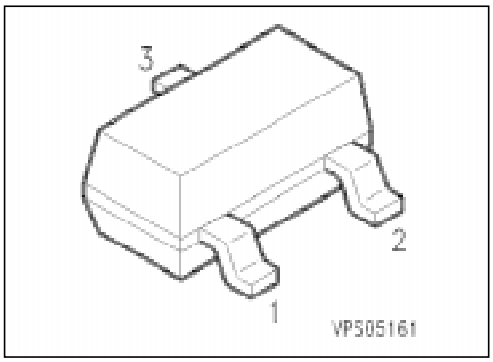
SIEMENS

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 1	2	3	Package[1)]
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 °C	P_{tot}	330		mW
Junction temperature	T_j	150		°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.

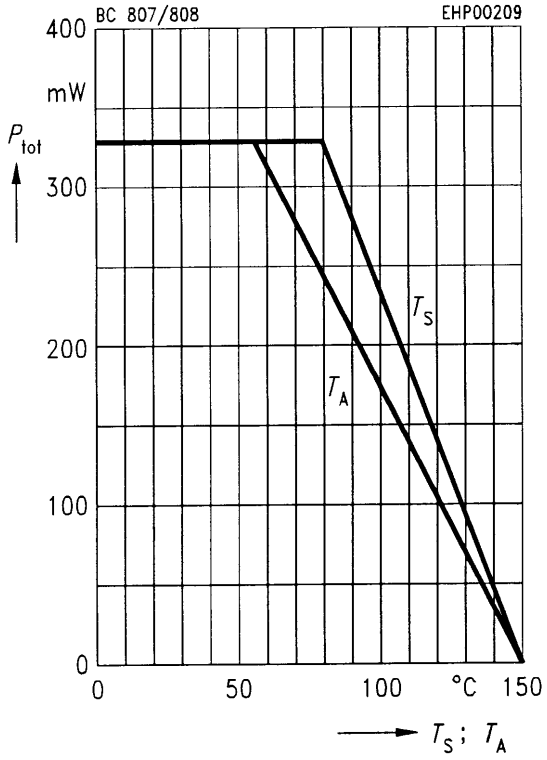
Electrical Characteristics

at T_A = 25 °C, unless otherwise specified.

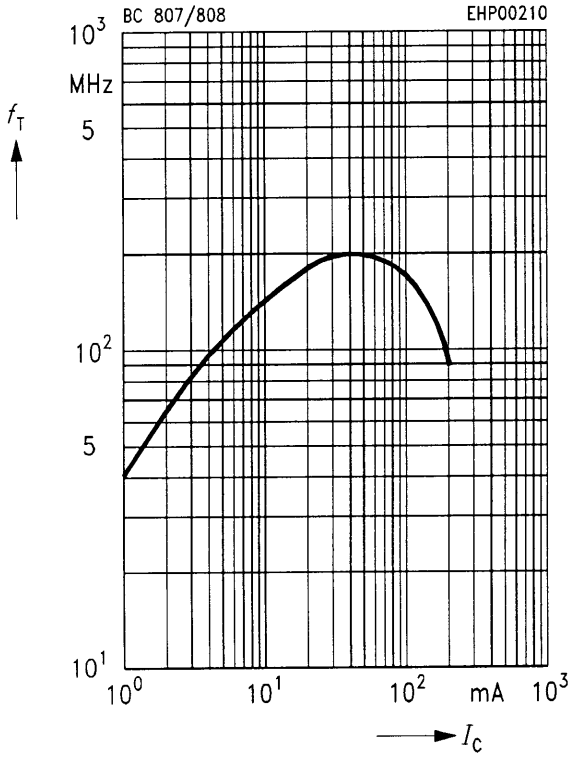
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Collector-emitter breakdown voltage I_C = 10 mA	$V_{(BR)CE0}$				V
BC 807		45	–	–	
BC 808		25	–	–	
Collector-base breakdown voltage I_C = 100 µA	$V_{(BR)CB0}$				
BC 807		50	–	–	
BC 808		30	–	–	
Emitter-base breakdown voltage, I_E = 10 µA	$V_{(BR)EB0}$	5	–	–	
Collector cutoff current	I_{CB0}				
V_{CB} = 25 V		–	–	100	nA
V_{CB} = 25 V, T_A = 150 °C		–	–	50	µA
Emitter cutoff current, V_{EB} = 4 V	I_{EB0}	–	–	100	nA
DC current gain[1)] I_C = 100 mA; V_{CE} = 1 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 mA; V_{CE} = 1 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 mA; I_B = 50 mA	V_{CEsat}	–	–	0.7	V
Base-emitter saturation voltage[1)] I_C = 500 mA; I_B = 50 mA	V_{BEsat}	–	–	2	
AC characteristics					
Transition frequency I_C = 50 mA, V_{CE} = 5 V, f = 20 MHz	f_T	–	200	–	MHz
Output capacitance V_{CB} = 10 V, f = 1 MHz	C_{obo}	–	10	–	pF
Input capacitance V_{EB} = 0.5 V, f = 1 MHz	C_{ibo}	–	60	–	

[1)] Pulse test: $t \leq 300$ µs, $D \leq 2$ %.

