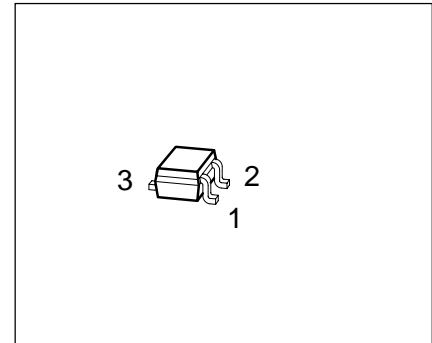


## PNP Silicon AF Transistor

**BC 807W**  
**BC 808W**

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BC 817W, BC 808W (NPN)



Type	Marking	Ordering Code (tape and reel)	Pin Configuration			Package
			1	2	3	
BC 807-16W	5As	Q62702-C2325	B	E	C	SOT-323
BC 807-25W	5Bs	Q62702-C2326				
BC 807-40W	5Cs	Q62702-C2327				
BC 808-16W	5Es	Q62702-C2328				
BC 808-25W	5Fs	Q62702-C2329				
BC 808-40W	5Gs	Q62702-C2330				

### Maximum Ratings

Parameter	Symbol	Values		Unit
		BC 807W	BC 808W	
Collector-emitter voltage	$V_{CEO}$	45	25	V
Collector-base voltage	$V_{CBO}$	50	30	
Emitter-base voltage	$V_{EBO}$	5		
Collector current	$I_C$	500		mA
Collector peak current	$I_{CM}$	1		A
Base current	$I_B$	100		mA
Total power dissipation, $T_S = 130\text{ °C}$	$P_{tot}$	250		mW
Junction temperature	$T_j$	150		°C
Storage temperature range	$T_{stg}$	- 65 ... + 150		

### Thermal Resistance

Junction - ambient <sup>1)</sup>	$R_{thJA}$	≤ 215	K/W
Junction - soldering point	$R_{thJS}$	≤ 80	

<sup>1)</sup> Package mounted on epoxy pcb 40 mm x 40 mm x 1.5 mm /0.5 cm<sup>2</sup> Cu

## Electrical Characteristics

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

### DC Characteristics

Collector-emitter breakdown voltage $I_C = 10\text{ mA}$ BC 807W BC 808W	$V_{(BR)CEO}$	45 25	– –	– –	V
Collector-base breakdown voltage $I_C = 10\text{ }\mu\text{A}$ BC 807W BC 808W	$V_{(BR)CBO}$	50 30	– –	– –	
Emitter-base breakdown voltage $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	–	–	
Collector-base cutoff current $V_{CB} = 25\text{ V}$ $V_{CB} = 25\text{ V}, T_A = 150\text{ °C}$	$I_{CBO}$	– –	– –	100 5	nA $\mu\text{A}$
Emitter cutoff current $V_{EB} = 4\text{ V}$	$I_{EBO}$	–	–	100	nA
DC current gain $I_C = 100\text{ mA}, V_{CE} = 1\text{ V}$ BC 807-16W...BC 808-16W BC 807-25W...BC 808-25W BC 807-40W...BC 808-40W $I_C = 300\text{ mA}, V_{CE} = 1\text{ V}$ BC 807-16W...BC 808-16W BC 807-25W...BC 808-25W BC 807-40W...BC 808-40W	$h_{FE}$	100 160 250 60 100 170	160 250 350 – – –	250 400 630 – – –	–
Collector-emitter saturation voltage <sup>1)</sup> $I_C = 500\text{ mA}, I_B = 50\text{ mA}$	$V_{CEsat}$	–	–	0.7	V
Base-emitter saturation voltage <sup>1)</sup> $I_C = 500\text{ mA}, I_B = 50\text{ mA}$	$V_{BEsat}$	–	–	1.2	

### AC Characteristics

Transition frequency $I_C = 50\text{ mA}, V_{CE} = 5\text{ V}, f = 100\text{ MHz}$	$f$	–	200	–	MHz
Output capacitance $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	$C_{cb}$	–	10	–	pF
Input capacitance $V_{EB} = 0.5\text{ V}, f = 1\text{ MHz}$	$C_{eb}$	–	60	–	

