



**THE DATASHEET OF  
BCW68FE6327HTSA1**



**PNP Silicon AF Transistors**

- For general AF applications
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: BCW66... (NPN)
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



Type	Marking	Pin Configuration			Package
		1=B	2=E	3=C	
BCW67A	DAs	1=B	2=E	3=C	SOT23
BCW67B	DBs	1=B	2=E	3=C	SOT23
BCW67C	DCs	1=B	2=E	3=C	SOT23
BCW68F	DFs	1=B	2=E	3=C	SOT23
BCW68G	DGs	1=B	2=E	3=C	SOT23
BCW68H	DHs	1=B	2=E	3=C	SOT23

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$V_{CEO}$		V
BCW67		32	
BCW68		45	
Collector-base voltage	$V_{CBO}$		
BCW67		45	
BCW68		60	
Emitter-base voltage	$V_{EBO}$	5	
Collector current	$I_C$	800	mA
Peak collector current, $t_p \leq 10$ ms	$I_{CM}$	1	A
Base current	$I_B$	100	mA
Peak base current	$I_{BM}$	200	
Total power dissipation, $T_S \leq 79^\circ\text{C}$	$P_{tot}$	330	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-65 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$	$\leq 215$	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-emitter breakdown voltage $I_C = 10\text{ mA}$ , $I_B = 0$ , BCW67 $I_C = 10\text{ mA}$ , $I_B = 0$ , BCW68	$V_{(BR)CEO}$	32 45	- -	- -	V
Collector-base breakdown voltage $I_C = 10\text{ }\mu\text{A}$ , $I_E = 0$ , BCW67 $I_C = 10\text{ }\mu\text{A}$ , $I_E = 0$ , BCW68	$V_{(BR)CBO}$	45 60	- -	- -	
Emitter-base breakdown voltage $I_E = 10\text{ }\mu\text{A}$ , $I_C = 0$	$V_{(BR)EBO}$	5	-	-	
Collector-base cutoff current $V_{CB} = 32\text{ V}$ , $I_E = 0$ $V_{CB} = 45\text{ V}$ , $I_E = 0$ $V_{CB} = 32\text{ V}$ , $I_E = 0$ , $T_A = 150^\circ\text{C}$ ; BCW67 $V_{CB} = 45\text{ V}$ , $I_E = 0$ , $T_A = 150^\circ\text{C}$ ; BCW68	$I_{CBO}$	- - - -	- - - -	0.02 0.02 20 20	$\mu\text{A}$
Emitter-base cutoff current $V_{EB} = 4\text{ V}$ , $I_C = 0$	$I_{EBO}$	-	-	20	nA
DC current gain <sup>1)</sup> $I_C = 100\text{ }\mu\text{A}$ , $V_{CE} = 10\text{ V}$ , $h_{FE}\text{-grp.A/F}$ $I_C = 100\text{ }\mu\text{A}$ , $V_{CE} = 10\text{ V}$ , $h_{FE}\text{-grp.B/G}$ $I_C = 100\text{ }\mu\text{A}$ , $V_{CE} = 10\text{ V}$ , $h_{FE}\text{-grp.C/H}$ $I_C = 10\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.A/F}$ $I_C = 10\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.B/G}$ $I_C = 10\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.C/H}$ $I_C = 100\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.A/F}$ $I_C = 100\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.B/G}$ $I_C = 100\text{ mA}$ , $V_{CE} = 1\text{ V}$ , $h_{FE}\text{-grp.C/H}$ $I_C = 500\text{ mA}$ , $V_{CE} = 2\text{ V}$ , $h_{FE}\text{-grp.A/F}$ $I_C = 500\text{ mA}$ , $V_{CE} = 2\text{ V}$ , $h_{FE}\text{-grp.B/G}$ $I_C = 500\text{ mA}$ , $V_{CE} = 2\text{ V}$ , $h_{FE}\text{-grp.C/H}$	$h_{FE}$	35 50 80 75 120 180 100 160 250 35 60 100	- - - - - - 160 250 350 - - -	- - - - - - 250 400 630 - - -	-

**DC Electrical Characteristics**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>Characteristics</b>					
Collector-emitter saturation voltage <sup>1)</sup> $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	$V_{CEsat}$	-	-	0.3 0.7	V
Base emitter saturation voltage <sup>1)</sup> $I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$ $I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	$V_{BEsat}$	-	-	1.25 2	

