



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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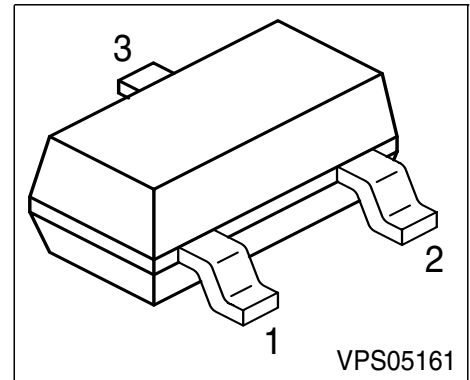
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**PNP Silicon Darlington Transistors**

- High collector current
- High DC current gain



Type	Marking	Pin Configuration			Package
SMBTA64	s2V	1 = B	2 = E	3 = C	SOT23

**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	
DC collector current	$I_C$	500	mA
Peak collector current	$I_{CM}$	800	A
Base current	$I_B$	100	mA
Peak base current	$I_{BM}$	200	
Total power dissipation, $T_S = 81\text{ °C}$	$P_{tot}$	330	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Junction - soldering point <sup>1)</sup>	$R_{thJS}$	≤210	K/W
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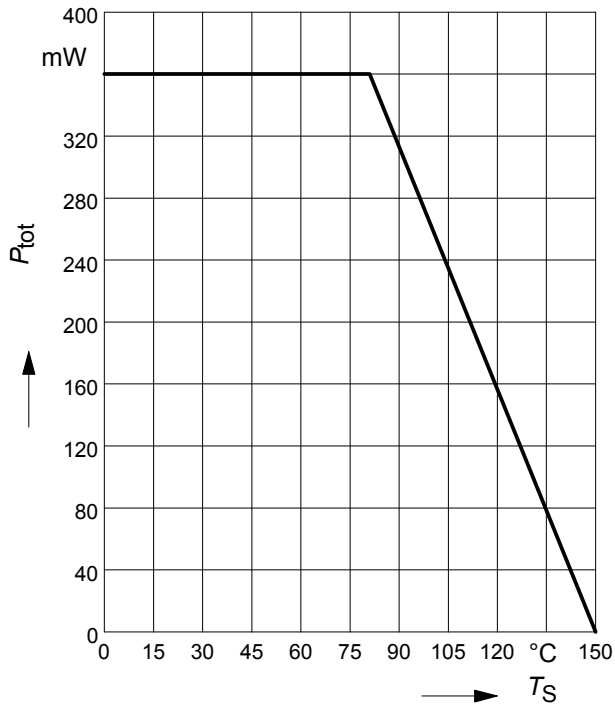
<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

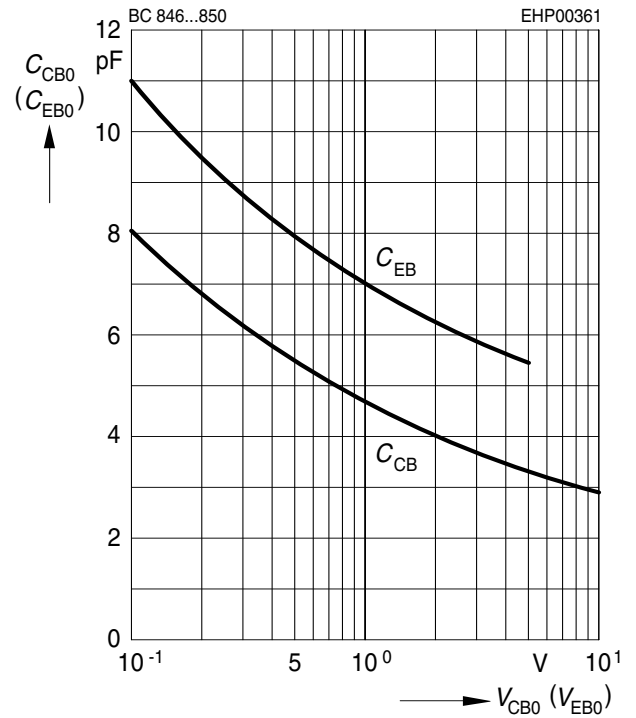
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Collector-emitter breakdown voltage $I_C = 10 \mu\text{A}, V_{BE} = 0$	$V_{(BR)CES}$	30	-	-	V
Collector-base breakdown voltage $I_C = 10 \mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	30	-	-	
Emitter-base breakdown voltage $I_E = 10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

