Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	≤ 20	K/W

[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

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 = 10 mA, I_B = 0 , BCV29		30	-	-	
I_C = 10 mA, I_B = 0 , BCV49		60	-	-	
Collector-base breakdown voltage	$V_{(BR)CBO}$				
I_C = 100 µA, I_E = 0 , BCV29		40	-	-	
I_C = 100 µA, I_E = 0 , BCV49		80	-	-	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	10	-	-	
I_E = 10 µA, I_C = 0					
Collector-base cutoff current	I_{CBO}				µA
V_{CB} = 30 V, I_E = 0 , BCV29		-	-	0.1	
V_{CB} = 60 V, I_E = 0 , BCV49		-	-	0.1	
V_{CB} = 30 V, I_E = 0 , T_A = 150 °C, BCV29		-	-	10	
V_{CB} = 60 V, I_E = 0 , T_A = 150 °C, BCV49		-	-	10	
Emitter-base cutoff current	I_{EBO}	-	-	100	nA
V_{EB} = 4 V, I_C = 0					
DC current gain[1)]	h_{FE}				-
I_C = 100 µA, V_{CE} = 1 V, BCV29		4000	-	-	
I_C = 100 µA, V_{CE} = 1 V, BCV49		2000	-	-	
I_C = 10 mA, V_{CE} = 5 V, BCV29		10000	-	-	
I_C = 10 mA, V_{CE} = 5 V, BCV49		4000	-	-	
I_C = 100 mA, V_{CE} = 5 V, BCV29		20000	-	-	
I_C = 100 mA, V_{CE} = 5 V, BCV49		10000	-	-	
I_C = 0.5 A, V_{CE} = 5 V, BCV29		4000	-	-	
I_C = 0.5 A, V_{CE} = 5 V, BCV49		2000	-	-	
Collector-emitter saturation voltage[1)]	V_{CEsat}	-	-	1	V
I_C = 100 mA, I_B = 0.1 mA					
Base emitter saturation voltage[1)]	V_{BEsat}	-	-	1.5	
I_C = 100 mA, I_B = 0.1 mA					

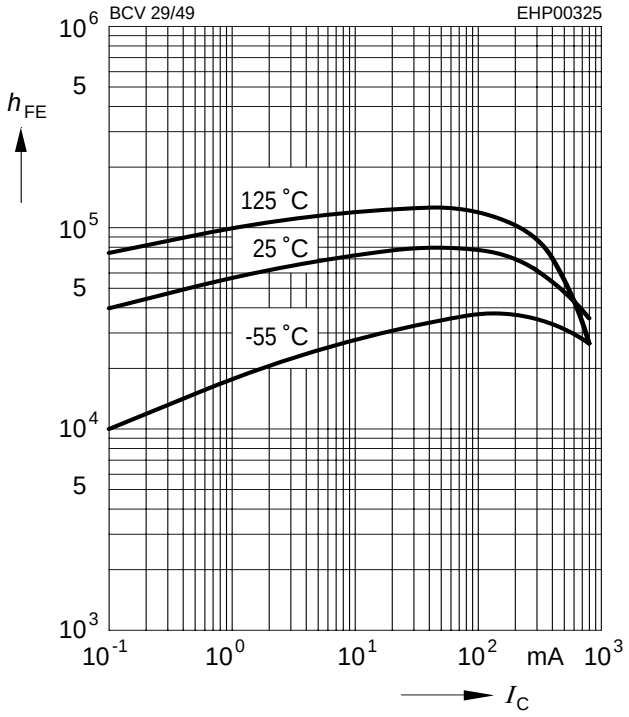
[1]Pulse test: t < 300µs; D < 2%

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Transition frequency I_C = 50 mA, V_{CE} = 5 V, f = 100 MHz	f_T	-	150	-	MHz
Collector-base capacitance V_{CB} = 10 V, f = 1 MHz	C_{cb}	-	3	-	pF

