



## NPN general purpose transistor

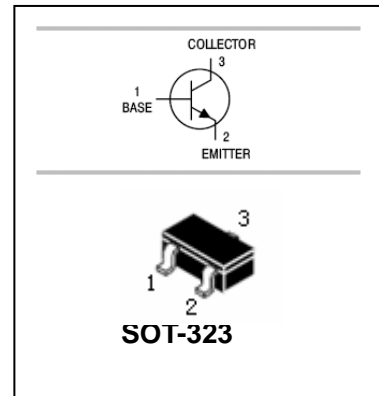
## BC817W/BC818W

### FEATURES

- High collector current.
- High current gain.
- Low collector-emitter saturation voltage.
- Complementary types:BC807W,BC808W.



Lead-free



### APPLICATIONS

- General purpose switching and amplification application.

### ORDERING INFORMATION

Type No.	Marking	Package Code
BC817-16W	6A	SOT-323
BC817-25W	6B	SOT-323
BC817-40W	6C	SOT-323
BC818-16W	6E	SOT-323
BC818-25W	6F	SOT-323
BC818-40W	6G	SOT-323

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	BC817W	50
		BC818W	30
V <sub>CEO</sub>	Collector-Emitter Voltage	BC817W	45
		BC818W	25
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current -Continuous	500	mA
I <sub>CM</sub>	Peak Collector Current	1	A
I <sub>B</sub>	Base Current	100	mA
I <sub>BM</sub>	Peak Base Current	200	mA
P <sub>tot</sub>	Total Power Dissipation	200	mW
T <sub>J</sub> , T <sub>stg</sub>	Junction and Storage Temperature	-65 to +150	°C



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**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Collector-base breakdown voltage BC817W BC818W	$V_{(BR)CBO}$	$I_C=10\mu A, I_B=0$	50 30			V	
Collector-emitter breakdown voltage BC817W BC818W	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	45 25			V	
Emitter-base breakdown voltage BC817W BC818W	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V	
Collector cut-off current	$I_{CBO}$	$V_{CB}=25V, I_E=0$ $V_{CB}=25V, I_E=0, T_j=150^\circ C$			100 50	nA $\mu A$	
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			100	nA	
DC current gain	$h_{FE}$	$V_{CE}=1V, I_C=100mA$					
		16W	100		250		
		25W	160		400		
		40W	250		600		
		$V_{CE}=1V, I_C=300mA$					
		16W	60				
25W	100						
40W	170						
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.7	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$			1.2	V	
Transition frequency	$f_T$	$V_{CE}=5V, I_C=50mA,$ $f=100MHz$		170		MHz	
Collector-base capacitance	$C_{Cb}$	$V_{CB}=10V, I_E=0, f=1MHz$		6		pF	



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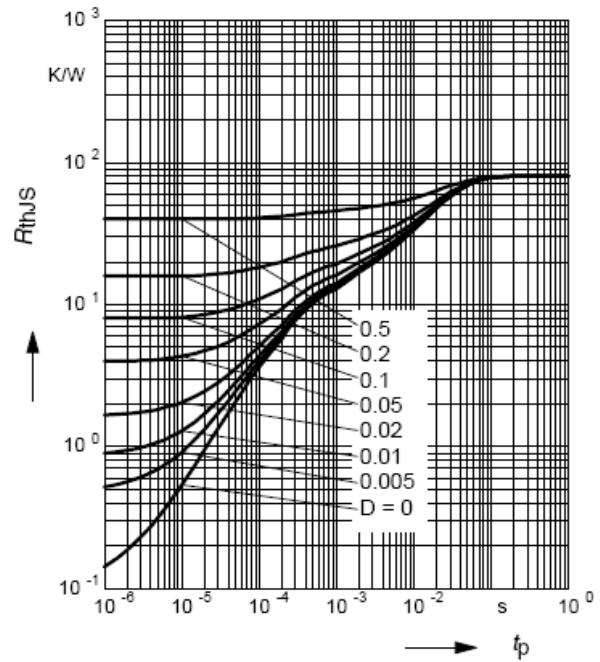
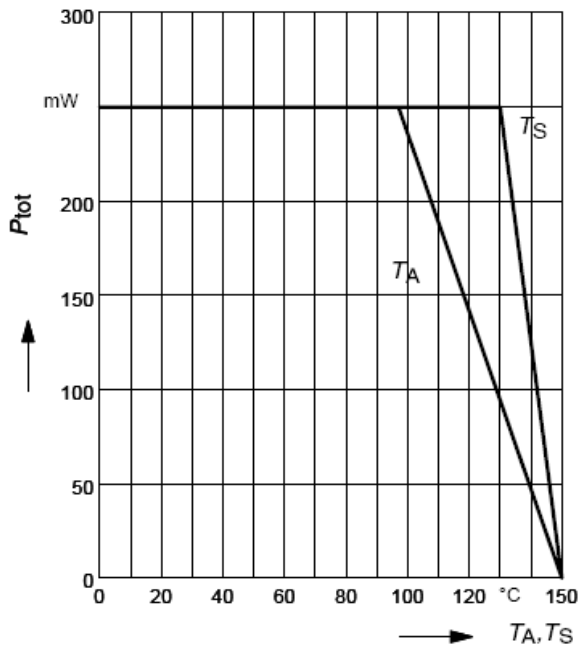
**BC817W/BC818W**

YPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

**Total power dissipation  $P_{\text{tot}} = f(T_A^*; T_S)$**

\* Package mounted on epoxy

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

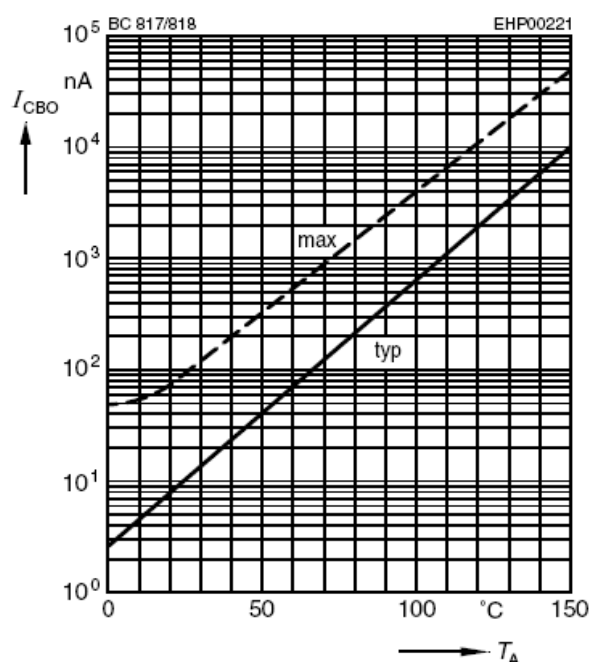
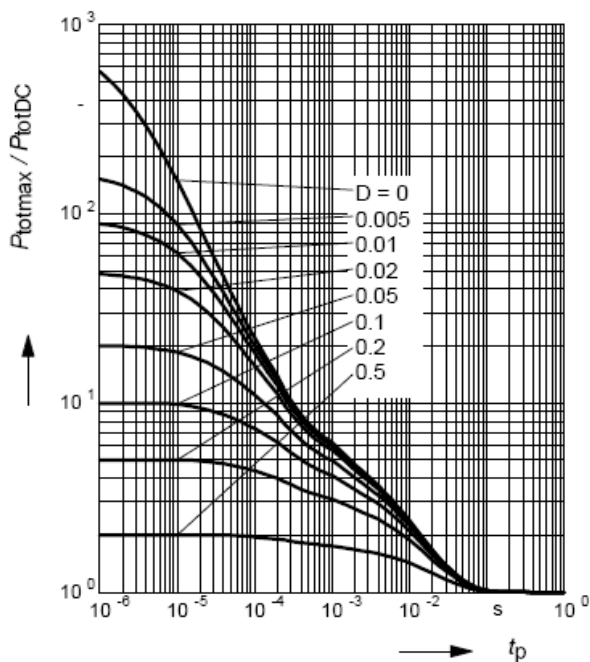


