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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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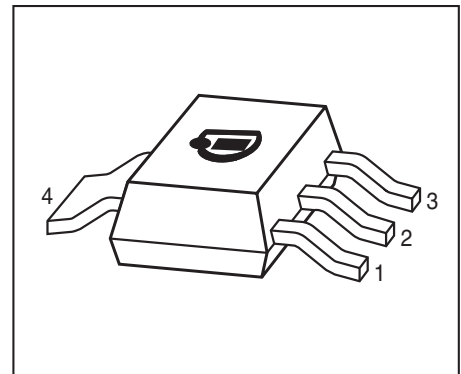
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**NPN Silicon Darlington Transistor**

- For general AF applications
- High collector current
- High current gain
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



Type	Marking	Pin Configuration						Package
		1=B	2=C	3=E	4=C	-	-	
PZTA14	PZTA14	1=B	2=C	3=E	4=C	-	-	SOT223

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{CES}$	30	V
Collector-base voltage	$V_{CBO}$	30	
Emitter-base voltage	$V_{EBO}$	10	
Collector current	$I_C$	300	mA
Peak collector current, $t_p \leq 10$ ms	$I_{CM}$	500	
Base current	$I_B$	100	
Peak base current	$I_{BM}$	200	
Total power dissipation- $T_S \leq 124$ °C	$P_{tot}$	1.5	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$	$\leq 17$	K/W

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note AN077 (Thermal Resistance Calculation)

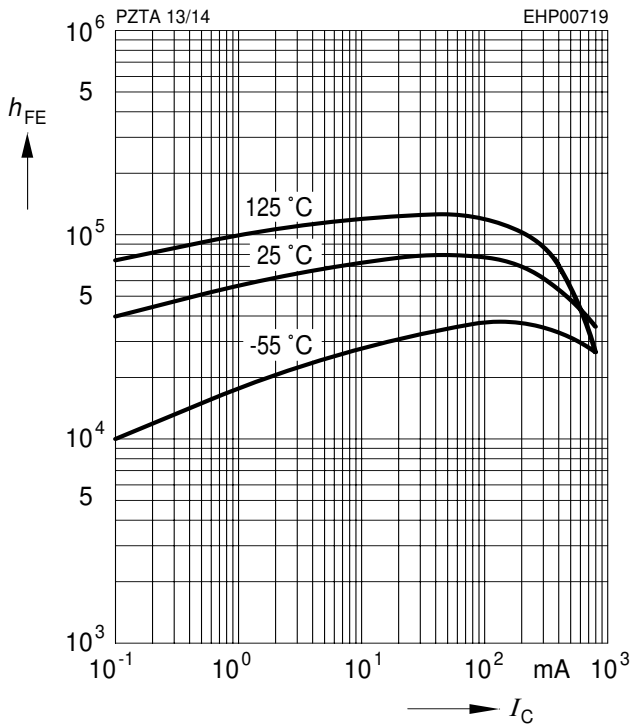
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Collector-base breakdown voltage $I_C = 100 \mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	30	-	-	V
Collector-emitter breakdown voltage $I_C = 100 \mu\text{A}, V_{BE} = 0$	$V_{(BR)CES}$	30	-	-	
Emitter-base breakdown voltage $I_E = 10 \mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	10	-	-	
Collector-base cutoff current $V_{CB} = 30 \text{ V}, I_E = 0$ $V_{CB} = 30 \text{ V}, I_E = 0, T_A = 150^\circ\text{C}$	$I_{CBO}$	-	-	0.1 10	$\mu\text{A}$
Emitter-base cutoff current $V_{EB} = 10 \text{ V}, I_C = 0$	$I_{EBO}$	-	-	100	nA
DC current gain <sup>1)</sup> $I_C = 10 \text{ mA}, V_{CE} = 5 \text{ V}$ $I_C = 100 \text{ mA}, V_{CE} = 5 \text{ V}$	$h_{FE}$	10000 20000	- -	- -	-
Collector-emitter saturation voltage <sup>1)</sup> $I_C = 100 \text{ mA}, I_B = 0.1 \text{ mA}$	$V_{CEsat}$	-	-	1.5	V
Base emitter saturation voltage <sup>1)</sup> $I_C = 100 \text{ mA}, I_B = 0.1 \text{ mA}$	$V_{BEsat}$	-	-	2	
<b>AC Characteristics</b>					
Transition frequency $I_C = 50 \text{ mA}, V_{CE} = 5 \text{ V}, f = 20 \text{ MHz}$	$f_T$	125	-	-	MHz
Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$	$C_{cb}$	-	3	-	pF