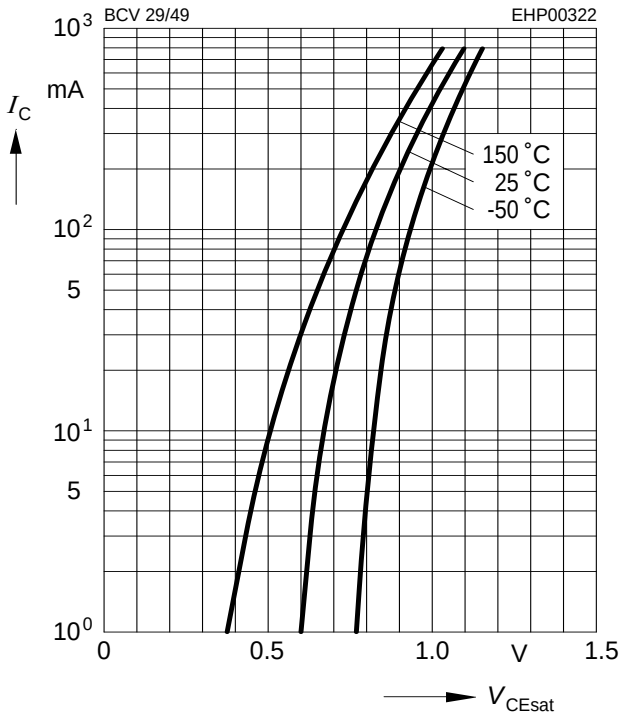
DC current gain h_{FE} = $f(I_C)$

V_{CE} = 5 V



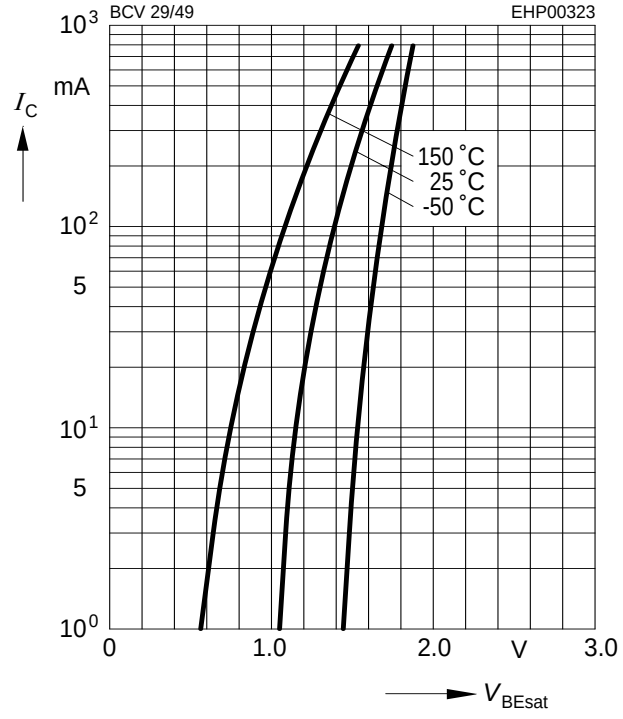
Collector-emitter saturation voltage

I_C = $f(V_{CEsat})$, h_{FE} = 1000



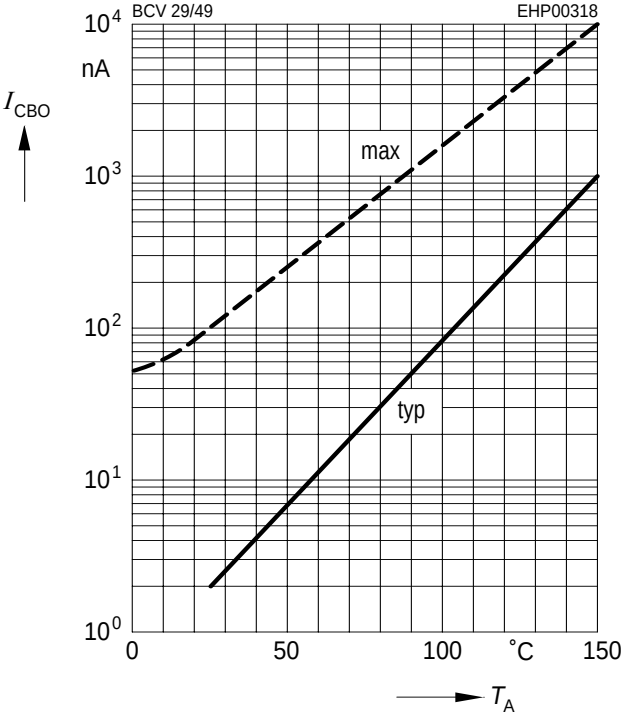
Base-emitter saturation voltage

I_C = $f(V_{BEsat})$, h_{FE} = 1000



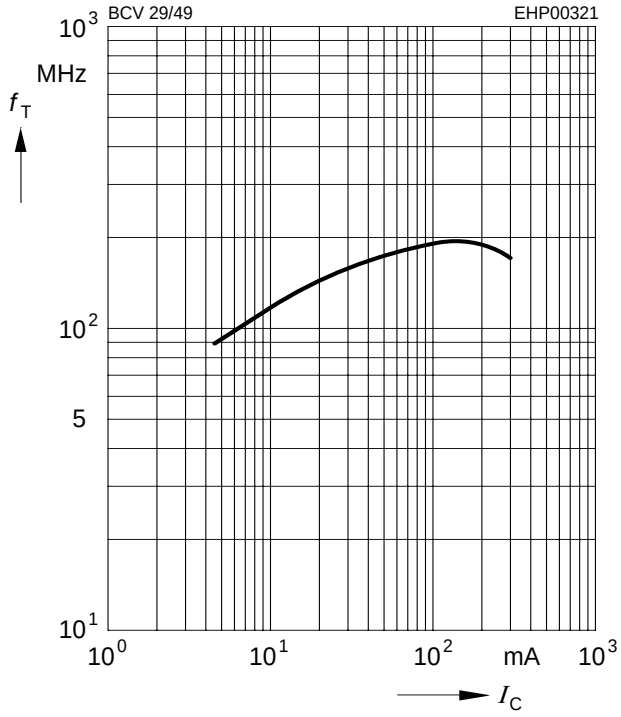
Collector cutoff current I_{CBO} = $f(T_A)$

