# SIEMENS

PNP Silicon AF Transistors

BC 327
BC 328

● High current gain
● High collector current
● Low collector-emitter saturation voltage
● Complementary types: BC 337, BC 338 (NPN)

Type	Marking	Ordering Code	Pin Configuration			Package[1]
			1	**2**	**3**	
BC 327	–	Q62702-C311	C	B	E	TO-92
BC 327-16		Q62702-C311-V3				
BC 327-25		Q62702-C311-V4				
BC 327-40		Q62702-C311-V2				
BC 328		Q62702-C312				
BC 328-16		Q62702-C312-V3				
BC 328-25		Q62702-C312-V4				
BC 328-40		Q62702-C312-V2				

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[1] For detailed information see chapter Package Outlines.

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Maximum Ratings

Parameter	Symbol	Values BC 327	BC 328	Unit
Collector-emitter voltage	V_{CE0}	45	25	V
Collector-base voltage	V_{CB0}	50	30	
Emitter-base voltage	V_{EB0}	5		
Collector current	I_C	800		mA
Peak collector current	I_{CM}	1		A
Base current	I_B	100		mA
Peak base current	I_{BM}	200		
Total power dissipation, $T_C = 66\ ^\circ C$	P_{tot}	625		mW
Junction temperature	T_j	150		$^\circ C$
Storage temperature range	T_{stg}	− 65 … + 150		

Thermal Resistance

Junction - ambient	$R_{th\ JA}$	≤ 200	K/W
Junction - case[1]	$R_{th\ JC}$	≤ 135	

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[1] Mounted on Al heat sink 15 mm $\times$ 25 mm $\times$ 0.5 mm.

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Electrical Characteristics

at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Collector-emitter breakdown voltage I_C = 10 mA	$V_{(BR)CE0}$				V
BC 327		45	–	–	
BC 328		25	–	–	
Collector-base breakdown voltage I_C = 100 μA	$V_{(BR)CB0}$				
BC 327		50	–	–	
BC 328		30	–	–	
Emitter-base breakdown voltage I_E = 10 μA	$V_{(BR)EB0}$	5	–	–	
Collector cutoff current	I_{CB0}				
V_{CB} = 25 V BC 328		–	–	100	nA
V_{CB} = 45 V BC 327		–	–	100	nA
V_{CB} = 25 V, T_A = 150 °C BC 328		–	–	10	μA
V_{CB} = 45 V, T_A = 150 °C BC 327		–	–	10	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 327/16; BC 328/16		100	160	250	
BC 327/25; BC 328/25		160	250	400	
BC 327/40; BC 328/40		250	350	630	
I_C = 300 mA; V_{CE} = 1 V					
BC 327/16; BC 328/16		60	–	–	
BC 327/25; BC 328/25		100	–	–	
BC 327/40; BC 328/40		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	

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[1] Pulse test: $t \le$ 300 μs, $D \le$ 2 %.
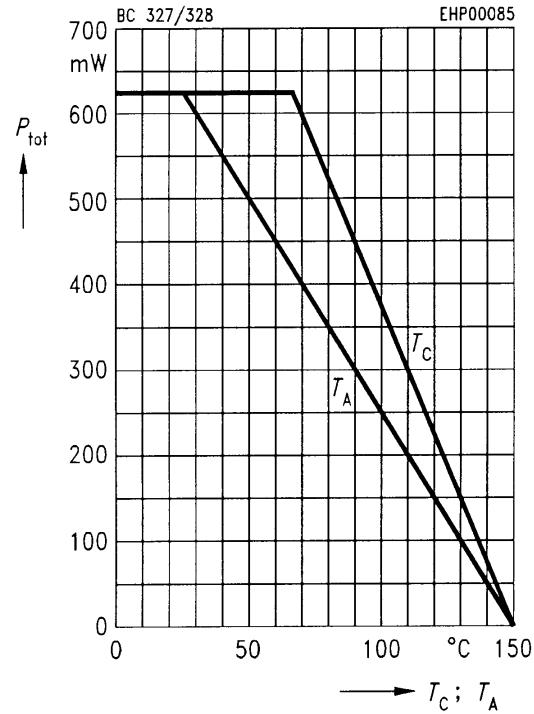
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Electrical Characteristics