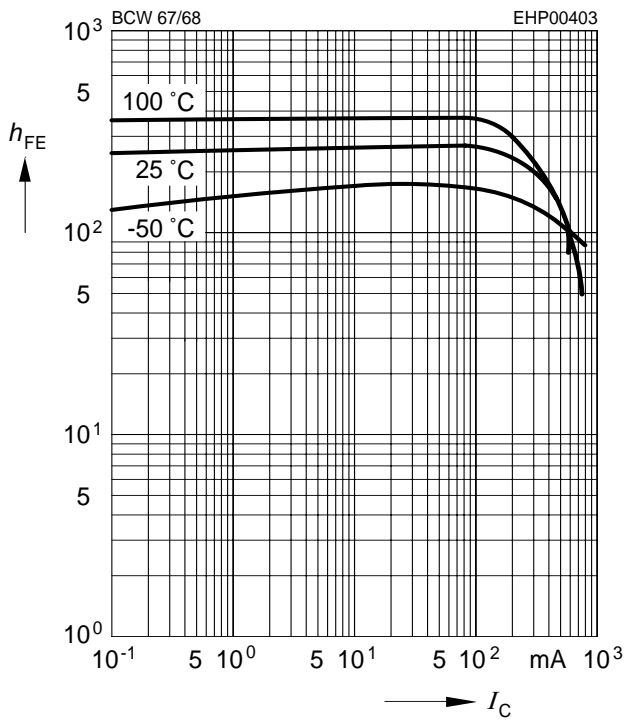
**AC Characteristics**

Transition frequency $I_C = 50 \text{ mA}, V_{CE} = 5 \text{ V}, f = 20 \text{ MHz}$	$f_T$	-	200	-	MHz
Collector-base capacitance $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$	$C_{cb}$	-	6	-	pF
Emitter-base capacitance $V_{EB} = 0.5 \text{ V}, f = 1 \text{ MHz}$	$C_{eb}$	-	60	-	

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

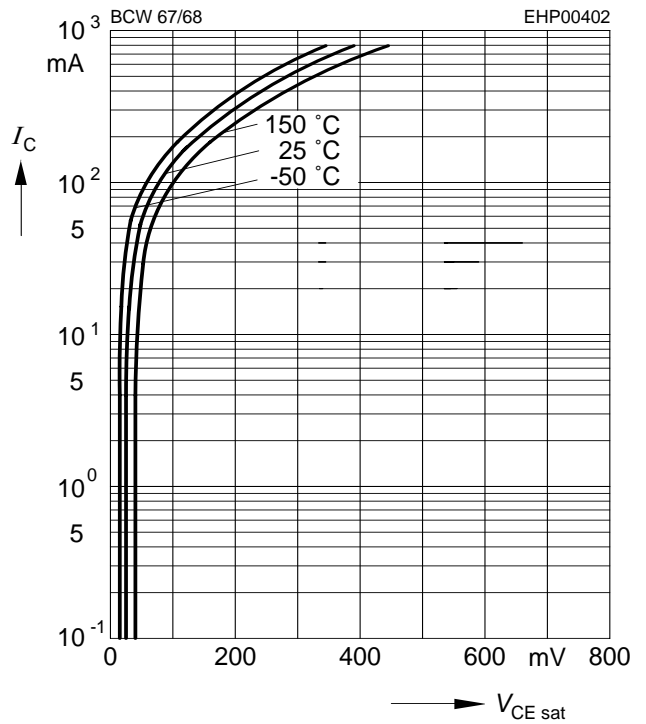
**DC current gain  $h_{FE} = f(I_C)$**

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



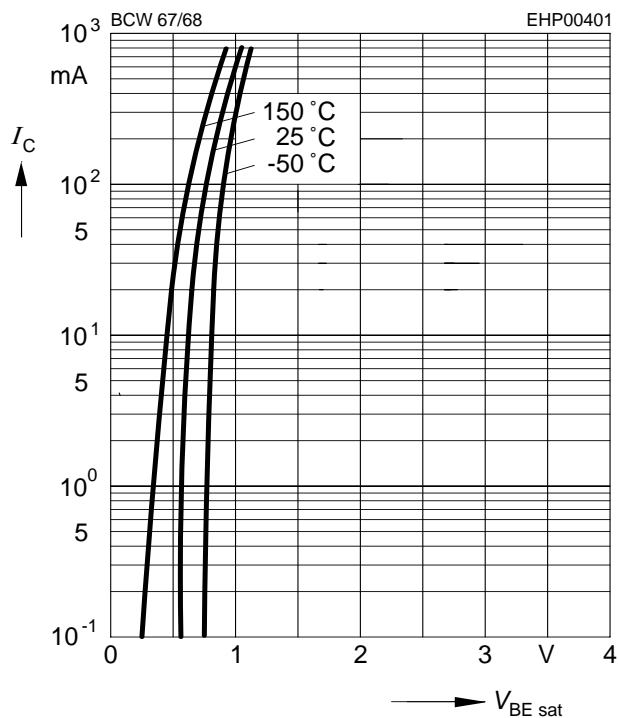
**Collector-emitter saturation voltage**