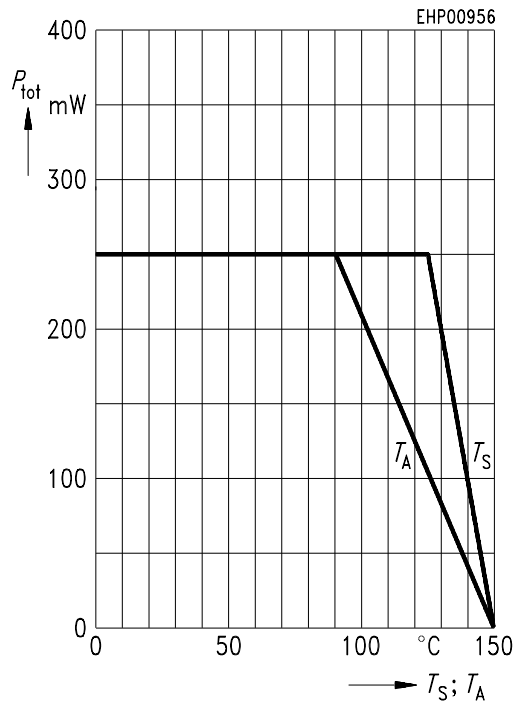
<sup>1)</sup> Pulse test:  $t \leq 300\text{ }\mu\text{s}$ ,  $D \leq 2\%$

## Characteristics

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

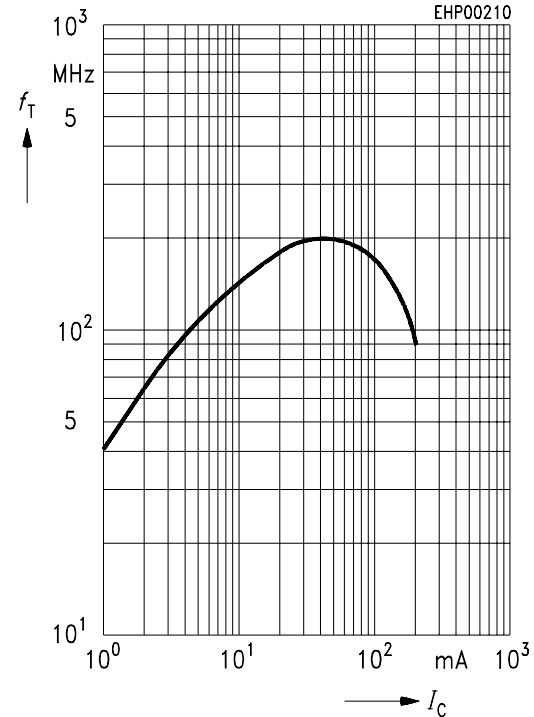
**Total power dissipation**  $P_{\text{tot}} = f(T_A^*; T_S)$

\* Package mounted on epoxy



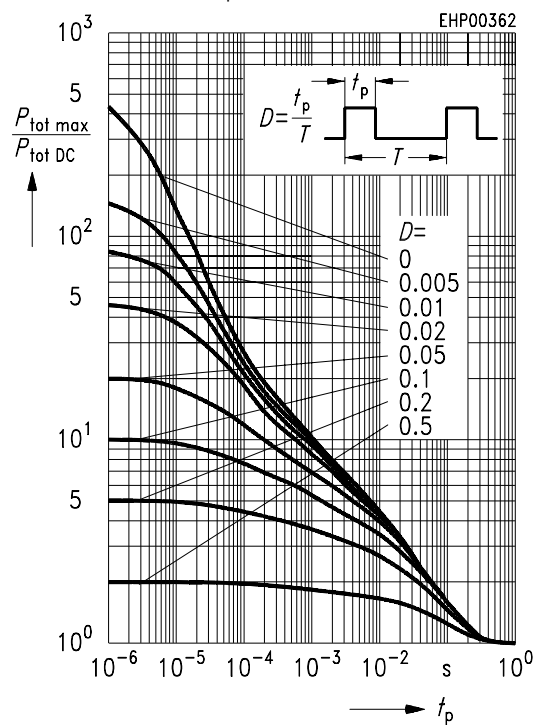
**Transition frequency**  $f_T = f(I_C)$