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

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

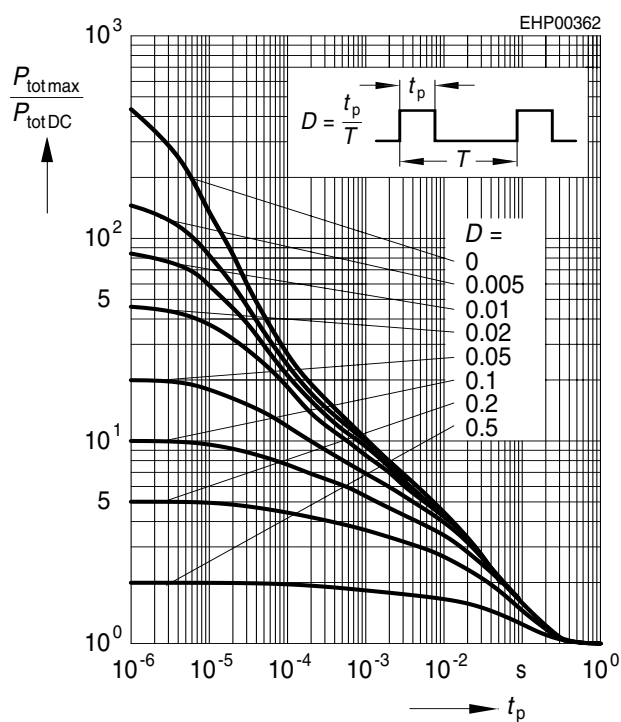


**Collector-base capacitance  $C_{CB} = f(V_{CB0})$   
Emitter-base capacitance  $C_{EB} = f(V_{EB0})$**



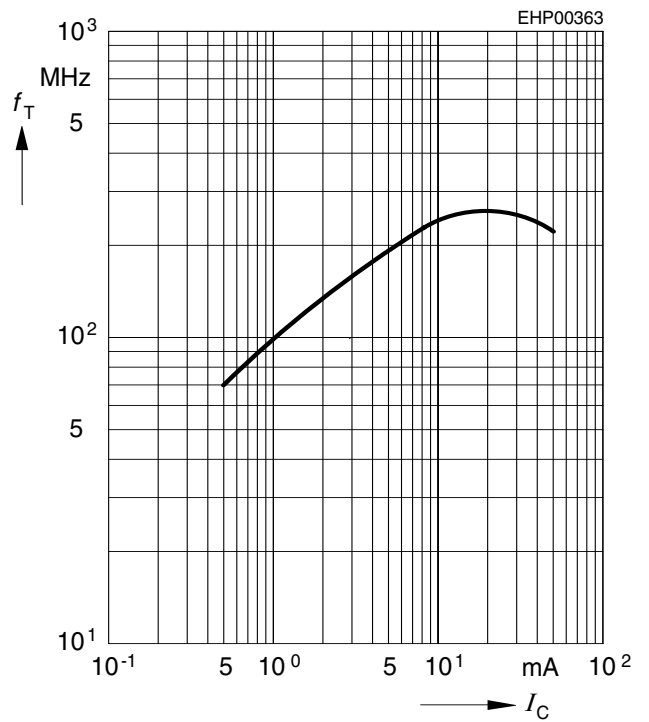
