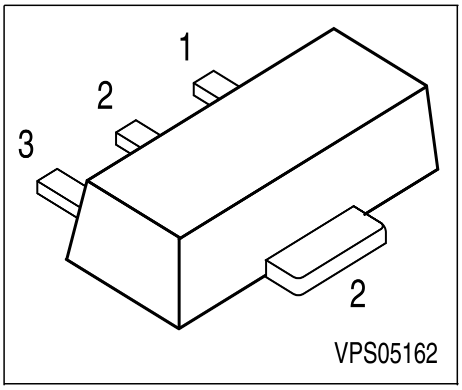
PNP Silicon High-Voltage Transistors



- Suitable for video output stages in TV sets and switching power supplies
- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary types: BFN 16, BFN 18 (NPN)

Type	**Marking**	**Pin Configuration**			**Package**
BFN 17	DG	1 = B	2 = C	3 = E	SOT-89
BFN 19	DH	1 = B	2 = C	3 = E	SOT-89

Maximum Ratings

Parameter	**Symbol**	BFN 17	**BFN 19**	**Unit**
Collector-emitter voltage	V_{CEO}	250	300	V
Collector-base voltage	V_{CBO}	250	300	
Emitter-base voltage	V_{EBO}	5	5	
DC collector current	I_C	200		mA
Peak collector current	I_{CM}	500		
Base current	I_B	100		
Peak base current	I_{BM}	200		
Total power dissipation, T_S = 130 °C	P_{tot}	1		W
Junction temperature	T_j	150		°C
Storage temperature	T_{stg}	-65 ... 150		

Thermal Resistance

Junction ambient [1]	R_{thJA}	≤75	K/W
Junction - soldering point	R_{thJS}	≤20	K/W

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[1] Package mounted on pcb 40mm x 40mm x 1.5mm / 6cm^2 Cu

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter		Symbol	Values			Unit
			min.	typ.	max.	
DC Characteristics						
Collector-emitter breakdown voltage		$V_{(BR)CEO}$				V
I_C = 1 mA, I_B = 0	BFN 17		250	-	-	
	BFN 19		300	-	-	
Collector-base breakdown voltage		$V_{(BR)CBO}$				
I_C = 100 µA, I_B = 0	BFN 17		250	-	-	
	BFN 19		300	-	-	
Emitter-base breakdown voltage I_E = 100 µA, I_C = 0		$V_{(BR)EBO}$	5	-	-	
Collector cutoff current		I_{CBO}				nA
V_{CB} = 200 V, I_E = 0	BFN 17		-	-	100	
V_{CB} = 250 V, I_E = 0	BFN 19		-	-	100	
Collector cutoff current		I_{CBO}				µA
V_{CB} = 200 V, I_E = 0 , T_A = 150 °C	BFN 17		-	-	20	
V_{CB} = 250 V, I_E = 0 , T_A = 150 °C	BFN 19		-	-	20	
Emitter cutoff current V_{EB} = 5 V, I_C = 0		I_{EBO}	-	-	100	nA
DC current gain 1)		h_{FE}				-
I_C = 1 mA, V_{CE} = 10 V			25	-	-	
I_C = 10 mA, V_{CE} = 10 V			40	-	-	
I_C = 30 mA, V_{CE} = 10 V	BFN 17		40	-	-	
	BFN 19		30	-	-	
Collector-emitter saturation voltage1)		V_{CEsat}				V
I_C = 20 mA, I_B = 2 mA	BFN 17		-	-	0.4	
	BFN 19		-	-	0.5	
Base-emitter saturation voltage 1) I_C = 20 mA, I_B = 2 mA		V_{BEsat}	-	-	0.9	

