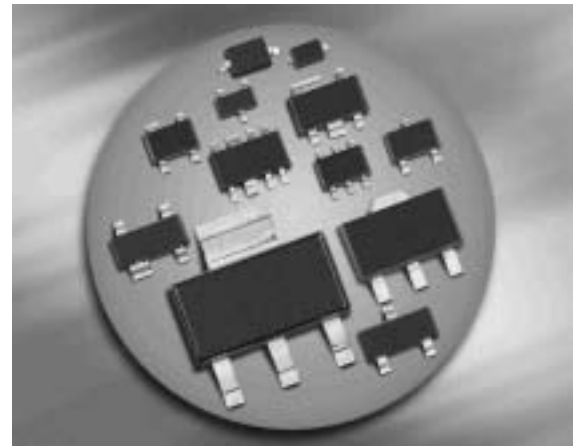
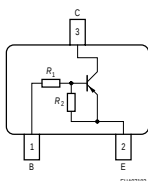


PNP Silicon Digital Transistor

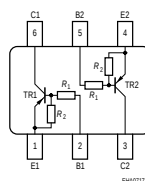
- Switching circuit, inverter, interface circuit, driver circuit
- Built in bias resistor ($R_1 = 10\text{ k}\Omega$, $R_2 = 10\text{ k}\Omega$)
- BCR183S / U: Two internally isolated transistors with good matching in one multichip package
- BCR183S / U: For orientation in reel see package information below
- Pb-free (RoHS compliant) package ¹⁾
- Qualified according AEC Q101



BCR183/F BCR183W



BCR183S/U



Type	Marking	Pin Configuration						Package
BCR183	WMs	1=B	2=E	3=C	-	-	-	SOT23
BCR183F	WMs	1=B	2=E	3=C	-	-	-	TSFP-3
BCR183S	WMs	1=E1	2=B1	3=C2	4=E2	5=B2	6=C1	SOT363
BCR183U	WMs	1=E1	2=B1	3=C2	4=E2	5=B2	6=C1	SC74
BCR183W	WMs	1=B	2=E	3=C	-	-	-	SOT323

¹Pb-containing package may be available upon special request

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Input forward voltage	$V_{i(fwd)}$	40	
Input reverse voltage	$V_{i(rev)}$	10	
Collector current	I_C	100	mA
Total power dissipation- BCR183, $T_S \leq 102^\circ\text{C}$ BCR183F, $T_S \leq 128^\circ\text{C}$ BCR183S, $T_S \leq 115^\circ\text{C}$ BCR183U, $T_S \leq 118^\circ\text{C}$ BCR183W, $T_S \leq 124^\circ\text{C}$	P_{tot}	200 250 250 250 250	mW
Junction temperature	T_j	150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾ BCR183 BCR183F BCR183S BCR183U BCR183W	R_{thJS}	≤ 240 ≤ 90 ≤ 140 ≤ 133 ≤ 105	K/W

