

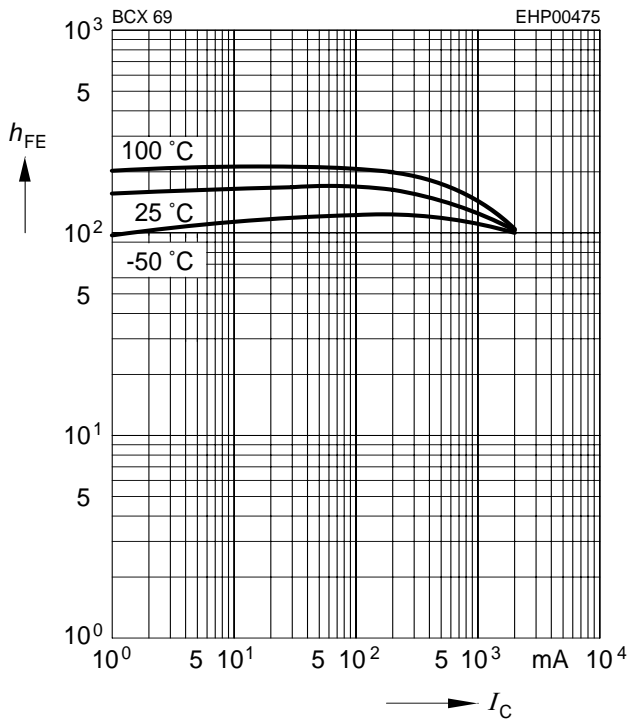
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 30\text{ mA}$ , $I_B = 0$	$V_{(BR)CEO}$	20	-	-	V
Collector-base breakdown voltage $I_C = 10\text{ }\mu\text{A}$ , $I_E = 0$	$V_{(BR)CBO}$	25	-	-	
Emitter-base breakdown voltage $I_E = 1\text{ }\mu\text{A}$ , $I_C = 0$	$V_{(BR)EBO}$	5	-	-	
Collector-base cutoff current $V_{CB} = 25\text{ V}$ , $I_E = 0$ $V_{CB} = 25\text{ V}$ , $I_E = 0$ , $T_A = 150$	$I_{CBO}$	- -	- -	0.1 100	$\mu\text{A}$
DC current gain <sup>1)</sup> $I_C = 5\text{ mA}$ , $V_{CE} = 10\text{ V}$ $I_C = 500\text{ mA}$ , $V_{CE} = 1\text{ V}$ , BCX69-10 $I_C = 500\text{ mA}$ , $V_{CE} = 1\text{ V}$ , BCX69-16 $I_C = 500\text{ mA}$ , $V_{CE} = 1\text{ V}$ , BCX69-25 $I_C = 1\text{ A}$ , $V_{CE} = 1\text{ V}$	$h_{FE}$	50 85 100 160 60	- 100 160 250 -	- 160 250 375 -	-
Collector-emitter saturation voltage <sup>1)</sup> $I_C = 1\text{ A}$ , $I_B = 100\text{ mA}$	$V_{CEsat}$	-	-	0.5	V
Base-emitter voltage <sup>1)</sup> $I_C = 5\text{ mA}$ , $V_{CE} = 10\text{ V}$ $I_C = 1\text{ A}$ , $V_{CE} = 1\text{ V}$	$V_{BE(ON)}$	- -	0.6 -	- 1	
AC Characteristics					
Transition frequency $I_C = 100\text{ mA}$ , $V_{CE} = 5\text{ V}$ , $f = 20\text{ MHz}$	$f_T$	-	100	-	MHz