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



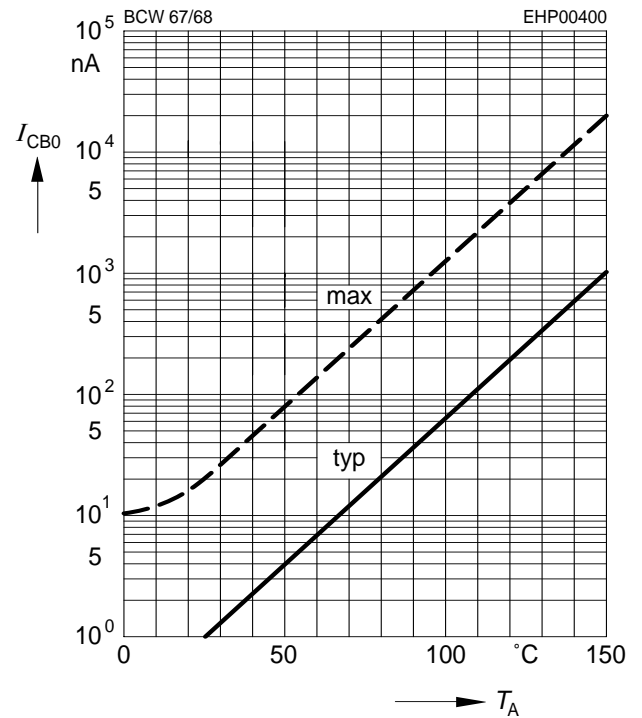
**Base-emitter saturation voltage**

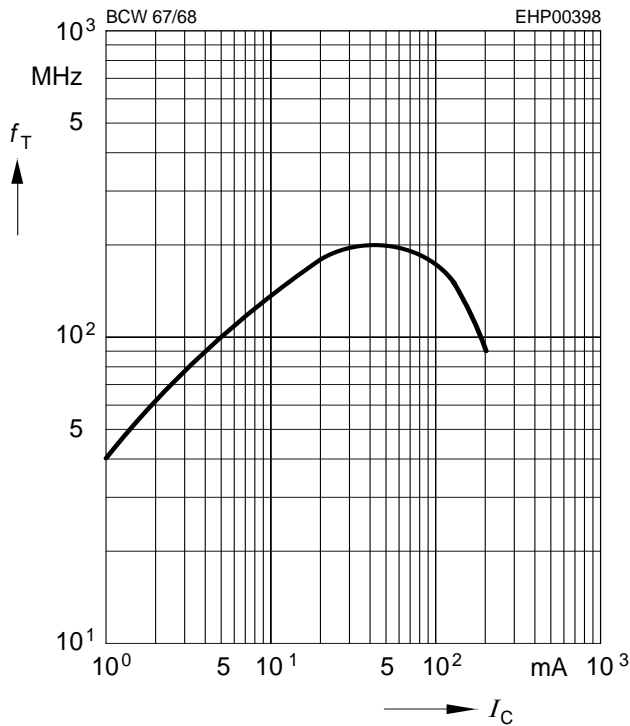
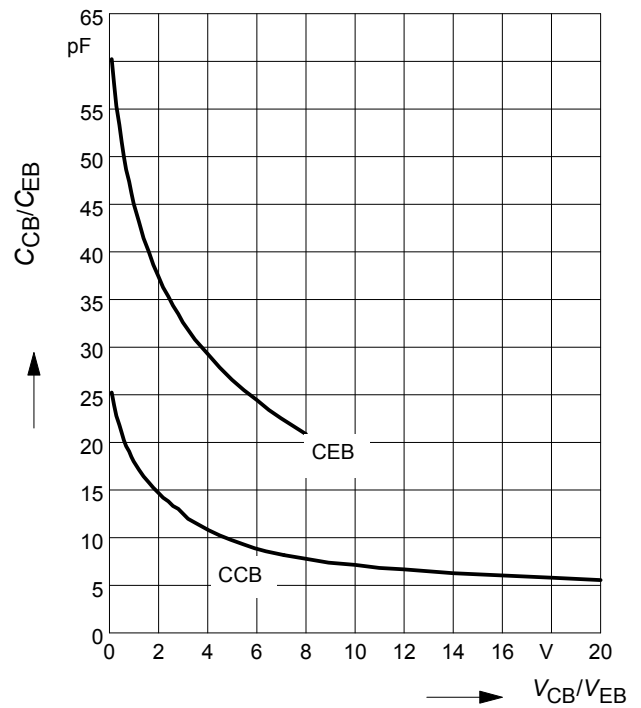
$I_C = f(V_{BEsat}), h_{FE} = 10$