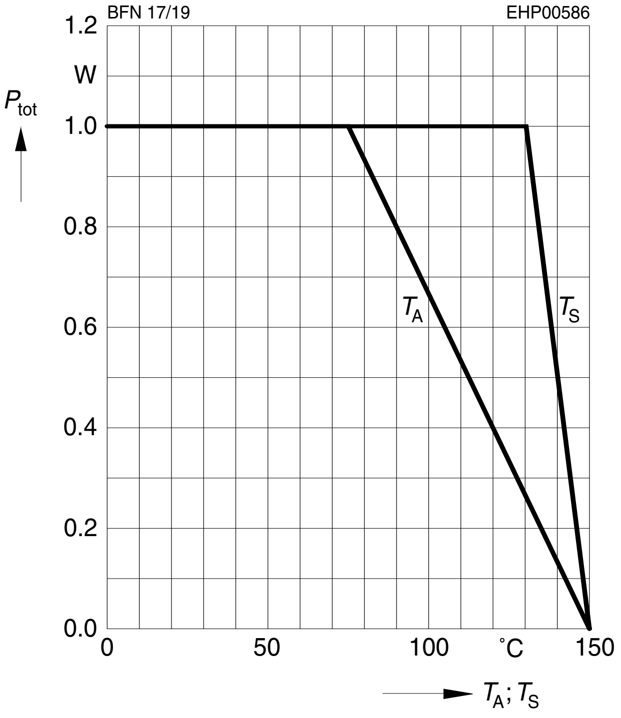
1) Pulse test: t < 300µs; D < 2%

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Transition frequency I_C = 20 mA, V_{CE} = 10 V, f = 20 MHz	f_T	-	100	-	MHz
Collector-base capacitance V_{CB} = 30 V, f = 1 MHz	C_{cb}	-	2.5	-	pF

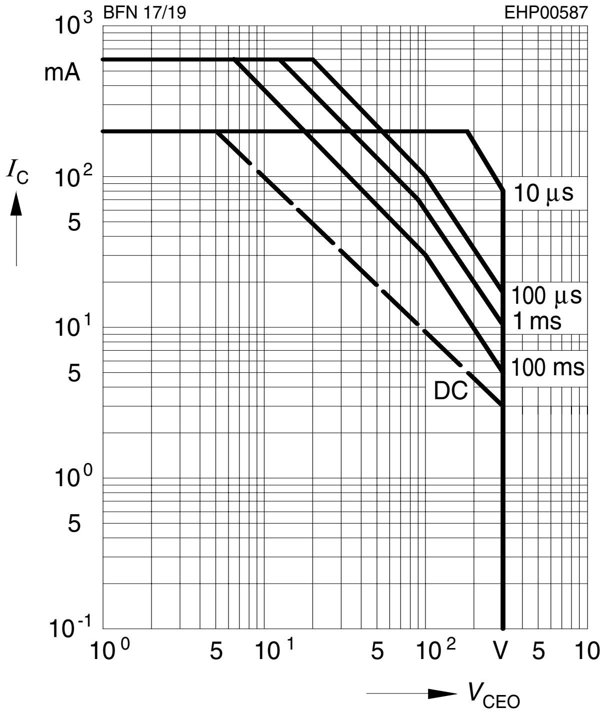
Total power dissipation $P_{tot} = f(T_A*; T_S)$