V_{CB} = V_{CEmax}



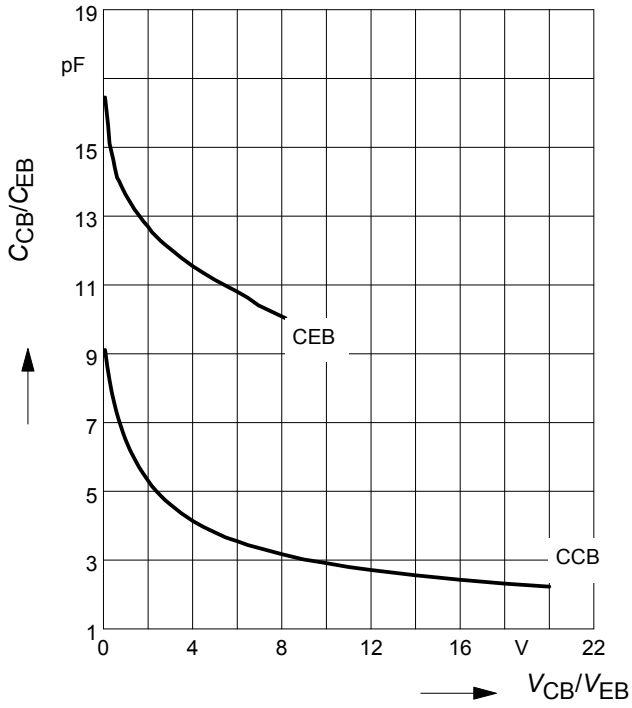
Transition frequency $f_T = f(I_C)$

V_{CE} = 5 V

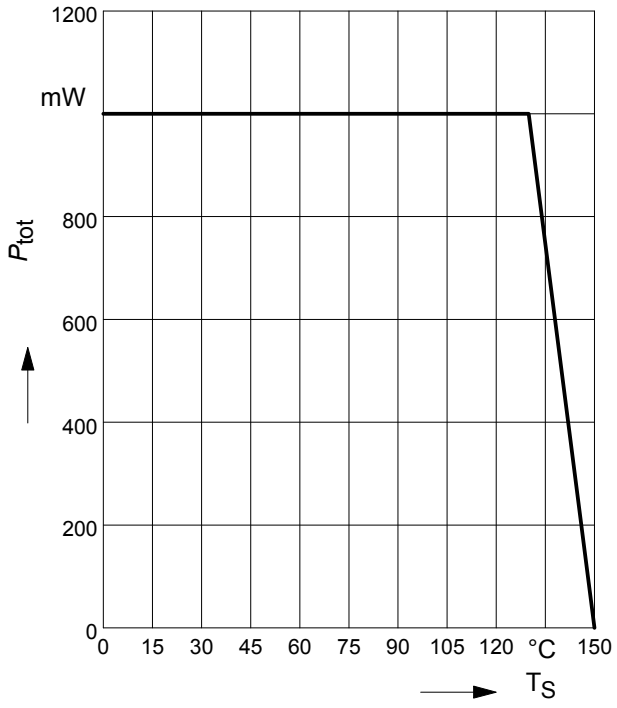


Collector-base capacitance $C_{cb} = f(V_{CB})$

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

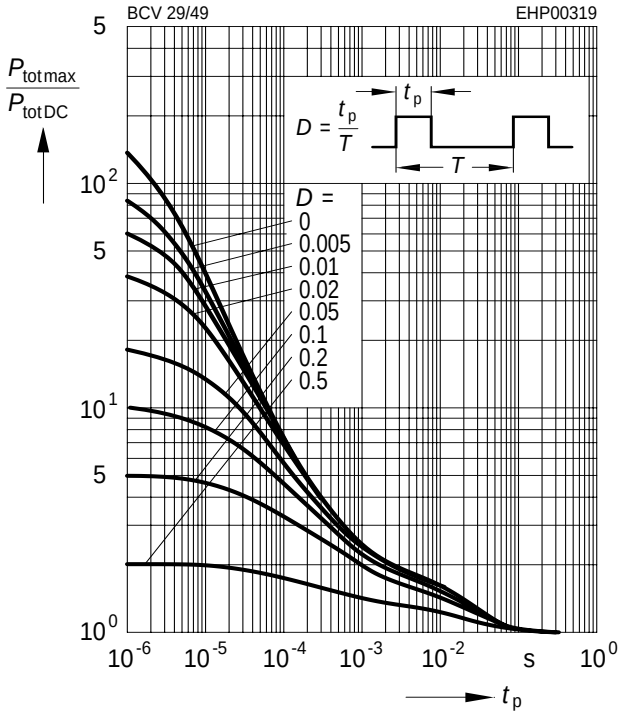


Total power dissipation $P_{tot} = f(T_S)$

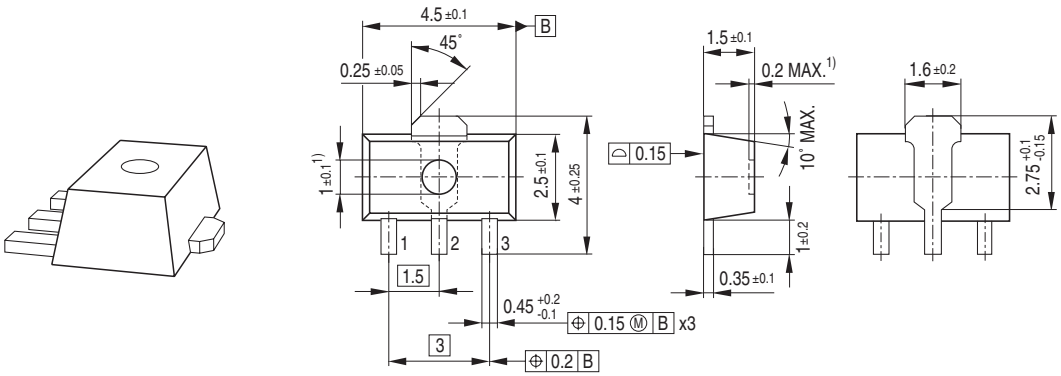


Permissible Pulse Load

