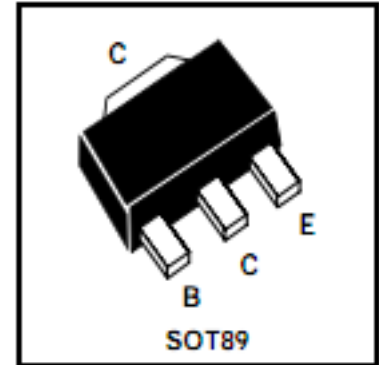


- For general AF applications
- High collector current
- High current gain
- Complementary types: BCV 28, BCV 48 (PNP)



Maximum Ratings

Parameter	Symbol	Values		Unit
		BCV 29	BCV 49	
Collector-emitter voltage	V_{CE0}	30	60	V
Collector-base voltage	V_{CB0}	40	80	
Emitter-base voltage	V_{EB0}	10	10	
Collector current	I_C	500		mA
Peak collector current	I_{CM}	800		
Base current	I_B	100		
Peak base current	I_{BM}	200		
Total power dissipation, $T_S = 130\text{ °C}$	PI_{tot}	1		W
Junction temperature	T_j	150		°C
Storage temperature range	T_{stg}	− 65 ... + 150		

Thermal Resistance

Junction - ambient ²⁾	$R_{th JA}$	≤ 75	K/W
Junction - soldering point	$R_{th JS}$	≤ 20	

¹⁾ For detailed information see chapter Package Outlines.

²⁾ 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
BCV 29		30	—	—	
BCV 49		60	—	—	
Collector-base breakdown voltage $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CB0}$				
BCV 29		40	—	—	
BCV 49		80	—	—	
Emitter-base breakdown voltage, $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EB0}$	10	—	—	
Collector cutoff current $V_{CB} = 30\text{ V}$	I_{CB0}	—	—	100	nA
BCV 29		—	—	100	nA
$V_{CB} = 60\text{ V}$		—	—	10	μA
BCV 49		—	—	10	μA
$V_{CB} = 30\text{ V}, T_A = 150\text{ }^{\circ}\text{C}$		—	—	10	μA
$V_{CB} = 60\text{ V}, T_A = 150\text{ }^{\circ}\text{C}$		—	—	10	μA
Emitter cutoff current, $V_{EB} = 4\text{ V}$	I_{EB0}	—	—	100	nA
DC current gain ¹⁾ $I_C = 100\text{ }\mu\text{A}, V_{CE} = 1\text{ V}$	h_{FE}	4000	—	—	—
BCV 29		2000	—	—	
BCV 49		10000	—	—	
$I_C = 10\text{ mA}, V_{CE} = 5\text{ V}$		4000	—	—	
BCV 29		20000	—	—	
BCV 49		10000	—	—	
$I_C = 100\text{ mA}, V_{CE} = 5\text{ V}$		4000	—	—	
BCV 29		2000	—	—	
BCV 49					
Collector-emitter saturation voltage ¹⁾ $I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$	V_{CEsat}	—	—	1	V
Base-emitter saturation voltage ¹⁾ $I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$	V_{BEsat}	—	—	1.5	

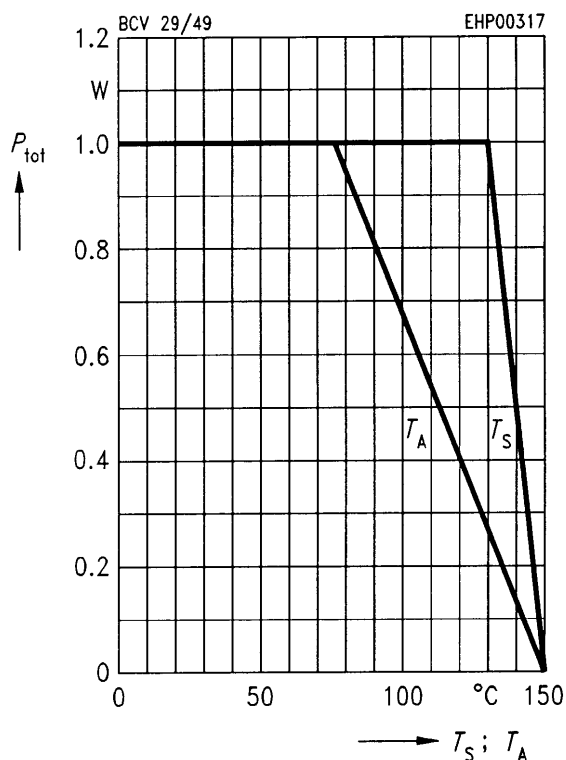
AC characteristics

Transition frequency $I_C = 50\text{ mA}, V_{CE} = 5\text{ V}, f = 20\text{ MHz}$	f_T	—	150	—	MHz
Output capacitance $V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	C_{obo}	—	3.5	—	pF