at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

AC characteristics
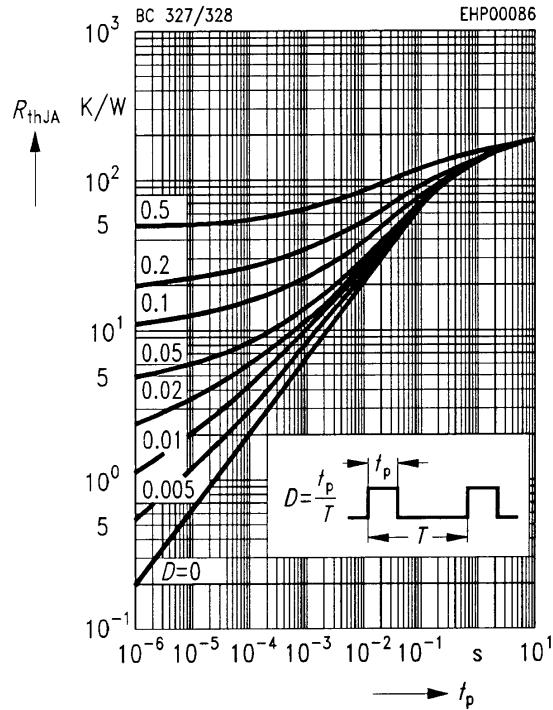
Parameter	Symbol	Values			Unit
Transition frequency I_C = 50 mA, V_{CE} = 5 V, f = 20 MHz	f_T	–	200	–	MHz
Output capacitance V_{CB} = 10 V, f = 1 MHz	C_{obo}	–	12	–	pF
Input capacitance V_{EB} = 0.5 V, f = 1 MHz	C_{ibo}	–	60	–	

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Total power dissipation $P_\text{tot} = f\,(T_\text{A};\,T_\text{C})$
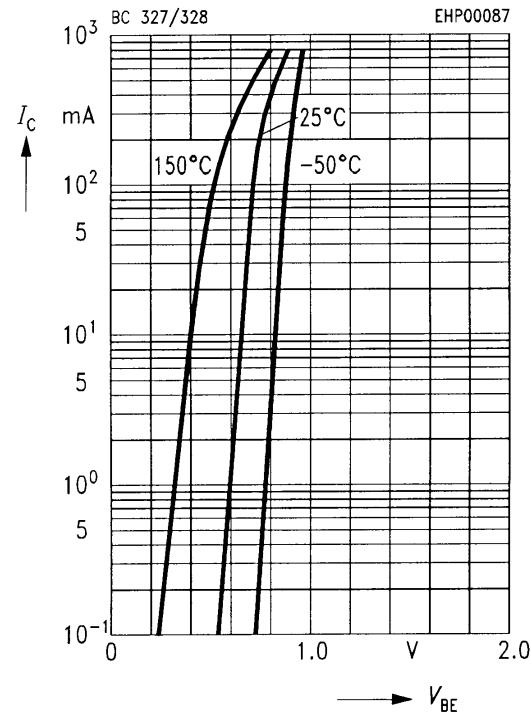
Permissible pulse load $R_\text{thJA} = f\,(t_\text{p})$
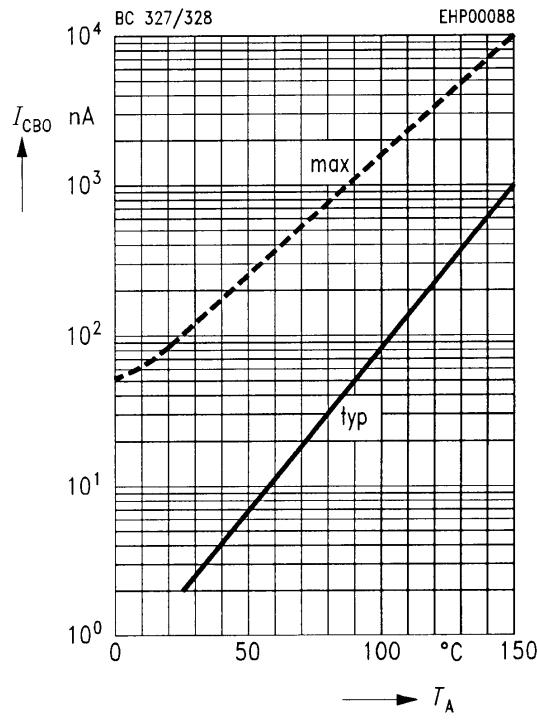
Collector current $I_\text{C} = f\,(V_\text{BE})$
$V_\text{CE} = 1$ V