**Permissible pulse load**

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



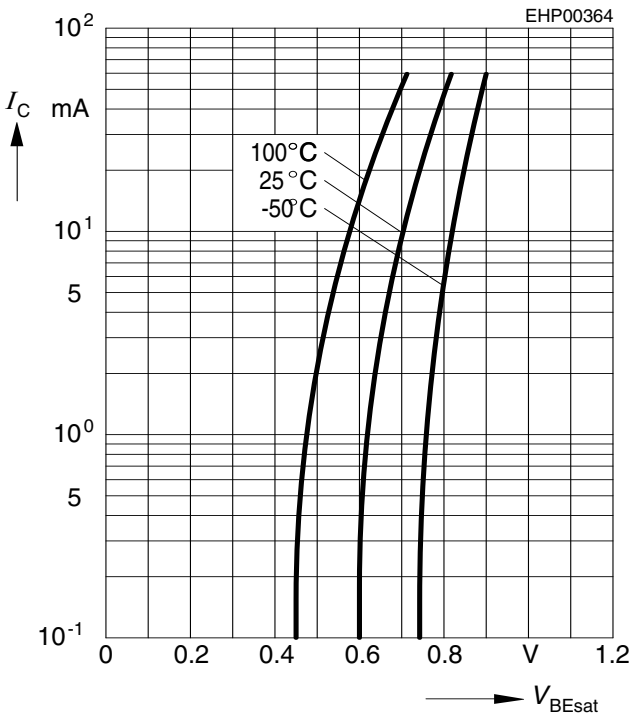
**Transition frequency  $f_T = f(I_C)$**

$V_{CE} = 5V$



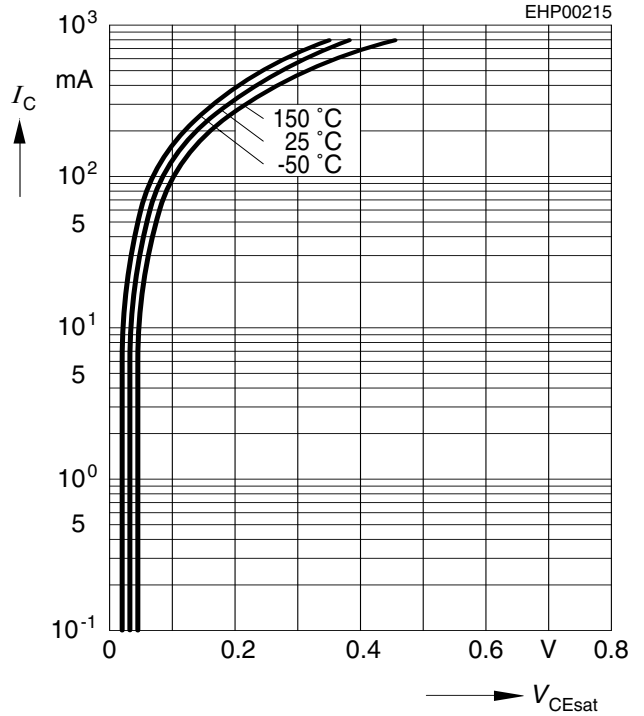
**Base-emitter saturation voltage**

$I_C = f(V_{BEsat}), h_{FE} = 20$



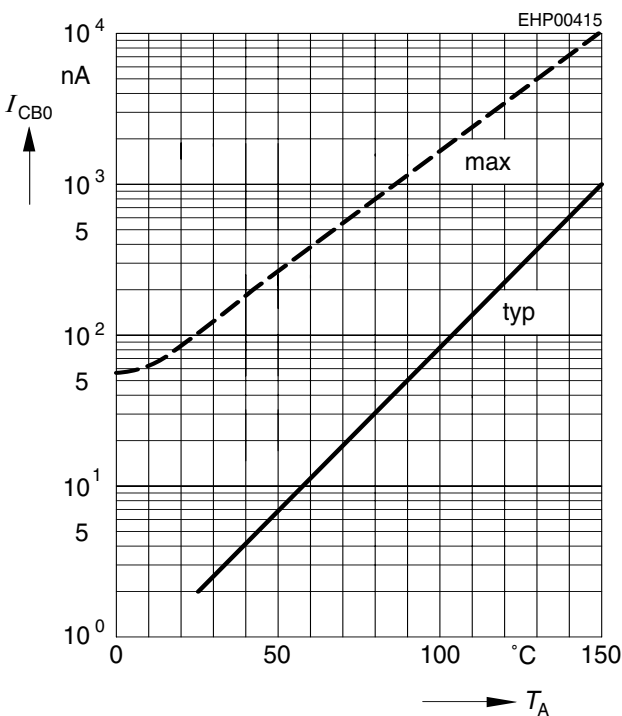
**Collector-emitter saturation voltage**