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

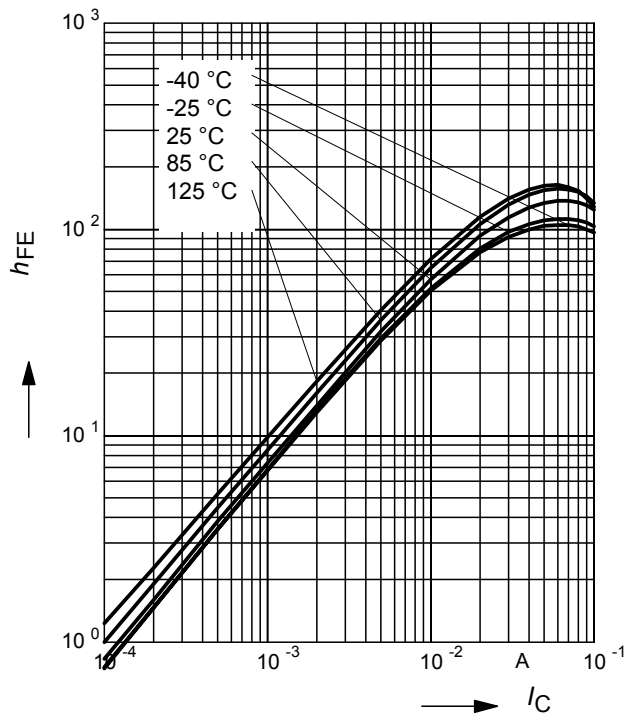
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 100\ \mu\text{A}$, $I_B = 0$	$V_{(\text{BR})\text{CEO}}$	50	-	-	V
Collector-base breakdown voltage $I_C = 10\ \mu\text{A}$, $I_E = 0$	$V_{(\text{BR})\text{CBO}}$	50	-	-	
Collector-base cutoff current $V_{\text{CB}} = 40\ \text{V}$, $I_E = 0$	I_{CBO}	-	-	100	nA
Emitter-base cutoff current $V_{\text{EB}} = 10\ \text{V}$, $I_C = 0$	I_{EBO}	-	-	0.75	mA
DC current gain ¹⁾ $I_C = 5\ \text{mA}$, $V_{\text{CE}} = 5\ \text{V}$	h_{FE}	30	-	-	-
Collector-emitter saturation voltage ¹⁾ $I_C = 10\ \text{mA}$, $I_B = 0.5\ \text{mA}$	V_{CEsat}	-	-	0.3	V
Input off voltage $I_C = 100\ \mu\text{A}$, $V_{\text{CE}} = 5\ \text{V}$	$V_{\text{i(off)}}$	0.8	-	1.8	
Input on voltage $I_C = 2\ \text{mA}$, $V_{\text{CE}} = 0.3\ \text{V}$	$V_{\text{i(on)}}$	1	-	2.5	
Input resistor	R_1	7	10	13	kΩ
Resistor ratio	R_1/R_2	0.9	1	1.1	-
AC Characteristics					
Transition frequency $I_C = 10\ \text{mA}$, $V_{\text{CE}} = 5\ \text{V}$, $f = 100\ \text{MHz}$	f_{T}	-	200	-	MHz
Collector-base capacitance $V_{\text{CB}} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{cb}	-	3	-	pF

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

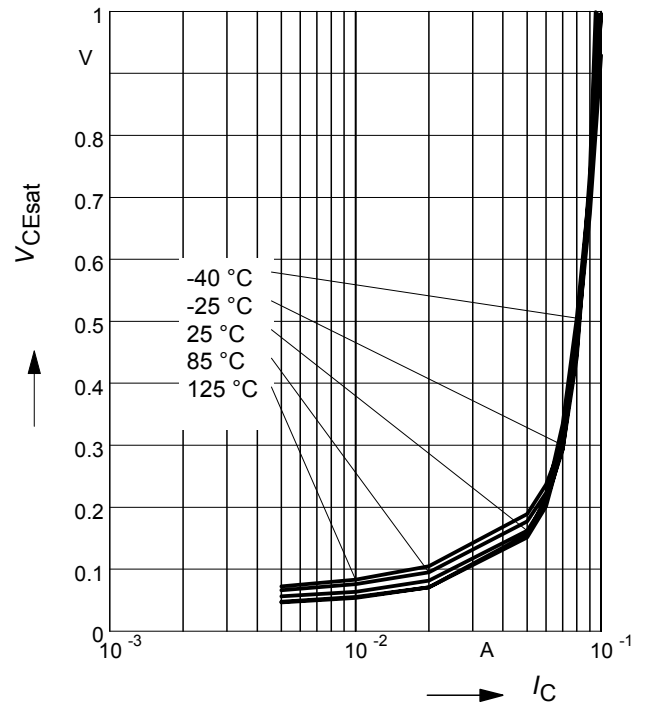
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 5 \text{ V}$ (common emitter configuration)



