ $I_C = 100\text{ mA}$; $V_{CE} = 1\text{ V}$	h_{FE}				—
BC 807-16, BC 808-16		100	160	250	
BC 807-25, BC 808-25		160	250	400	
BC 807-40, BC 808-40		250	350	630	
$I_C = 300\text{ mA}$; $V_{CE} = 1\text{ V}$					
BC 807-16, BC 808-16		60	—	—	
BC 807-25, BC 808-25		100	—	—	
BC 807-40, BC 808-40		170	—	—	
Collector-emitter saturation voltage ¹⁾ $I_C = 500\text{ mA}$; $I_B = 50\text{ mA}$	V_{CEsat}	—	—	0.7	V
Base-emitter saturation voltage ¹⁾ $I_C = 500\text{ mA}$; $I_B = 50\text{ mA}$	V_{BEsat}	—	—	2	

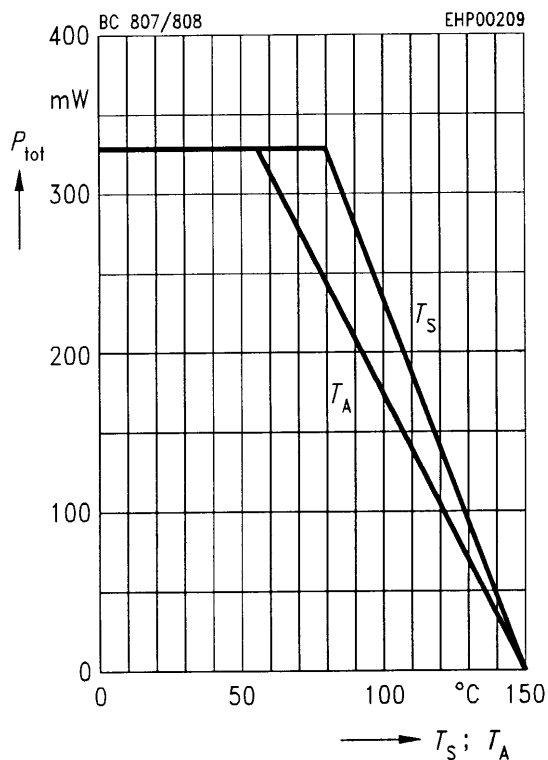
AC characteristics

Transition frequency $I_C = 50\text{ mA}$, $V_{CE} = 5\text{ V}$, $f = 20\text{ MHz}$	f_T	—	200	—	MHz
Output capacitance $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{obo}	—	10	—	pF
Input capacitance $V_{EB} = 0.5\text{ V}$, $f = 1\text{ MHz}$	C_{ibo}	—	60	—	

¹⁾ Pulse test: $t \leq 300\text{ }\mu\text{s}$, $D \leq 2\text{ }\%$.

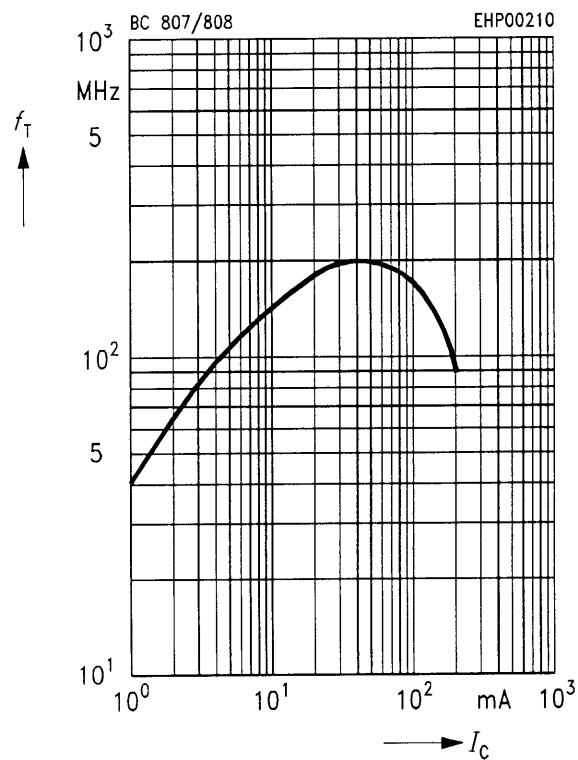
Total power dissipation $P_{\text{tot}} = f(T_A^*; T_S)$