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

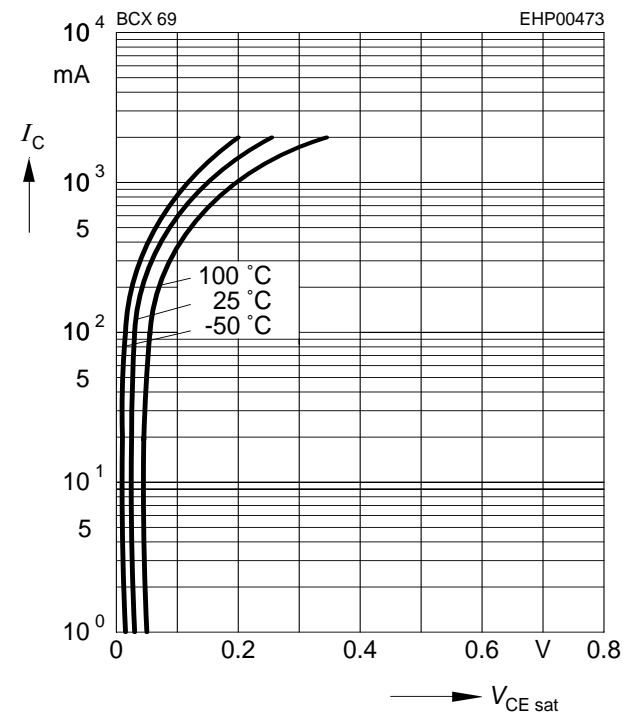
### DC current gain $h_{FE} = f(I_C)$

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



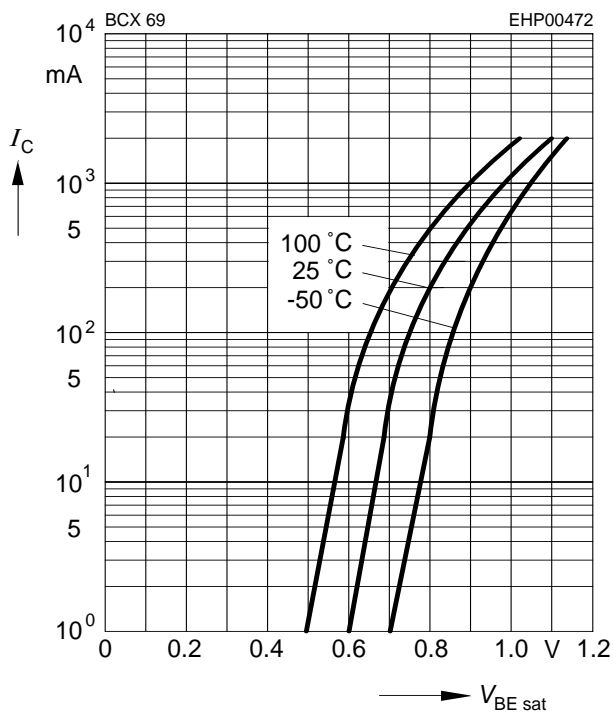
### Collector-emitter saturation voltage