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

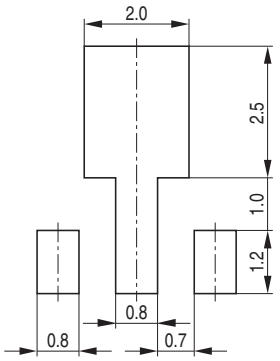


Package Outline

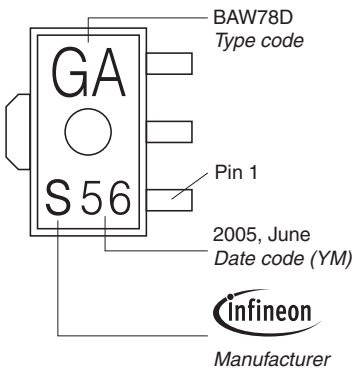


1) Ejector pin markings possible

Foot Print

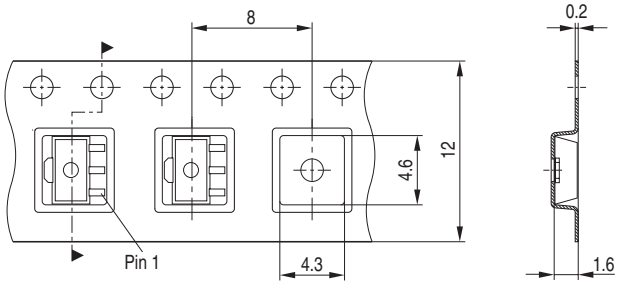


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 1.000 Pieces/Reel
Reel ø330 mm = 4.000 Pieces/Reel



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