**Permissible Pulse Load**

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

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

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

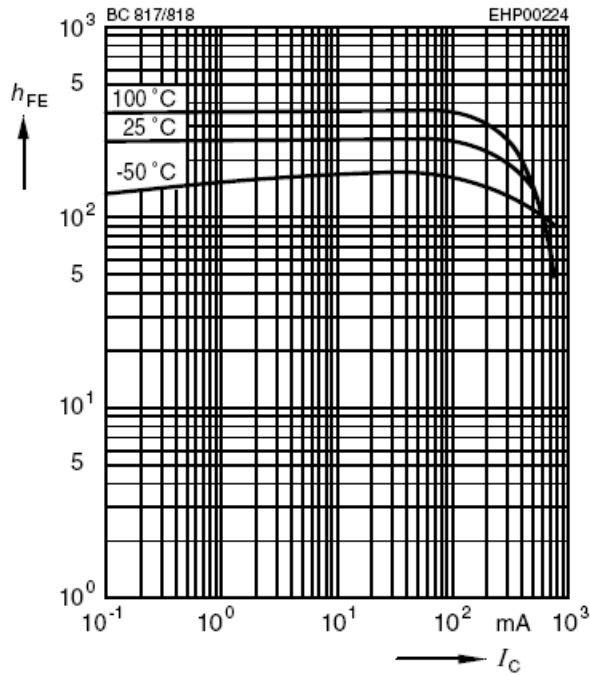


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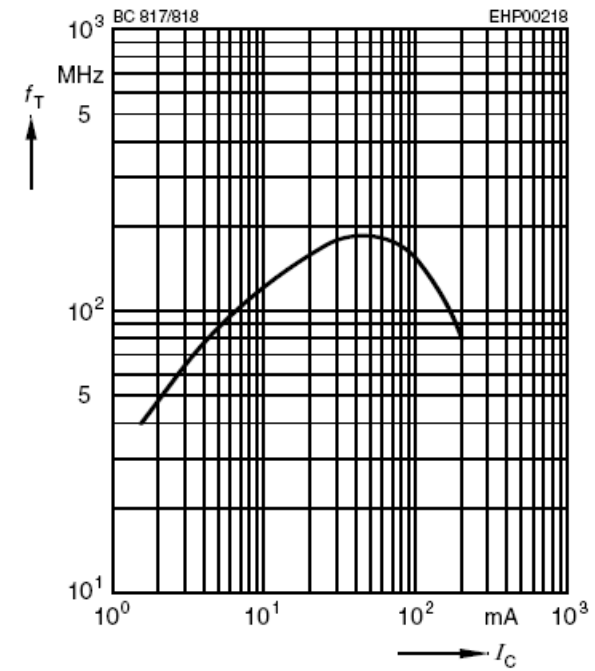
**DC current gain  $h_{FE} = f(I_C)$**

$V_{CE} = 1V$



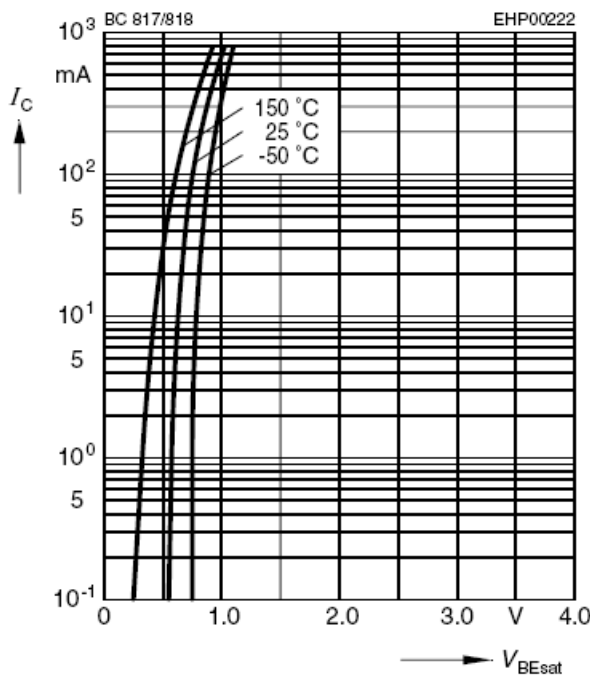
**Transition frequency  $f_T = f(I_C)$**