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



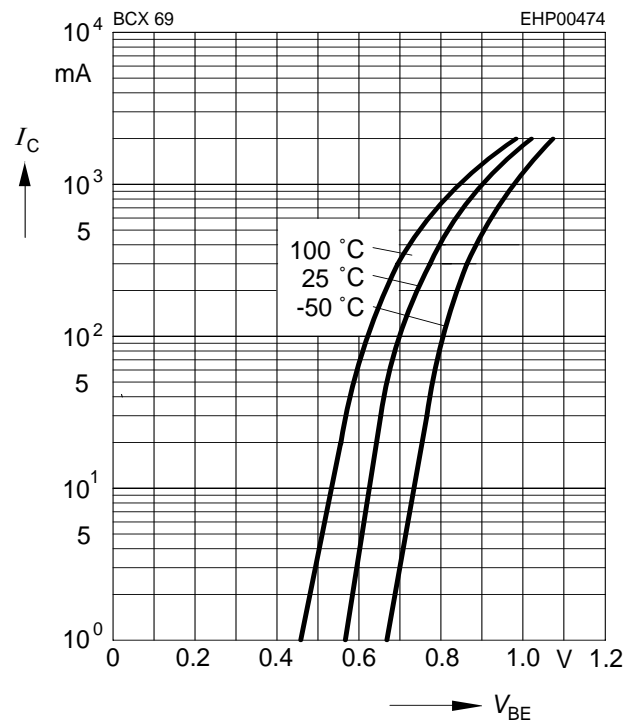
### Base-emitter saturation voltage

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



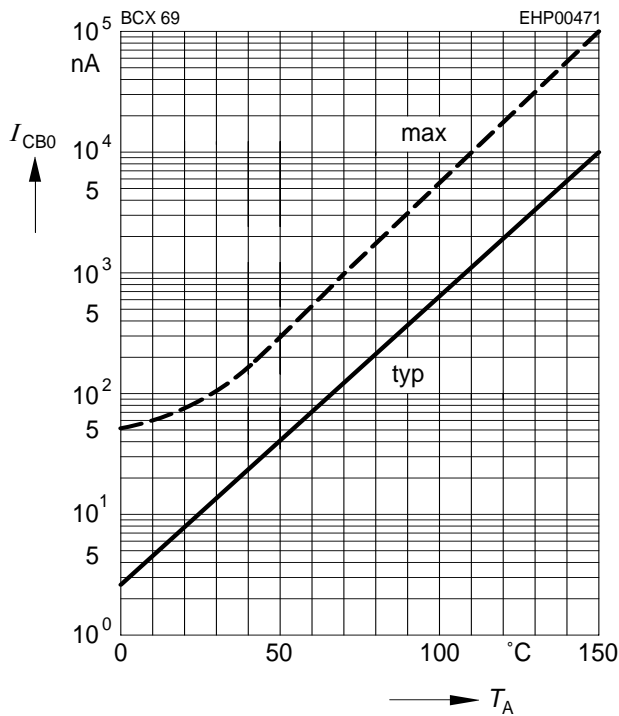
### Collector current $I_C = f(V_{BE})$

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



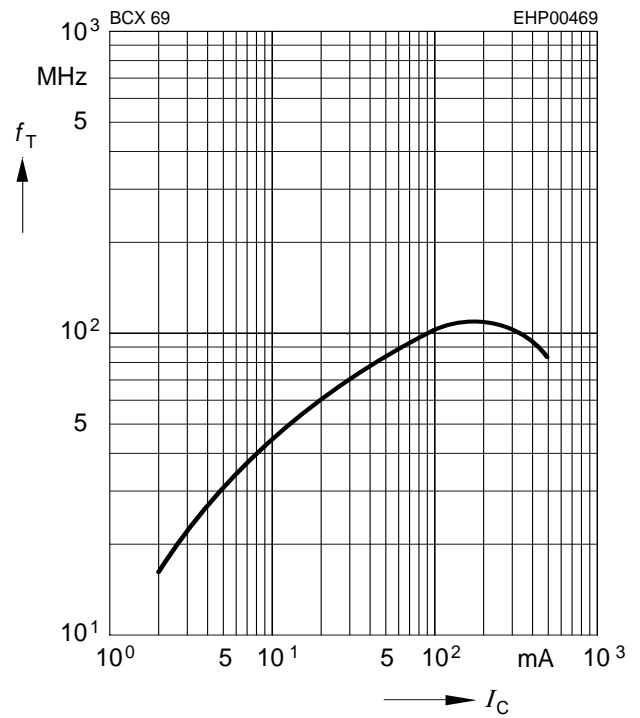
**Collector cutoff current**  $I_{CBO} = f(T_A)$