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

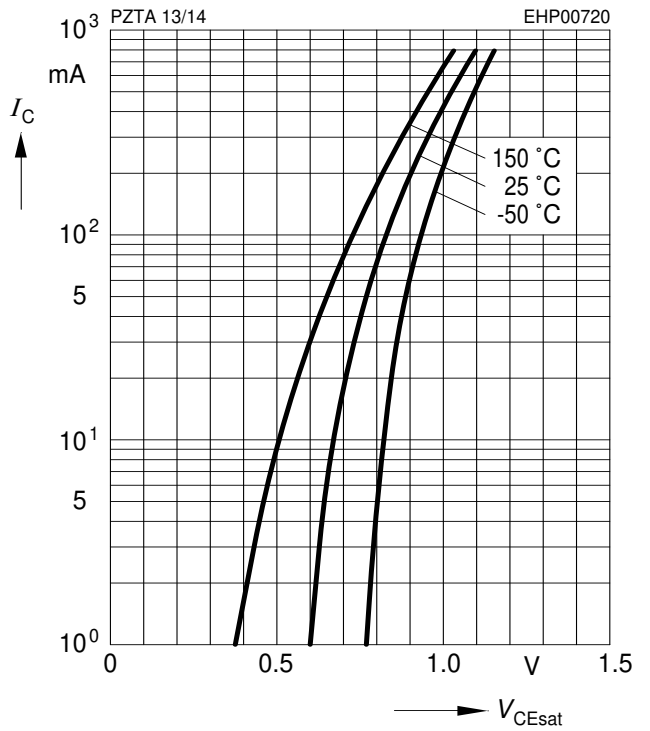
**DC current gain  $h_{FE} = f(I_C)$**

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



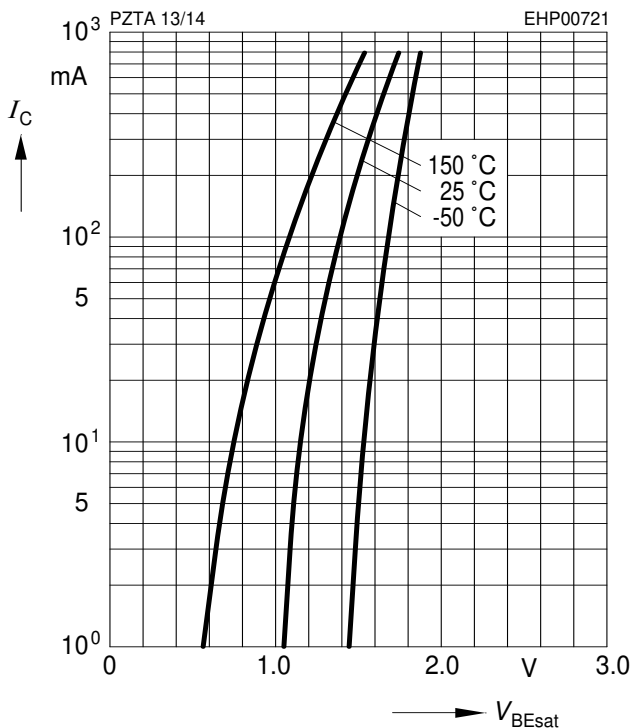
**Collector-emitter saturation voltage**