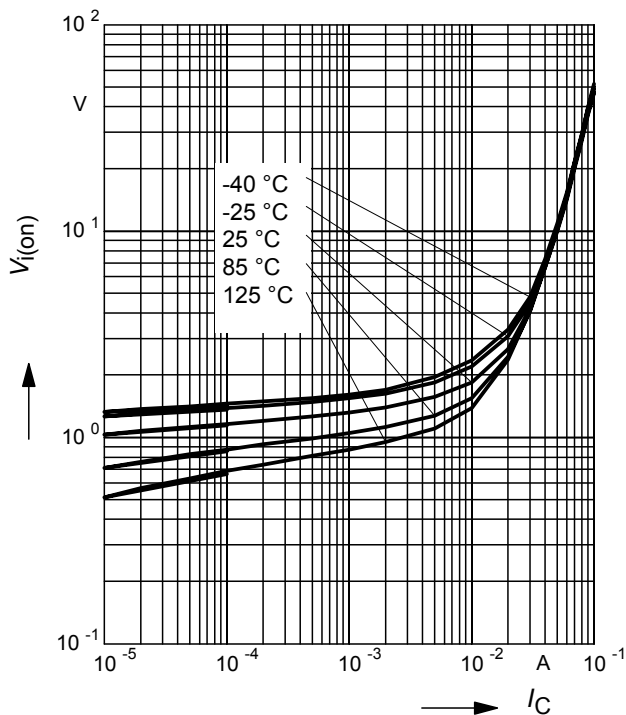
Collector-emitter saturation voltage

$V_{CEsat} = f(I_C)$, $I_C/I_B = 20$



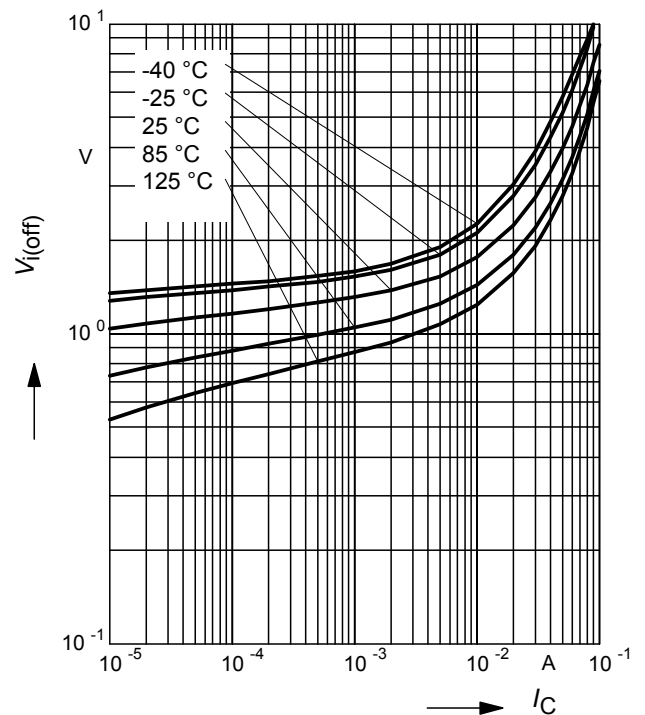
Input on Voltage $V_{i(on)} = f(I_C)$

$V_{CE} = 0.3 \text{ V}$ (common emitter configuration)



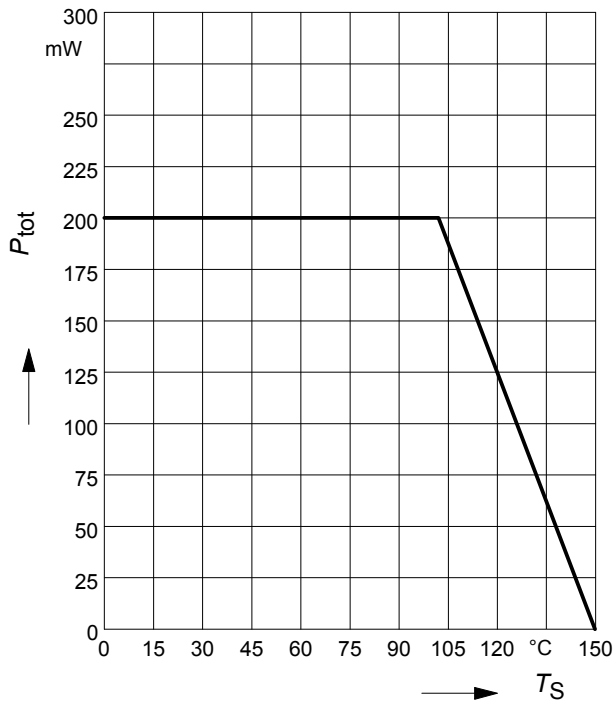
Input off voltage $V_{i(off)} = f(I_C)$

$V_{CE} = 5 \text{ V}$ (common emitter configuration)