$I_C = f(V_{CEsat}), h_{FE} = 20$



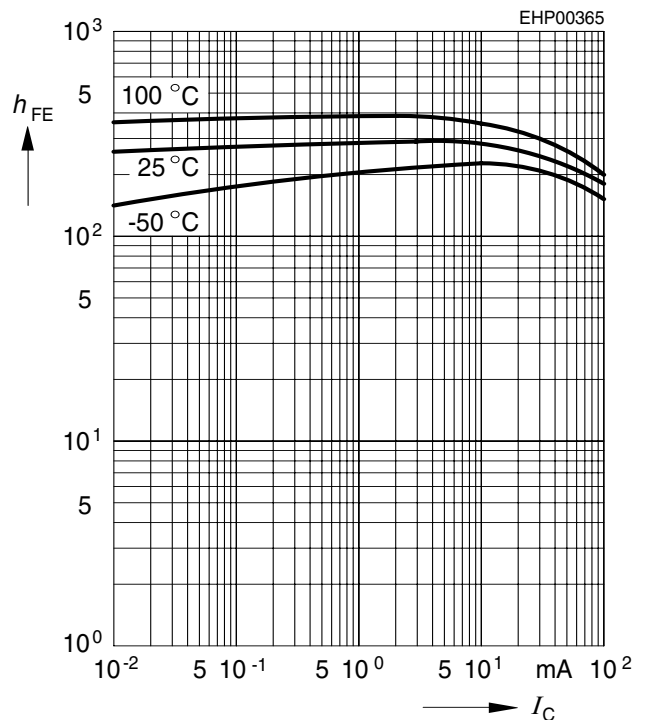
**Collector cutoff current  $I_{CBO} = f(T_A)$**

$V_{CB} = 30V$

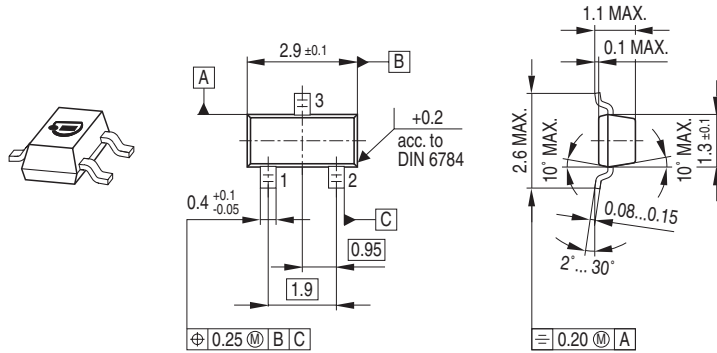


**DC current gain  $h_{FE} = f(I_C)$**

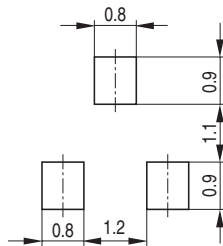
$V_{CE} = 5V$



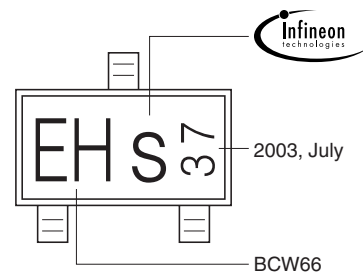
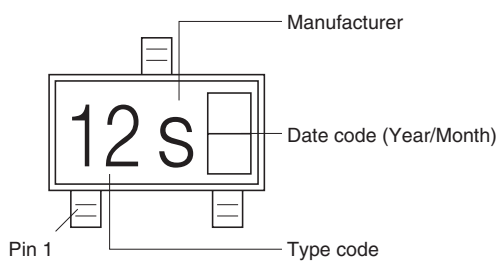
### Package Outline



### Foot Print



### Marking Layout

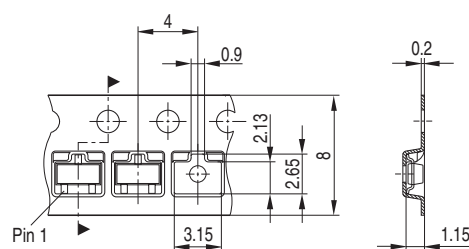


Example

### Packing

Code E6327: Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel

Code E6433: Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



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