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



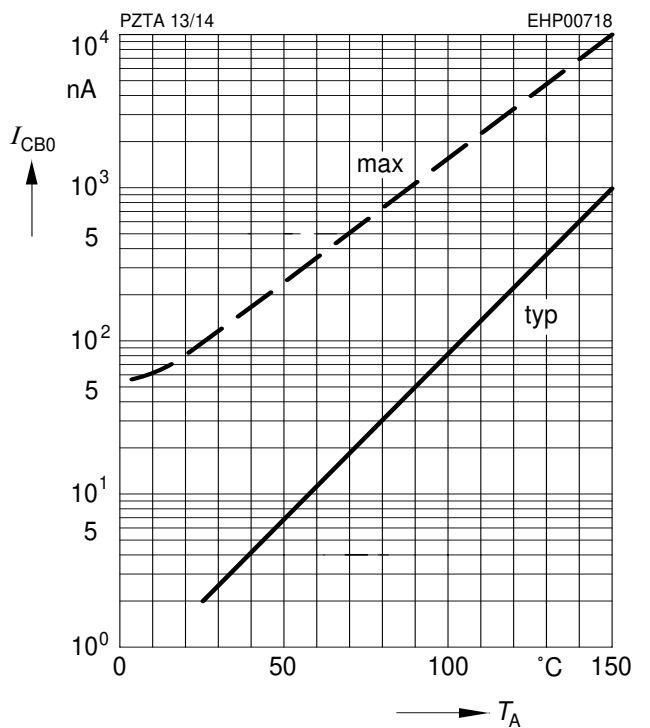
**Base-emitter saturation voltage**

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



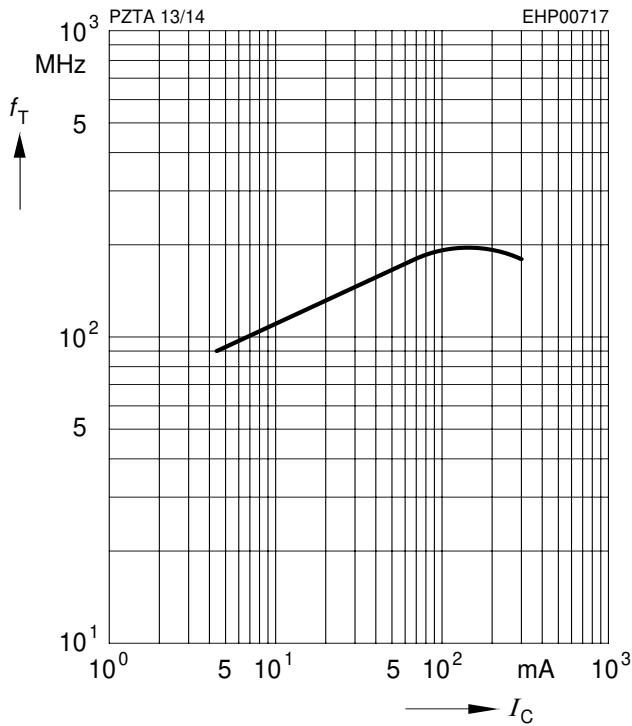
**Collector cutoff current  $I_{CBO} = f(T_A)$**