* Package mounted on epoxy



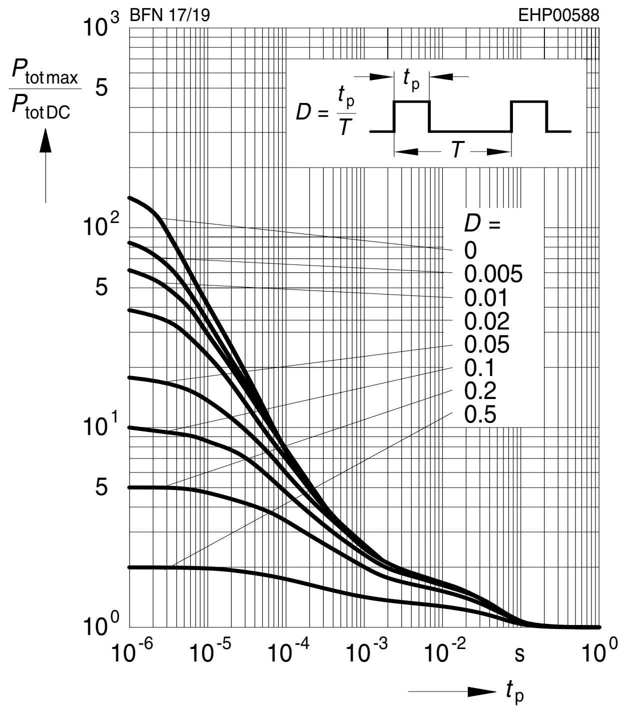
Operating range $I_C = f(V_{CEO})$

T_A = 25°C, D = 0



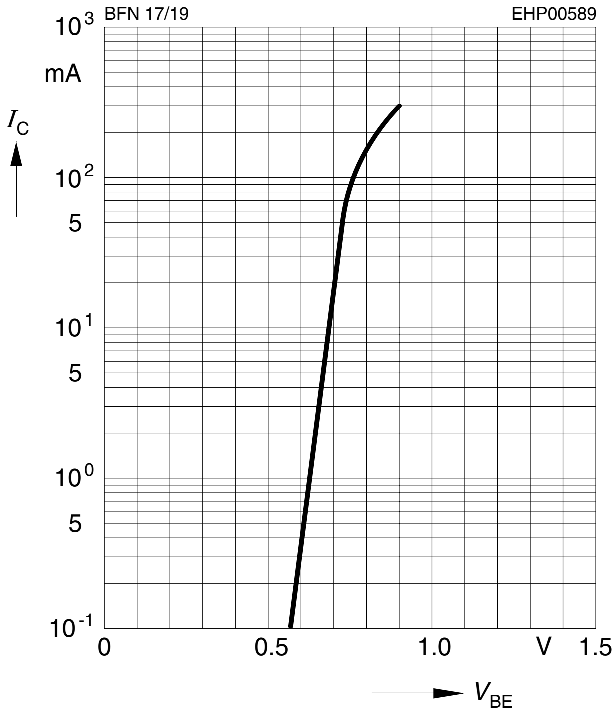
Permissible pulse load

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



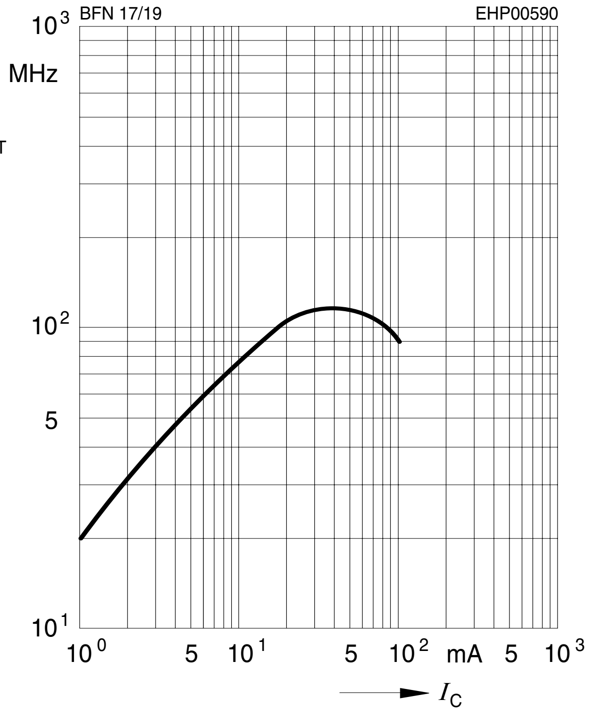
Collector current $I_C = f(V_{BE})$

V_{CE} = 10V



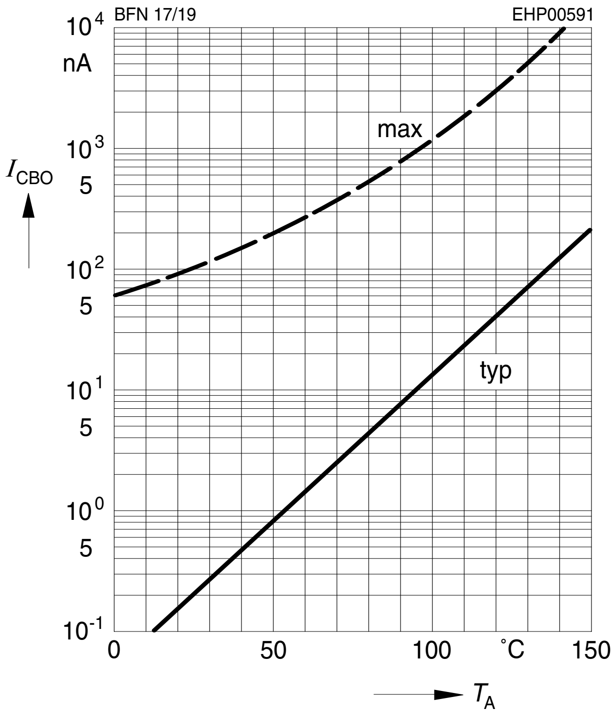
Transition frequency $f_T = f(I_C)$

$V_{CE} = 10V$



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

$V_{CB} = 200V$



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

$V_{CE} = 10V$