* Package mounted on epoxy

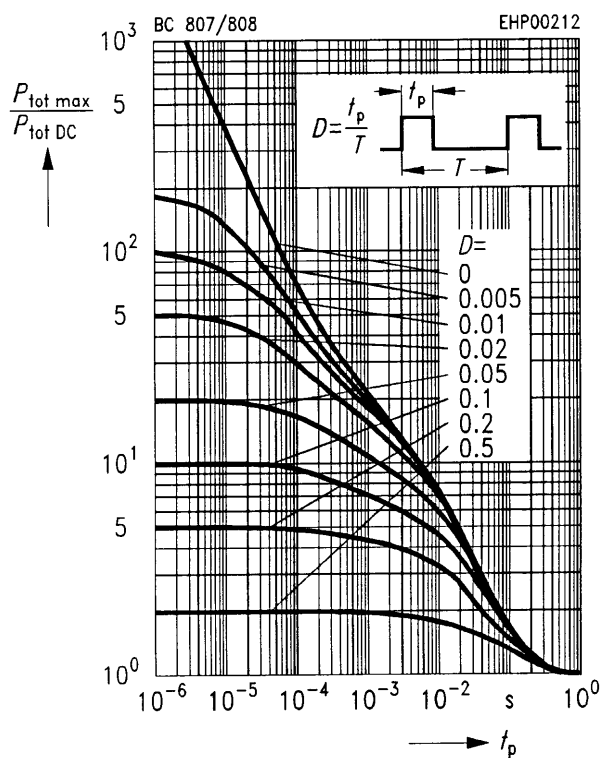


Transition frequency $f_T = f(I_C)$

$V_{CE} = 5 \text{ V}$

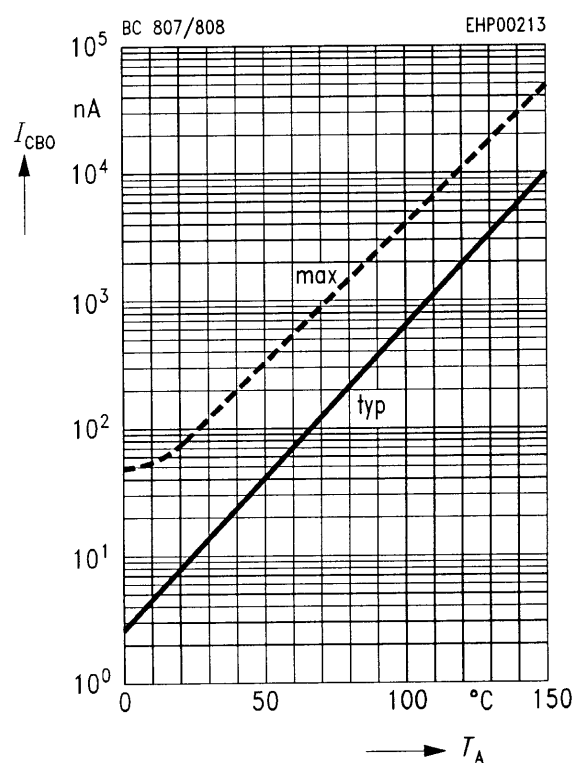


Permissible pulse load $P_{\text{tot max}}/P_{\text{tot DC}} = f(t_p)$



Collector cutoff current $I_{CB0} = f(T_A)$

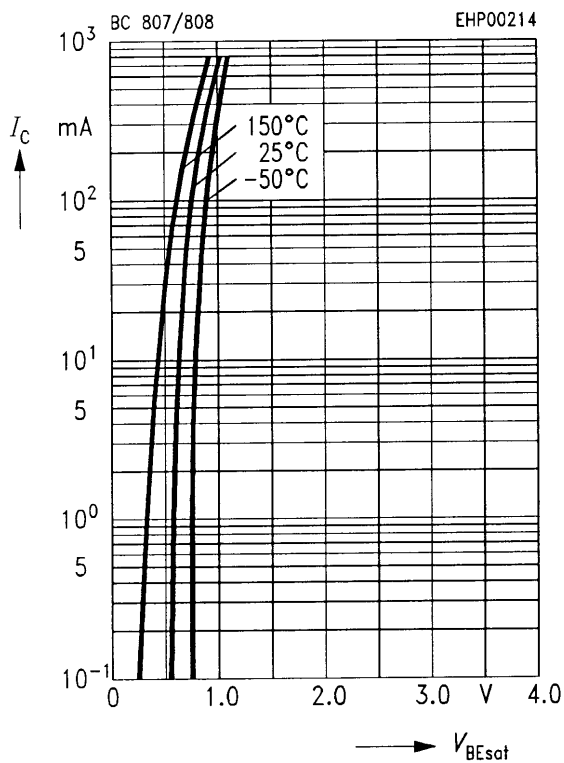
$V_{CB0} = 25 \text{ V}$