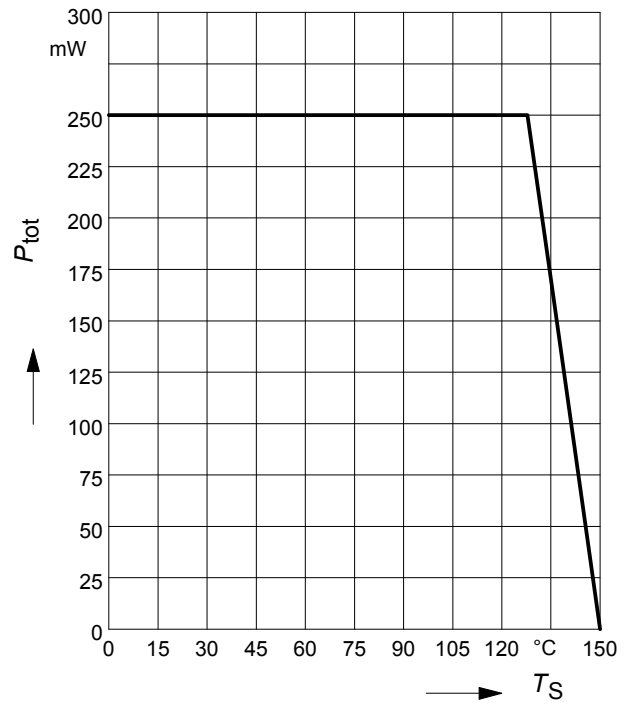
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR183



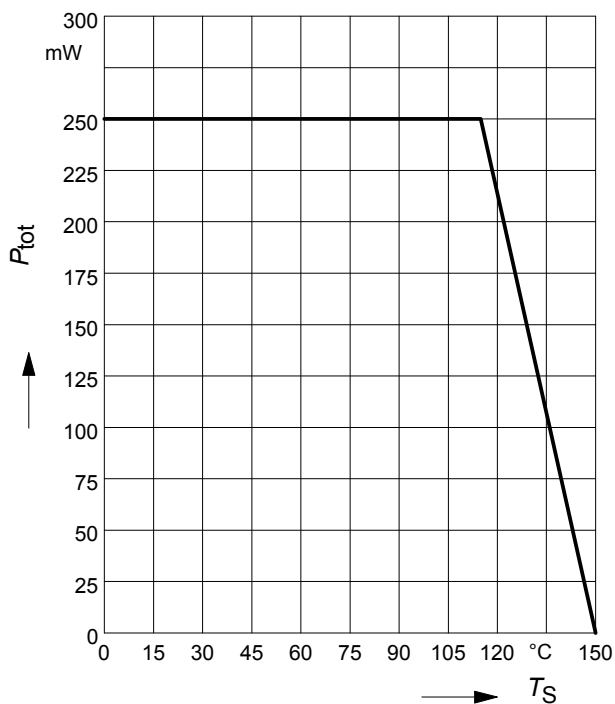
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR183F



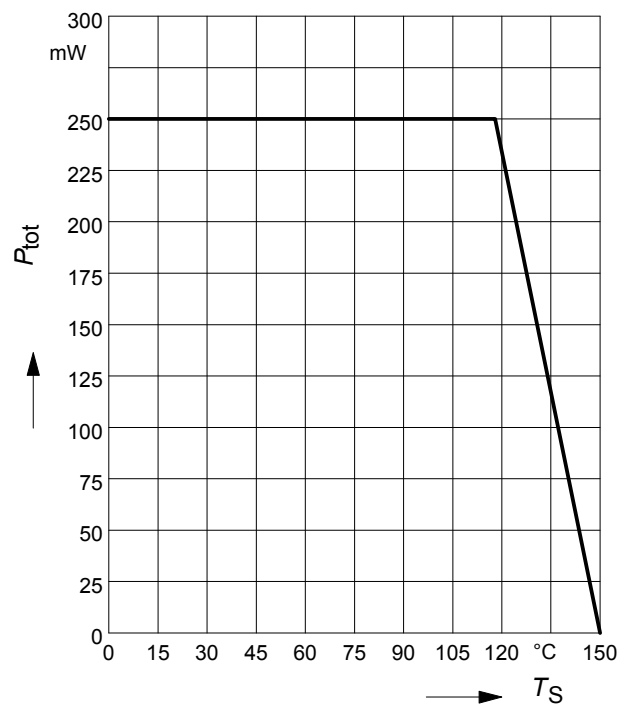
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR183S