$V_{CE} = 5V$



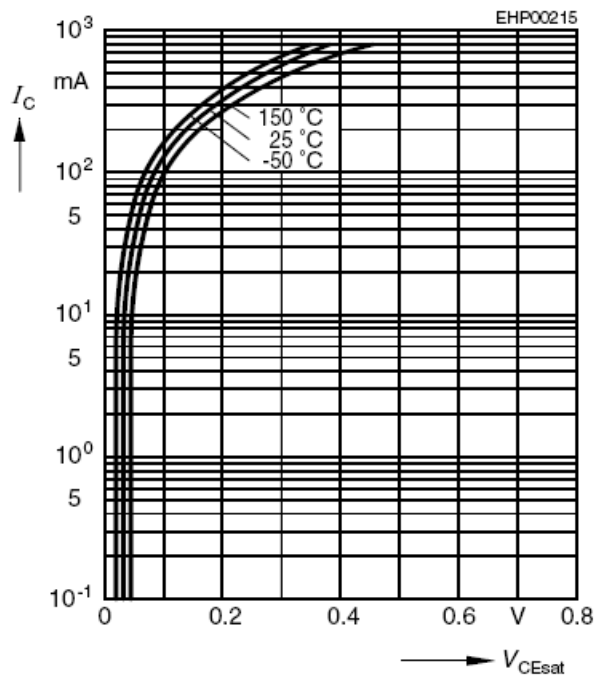
**Base-emitter saturation voltage**

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



**Collector-emitter saturation voltage**

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



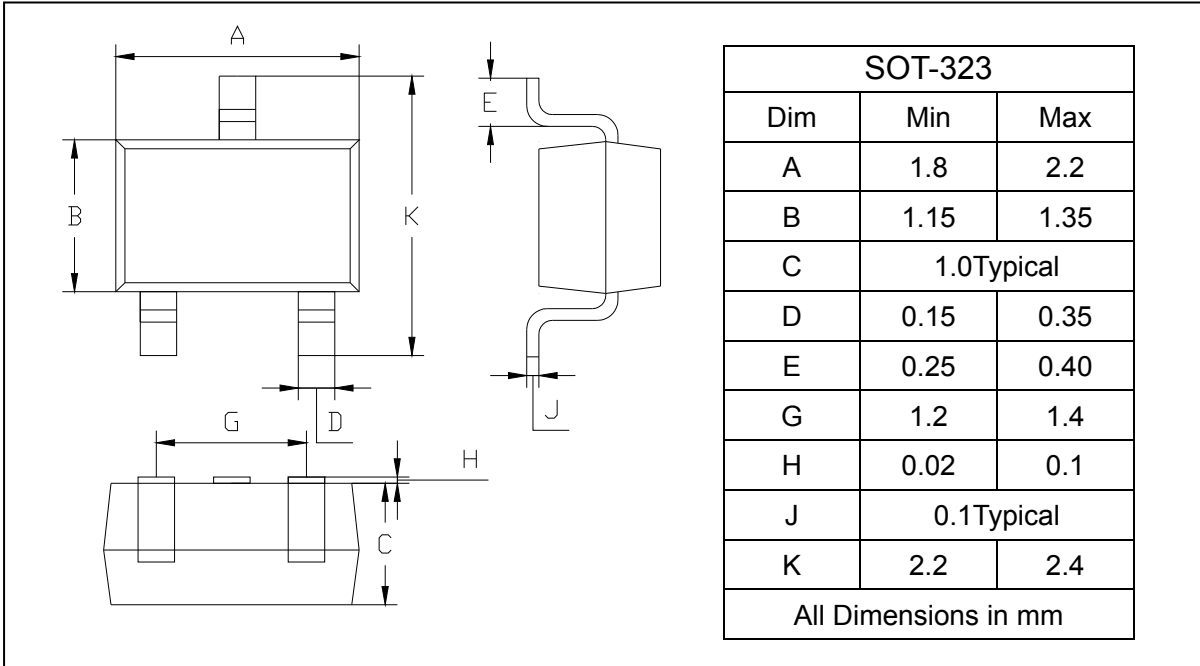
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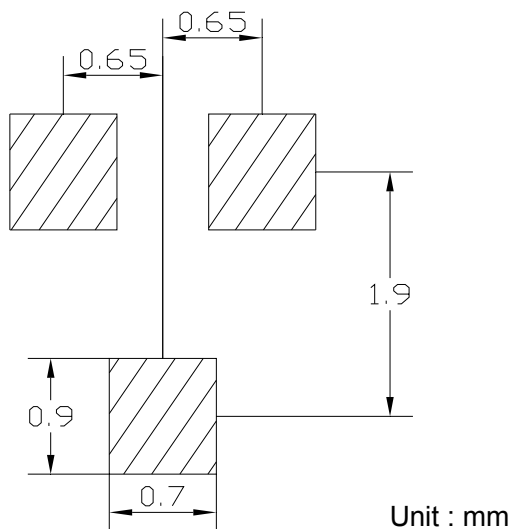
**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-323



**SOLDERING FOOTPRINT**



**PACKAGE INFORMATION**

Device	Package	Shipping
BC817W/BC818W	SOT-323	3000/Tape&Reel