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



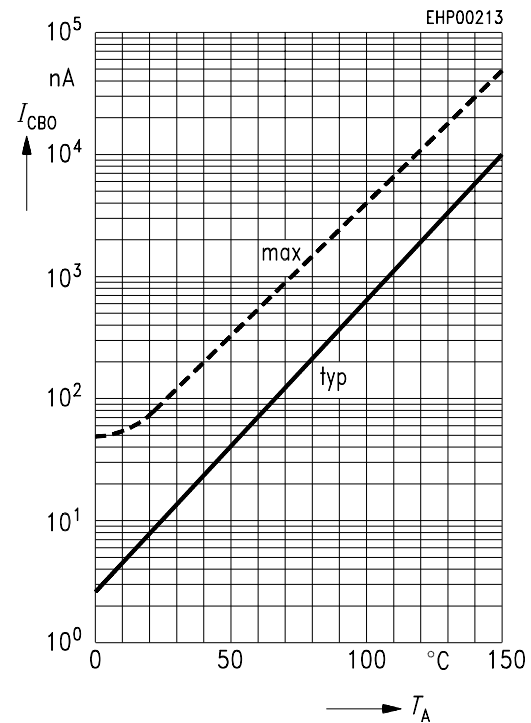
## Permissible pulse load

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



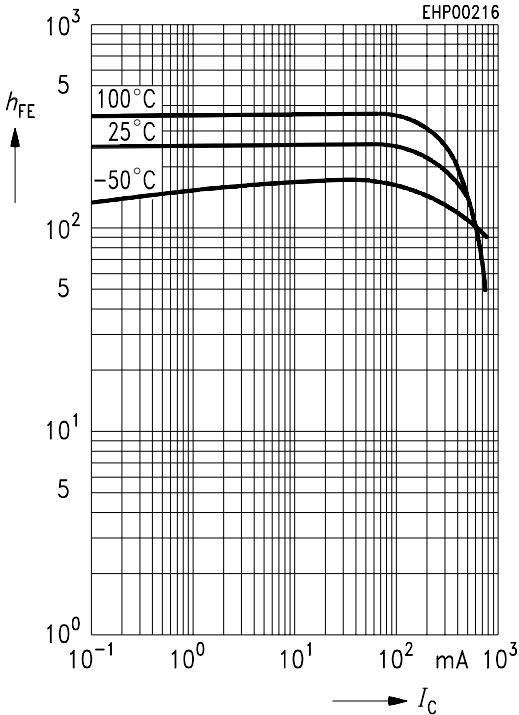
**Collector cutoff current**  $I_{\text{CBO}} = f(T_A)$

$V_{\text{CBO}} = 60\text{ V}$



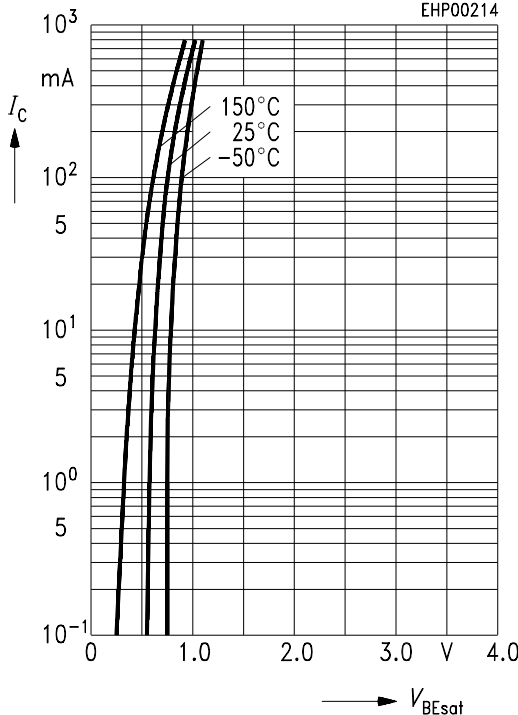
**DC current gain  $h_{FE} = f(I_C)$**

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



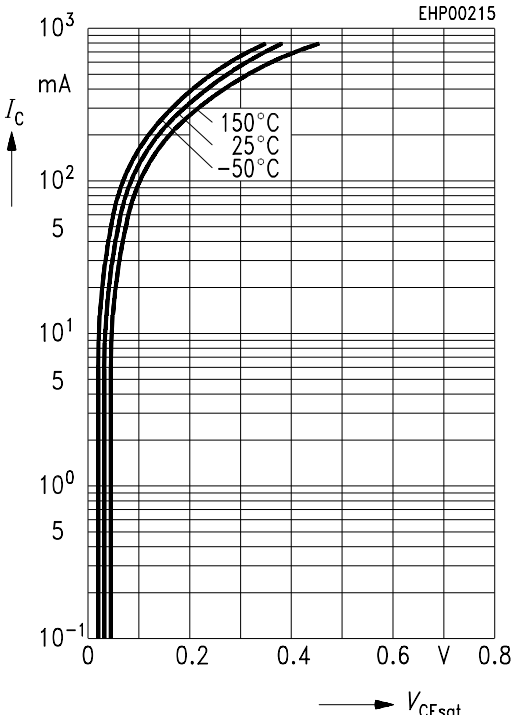
**Base-emitter saturation voltage**

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



**Collector-emitter saturation voltage**

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



Package Outline