$V_{CBO} = 30\text{ V}$



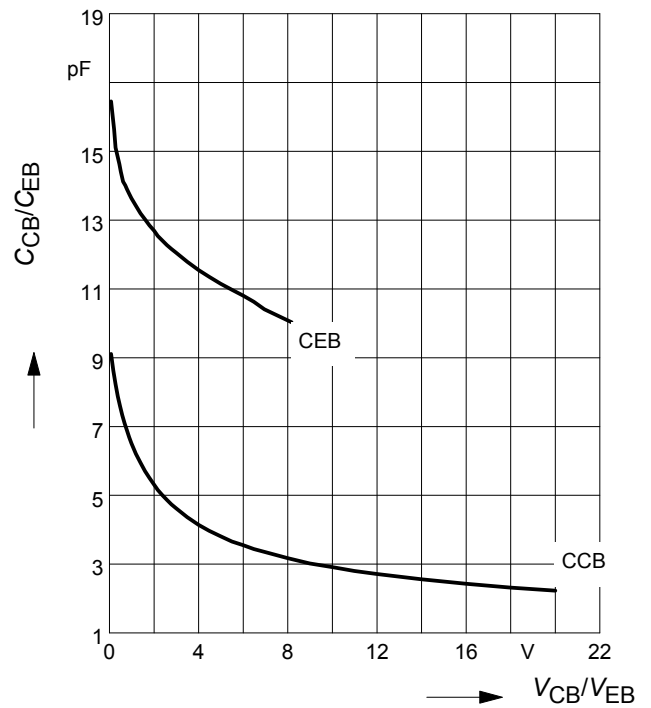
Transition frequency  $f_T = f(I_C)$

$V_{CE} = 5\text{ V}, f = 200\text{ MHz}$

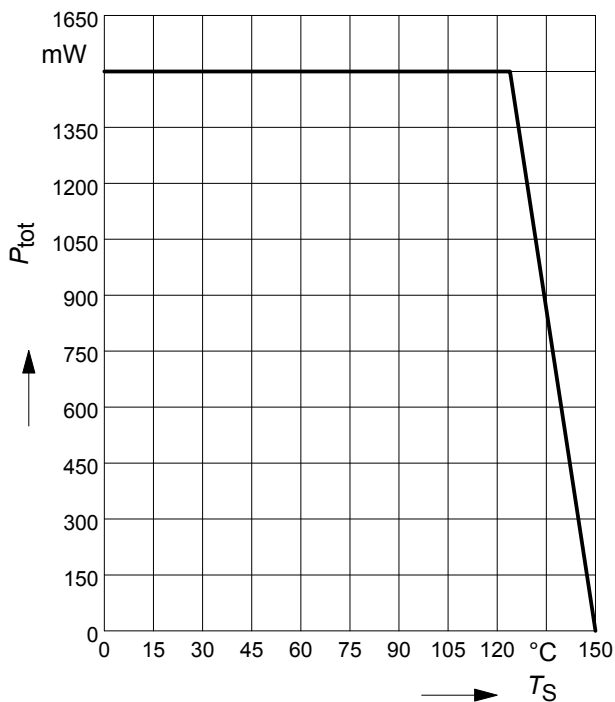


Collector-base capacitance  $C_{cb} = f(V_{CB})$

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

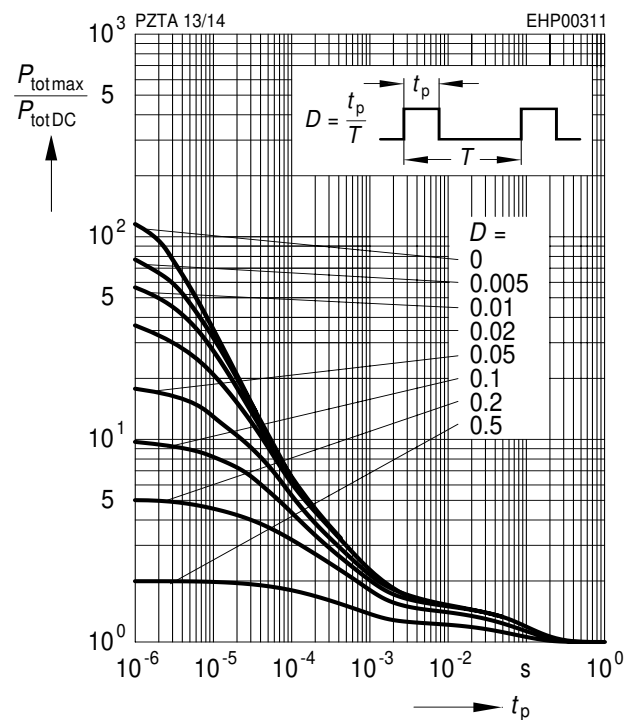


Total power dissipation  $P_{tot} = f(T_S)$

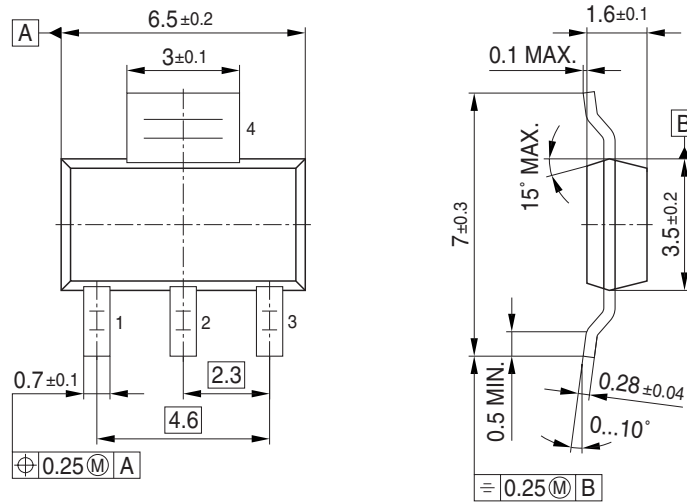
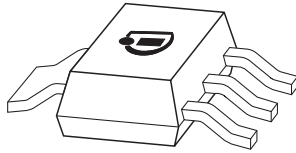


Permissible Pulse Load

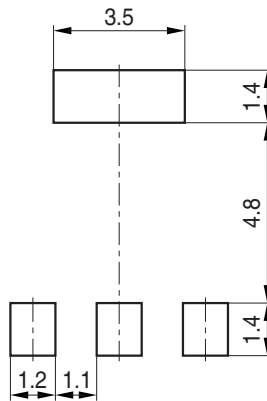
$P_{totmax}/P_{totDC} = f(t_p)$



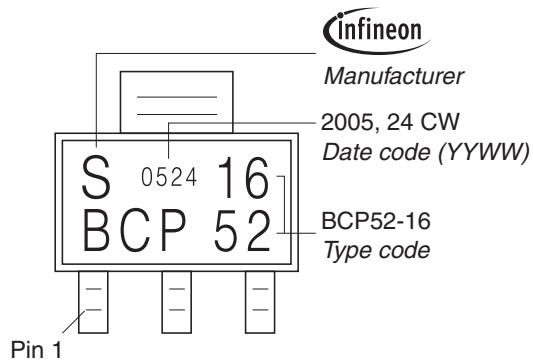
Package Outline



Foot Print

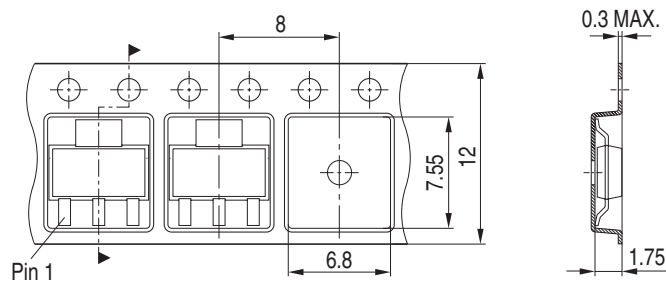


Marking Layout (Example)



Packing

Reel  $\varnothing 180$  mm = 1.000 Pieces/Reel  
 Reel  $\varnothing 330$  mm = 4.000 Pieces/Reel



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