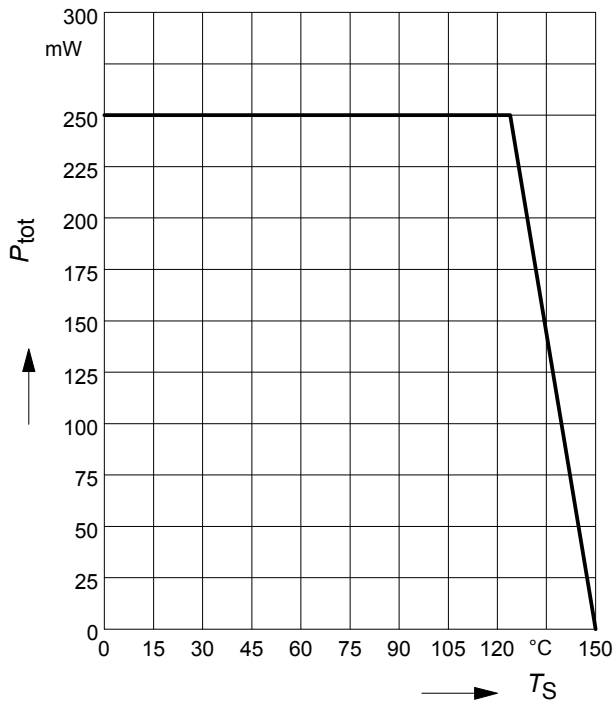
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR183U



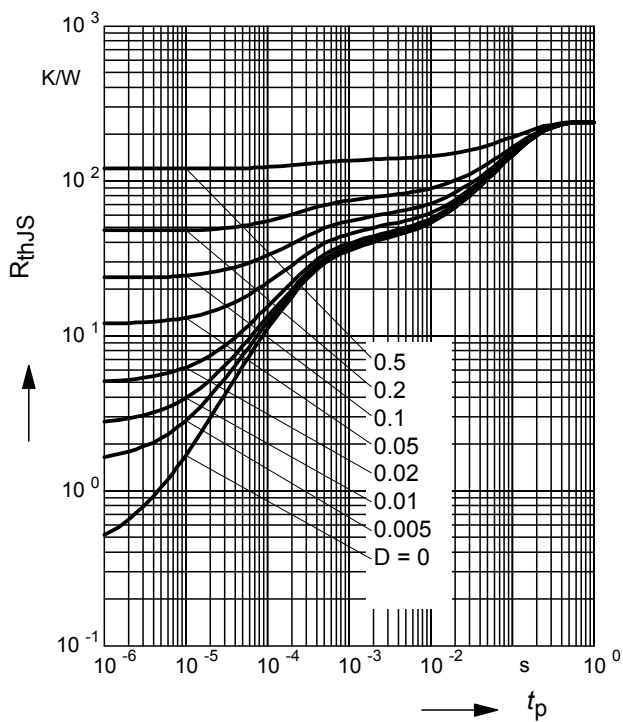
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR183W