Collector cutoff current $I_\text{CB0} = f\,(T_\text{A})$
$V_\text{CB} = 45$ V

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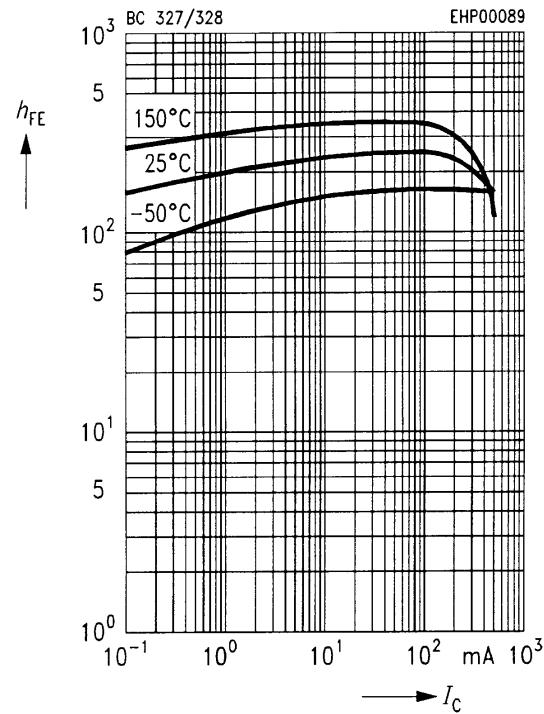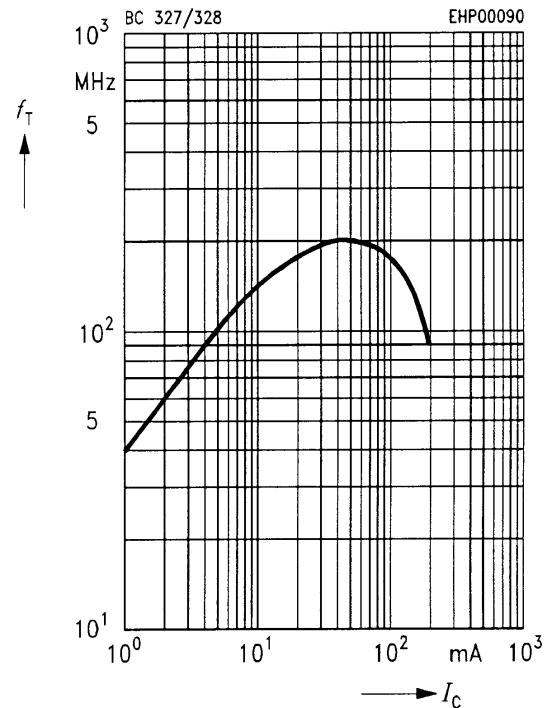
DC current gain $h_{FE} = f(I_C)$
$V_{CE} = 1$ V

Transition frequency $f_T = f(I_C)$
$f = 20$ MHz, $T_A = 25$ °C
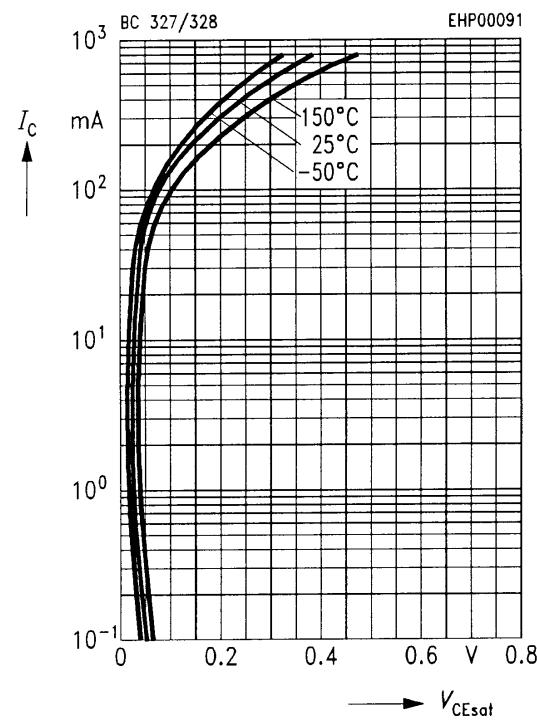
Collector-emitter saturation voltage
$V_{CEsat} = f(I_C)$
$h_{FE} = 10$

Base-emitter saturation voltage
$V_{BEsat} = f(I_C)$
$h_{FE} = 10$

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