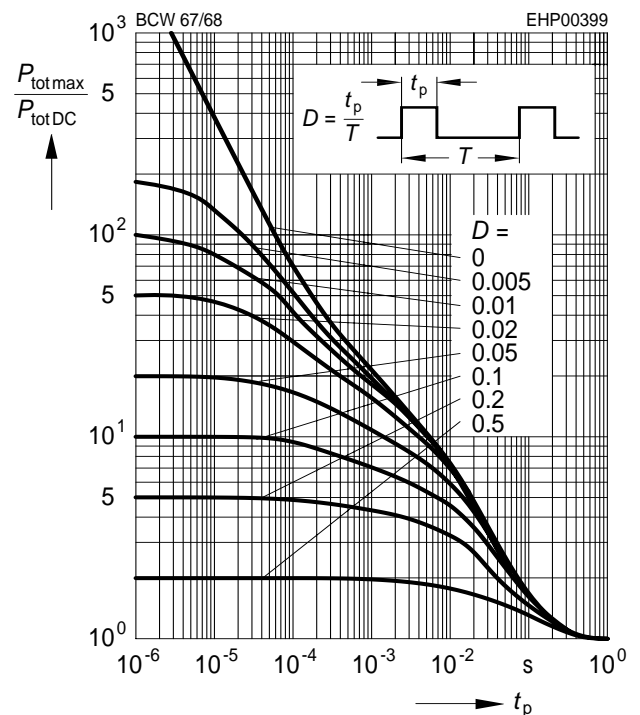


**Collector cutoff current  $I_{CBO} = f(T_A)$**

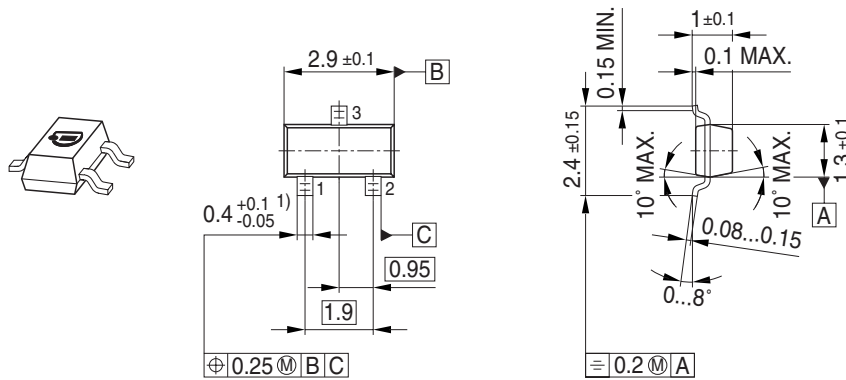
$V_{CBO} = 25\text{ V}$



**Transition frequency  $f_T = f(I_C)$** 
 $V_{CE} = 5\text{ V}$ 

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

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

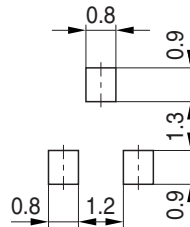
**Permissible Pulse Load**
 $P_{totmax}/P_{totDC} = f(t_p)$ 


Package Outline

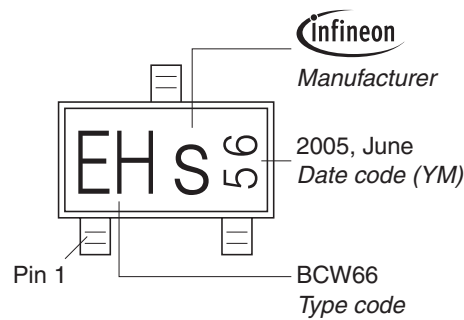


1) Lead width can be 0.6 max. in dambar area

Foot Print

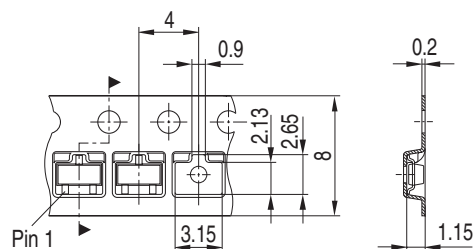


Marking Layout (Example)



Standard Packing

Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



**Edition 2009-11-16**

**Published by  
Infineon Technologies AG  
81726 Munich, Germany**

**© 2009 Infineon Technologies AG  
All Rights Reserved.**

### **Legal Disclaimer**

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

### **Information**

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office ([<www.infineon.com>](http://www.infineon.com)).



### **Warnings**

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View BCW68FE6327HTSA1 on WIN SOURCE](#)
-  [Infineon Technologies](#) Information

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management