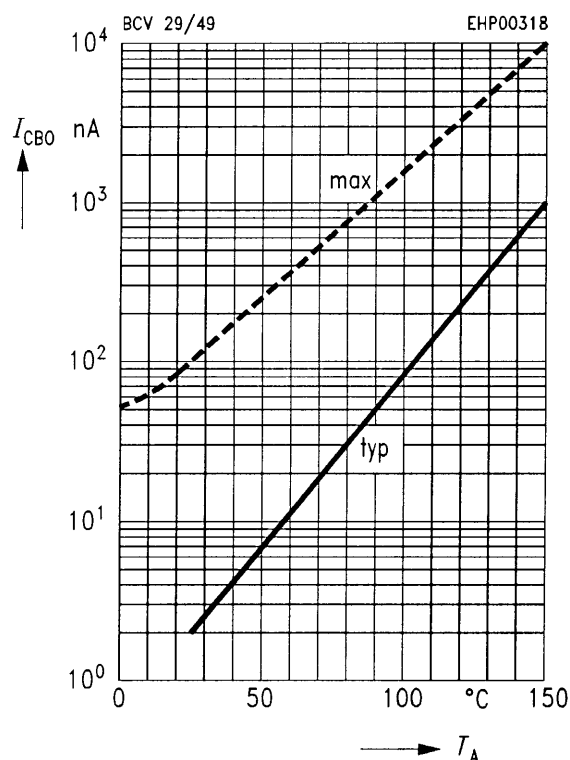
¹⁾ Pulse test: $t \leq 300\text{ }\mu\text{s}$, $D = 2\text{ }\%$.