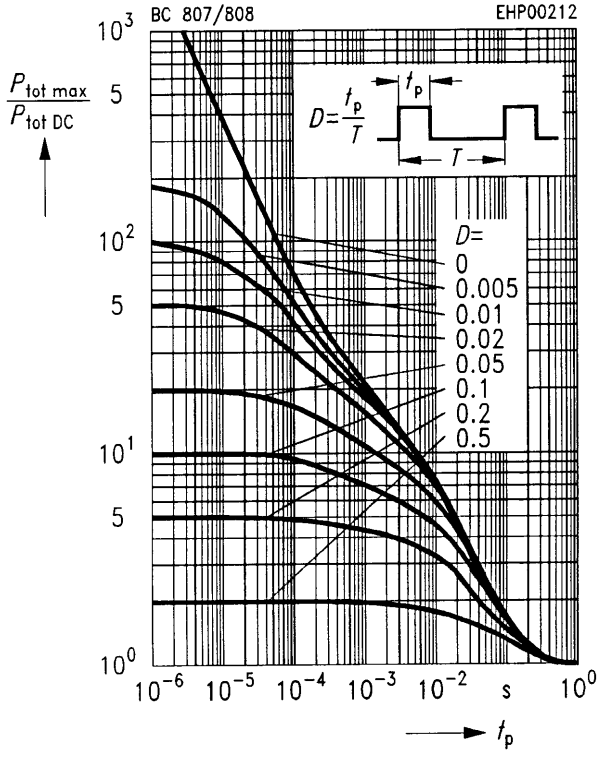
Total power dissipation $P_{tot} = f(T_A^*; T_S)$
* Package mounted on epoxy



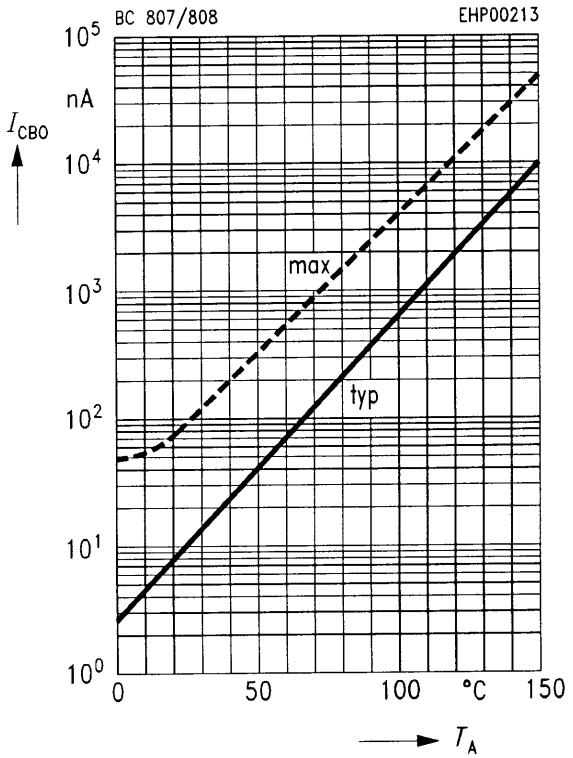
Transition frequency $f_T = f(I_C)$
V_{CE} = 5 V



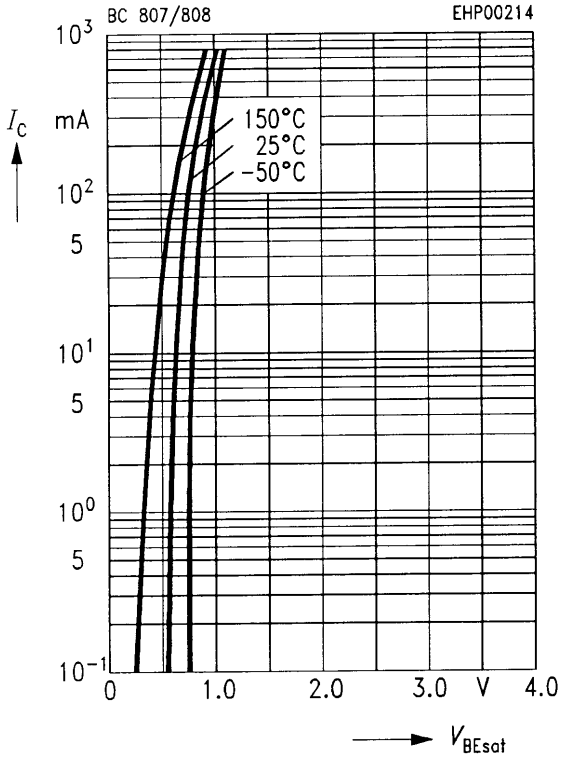
Permissible pulse load $P_{tot\,max}/P_{tot\,DC} = f(t_p)$



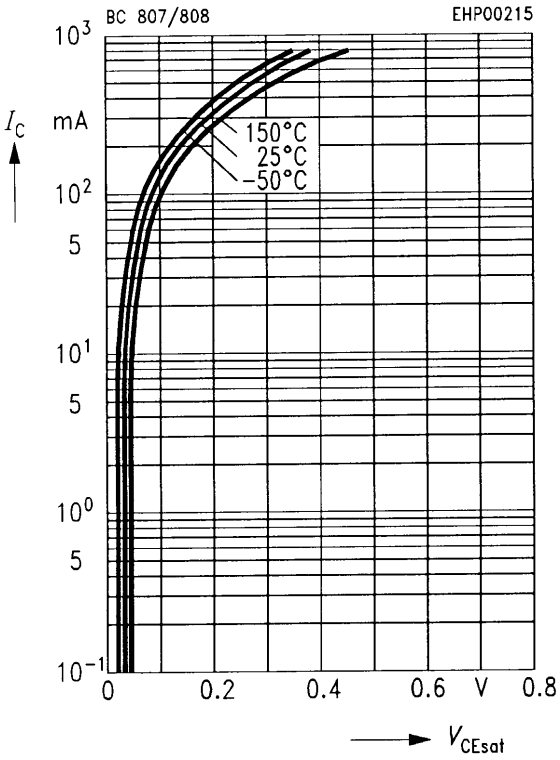
Collector cutoff current $I_{CB0} = f(T_A)$
V_{CB0} = 25 V



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 V