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

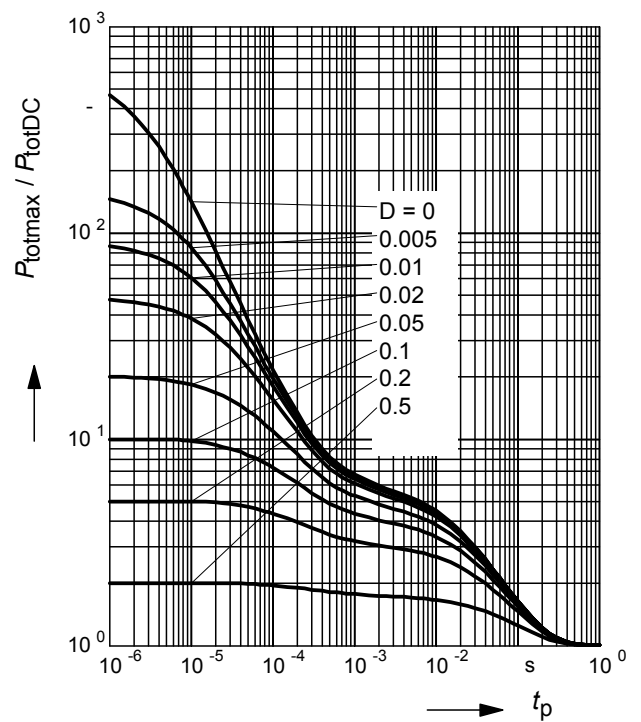
BCR183



Permissible Pulse Load

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

BCR183



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

BCR183F



Permissible Pulse Load

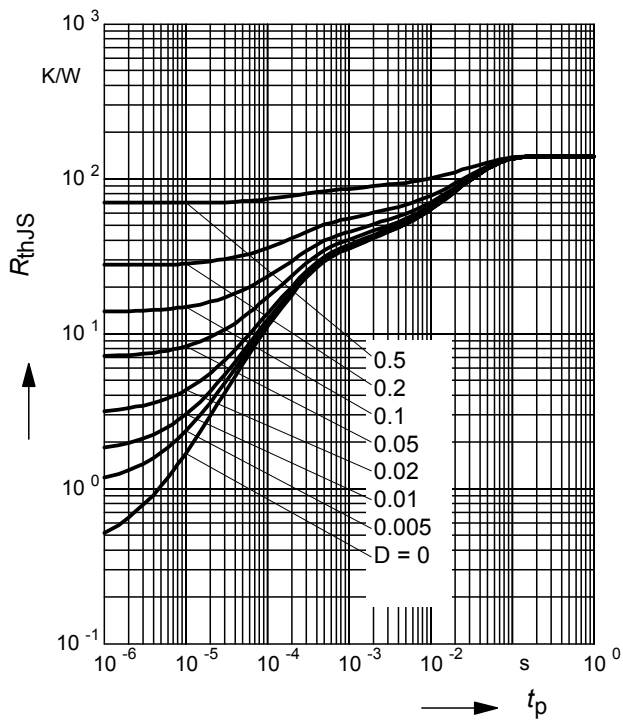
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR183F