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

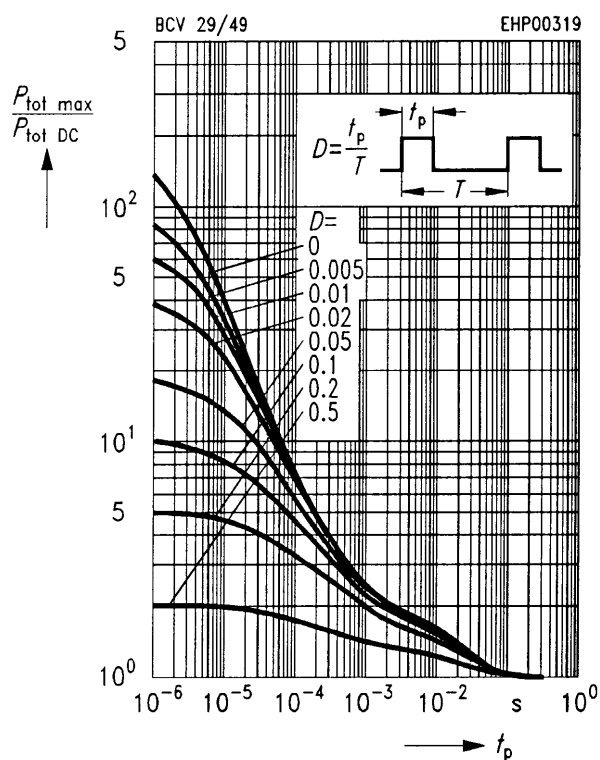
* Package mounted on epoxy



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

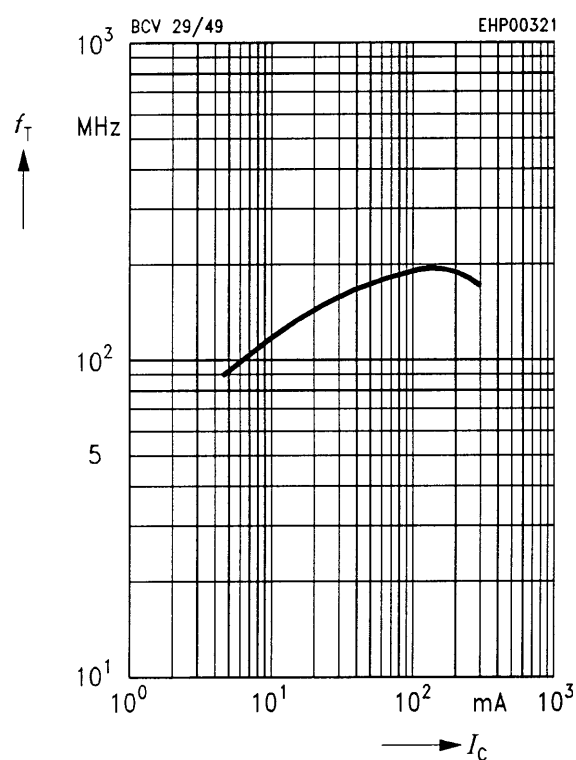


Permissible pulse load $P_{\text{tot max}}/P_{\text{tot DC}} = f(t_p)$



Transition frequency $f_T = f(I_C)$

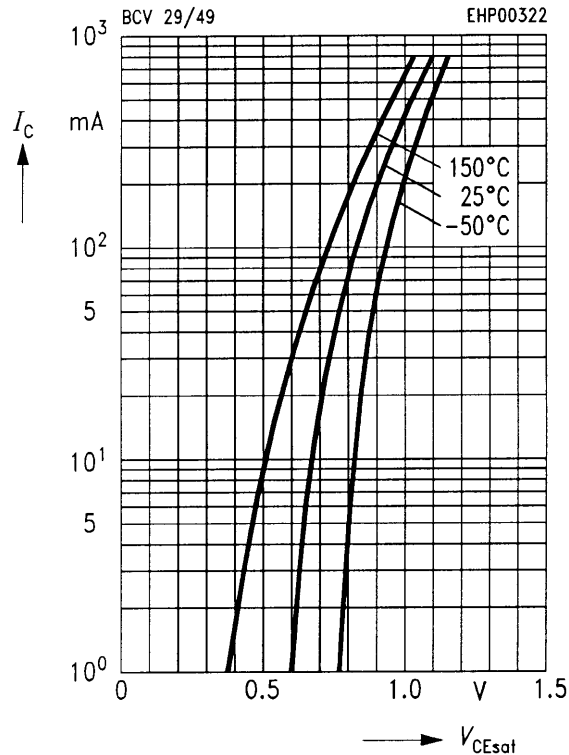
$V_{\text{CE}} = 5 \text{ V}$



Collector-emitter saturation voltage

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

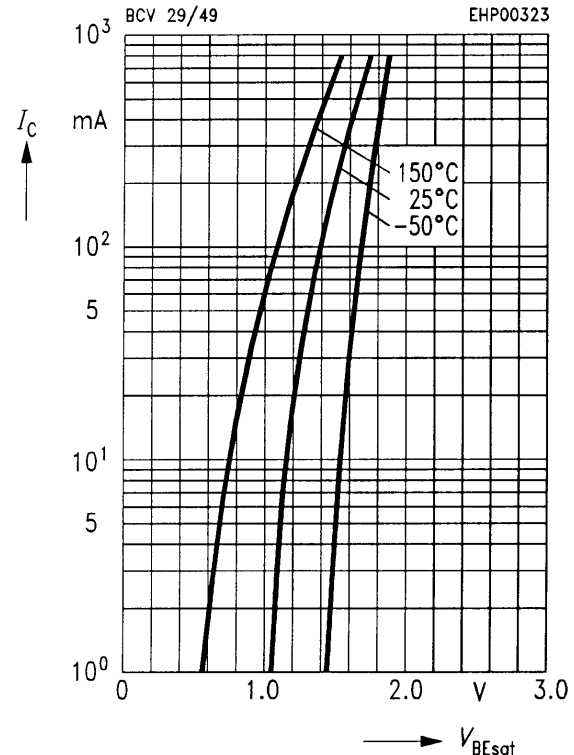
$$h_{FE} = 1000$$



Base-emitter saturation voltage

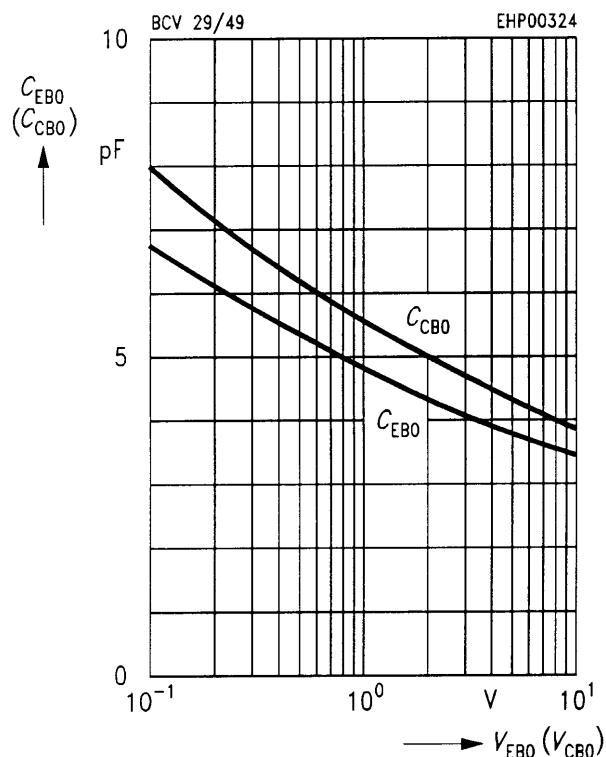
$$I_C = f(V_{BEsat})$$

$$h_{FE} = 1000$$



Collector-base capacitance $C_{CB0} = f(V_{CB0})$

Emitter-base capacitance $C_{EB0} = f(V_{EB0})$



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

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