$V_{CB} = 25 \text{ V}$

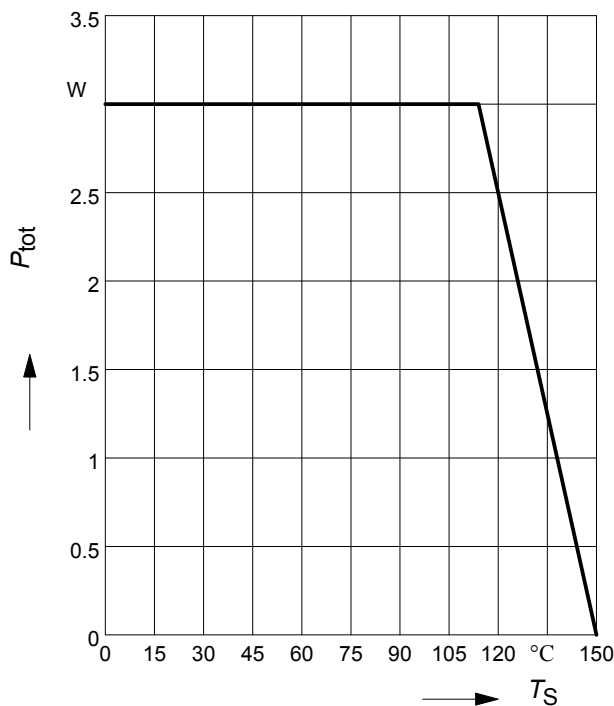


**Transition frequency**  $f_T = f(I_C)$

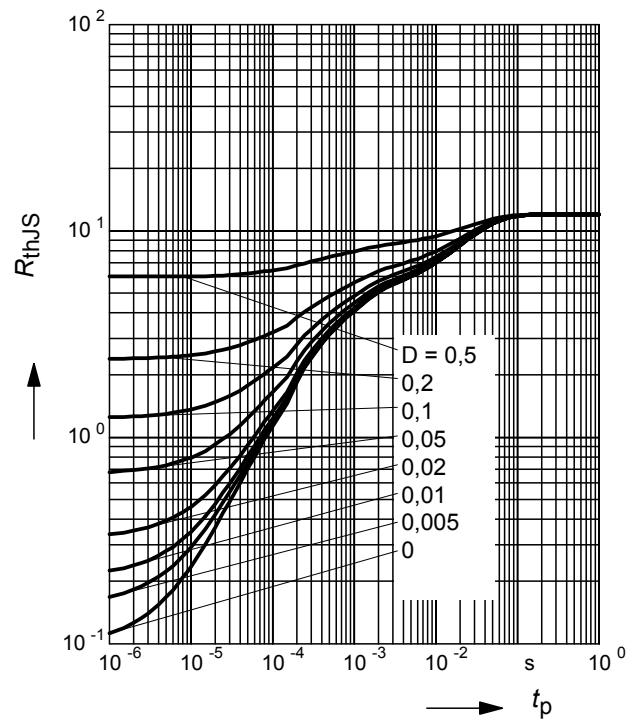
$V_{CE} = 5 \text{ V}$



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

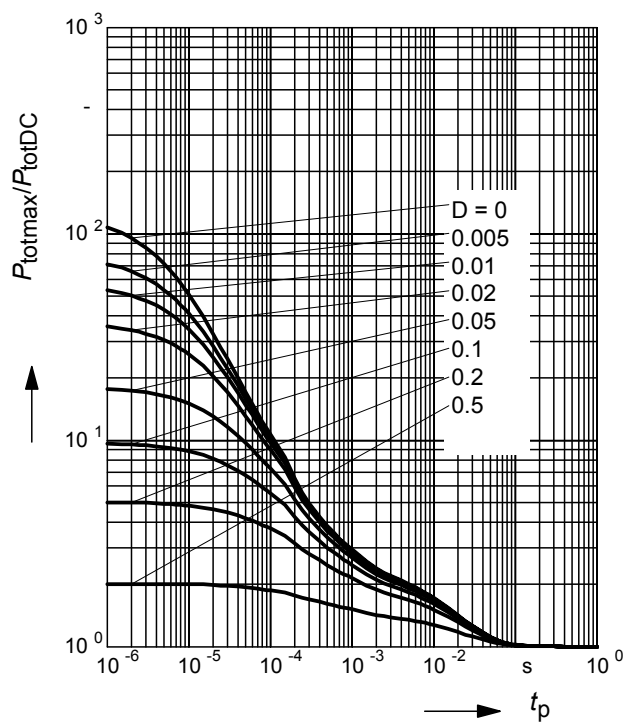


**Permissible Pulse Load**  $R_{thJS} = f(t_p)$

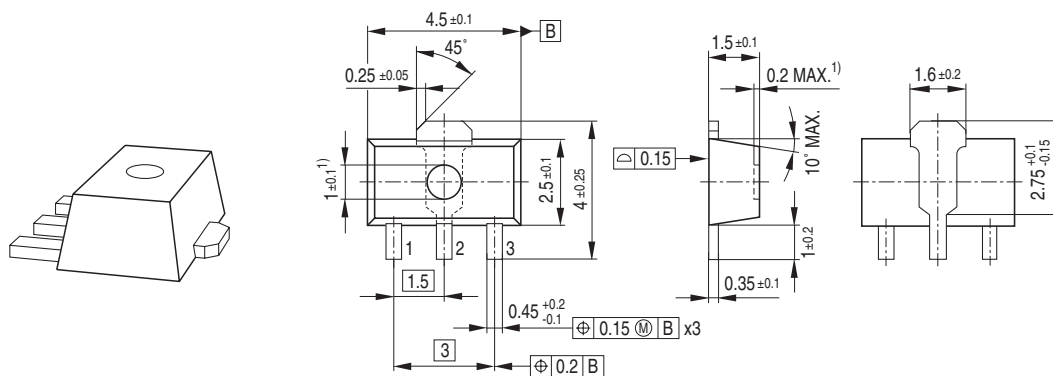


## Permissible Pulse Load

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

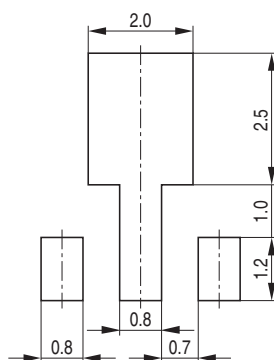


## Package Outline

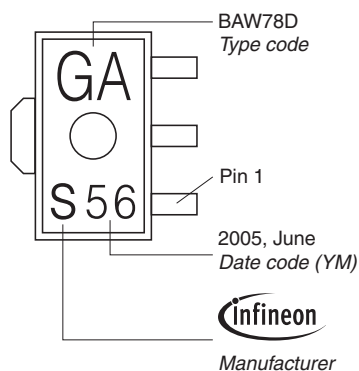


1) Ejector pin markings possible

## Foot Print

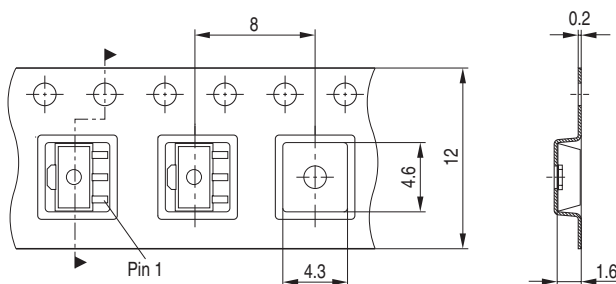


## Marking Layout (Example)



## Standard Packing

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



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