Base-emitter saturation voltage

$$I_C = f(V_{BEsat})$$

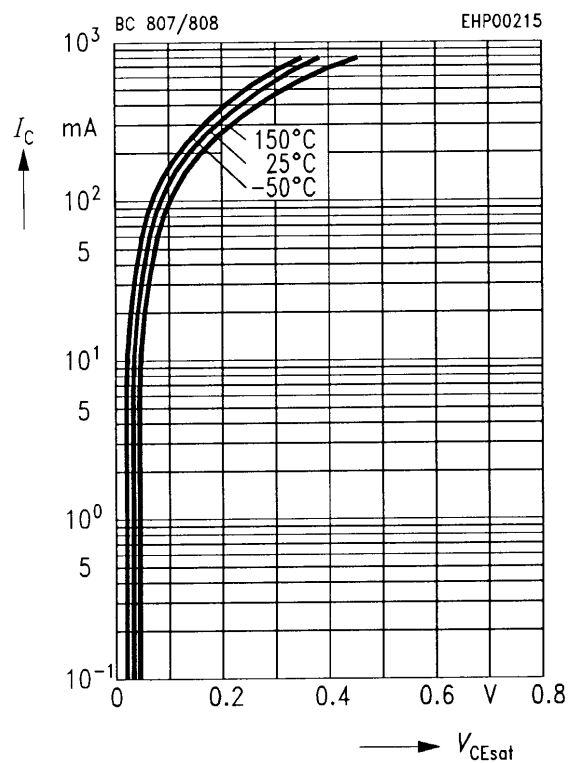
$$h_{FE} = 10$$



Collector-emitter saturation voltage

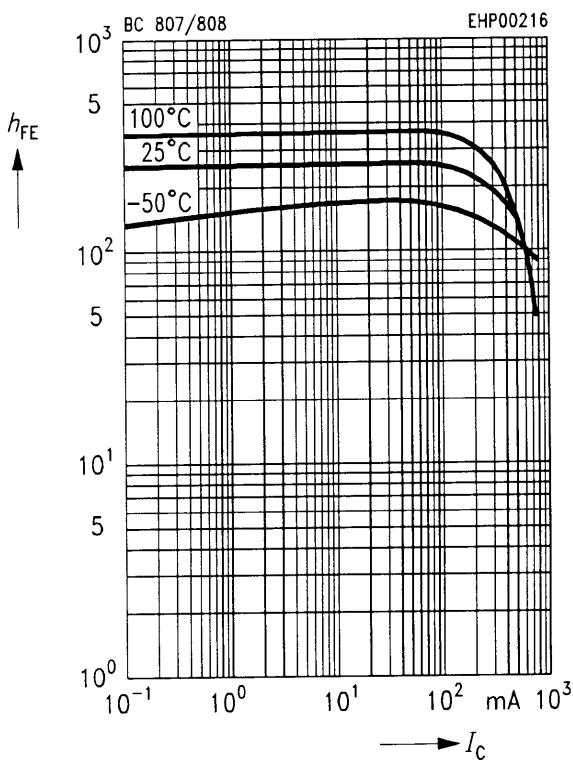
$$I_C = f(V_{CEsat})$$

$$h_{FE} = 10$$



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

$$V_{CE} = 1 \text{ V}$$



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