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

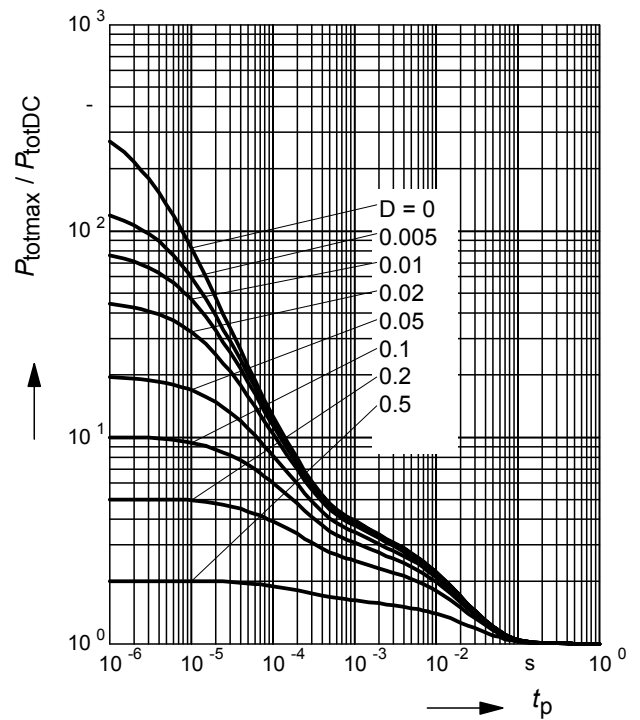
BCR183S



Permissible Pulse Load

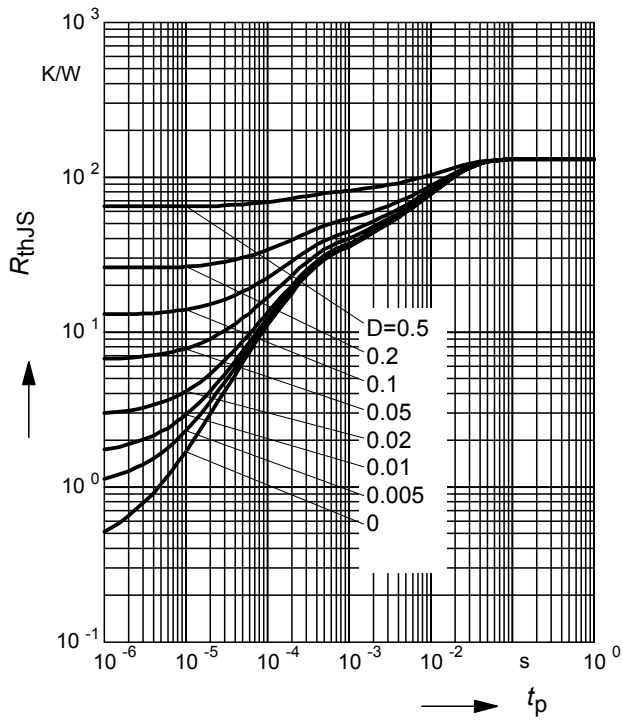
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR183S



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

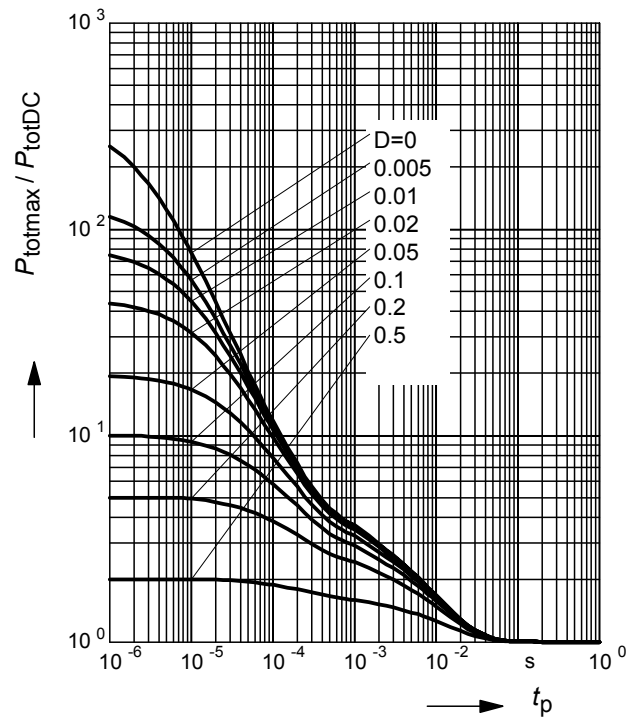
BCR183U



Permissible Pulse Load

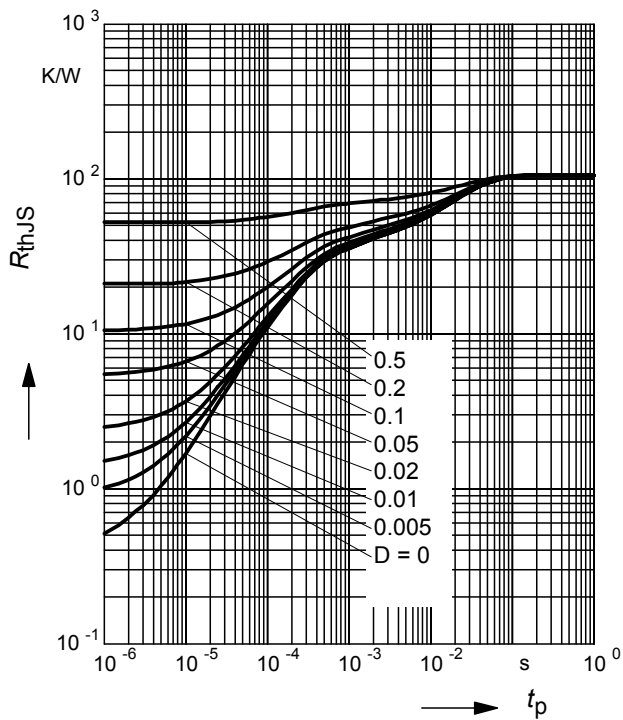
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR185U



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

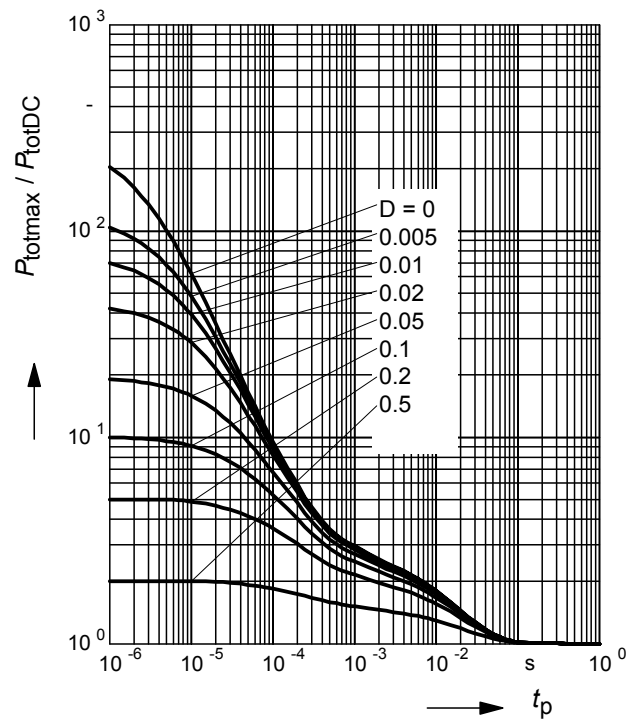
BCR183W



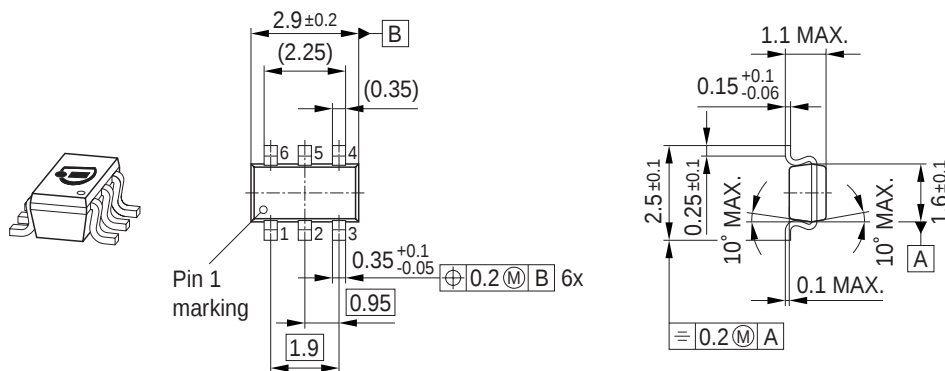
Permissible Pulse Load

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

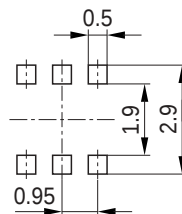
BCR183W



Package Outline

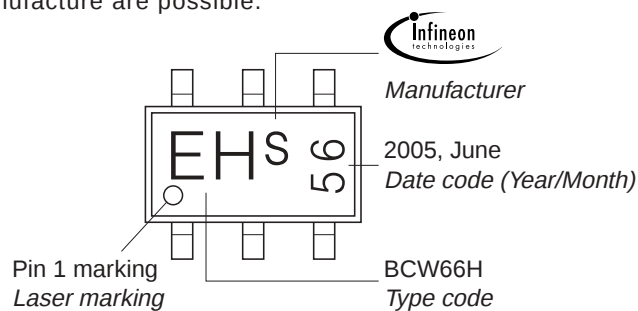


Foot Print



Marking Layout (Example)

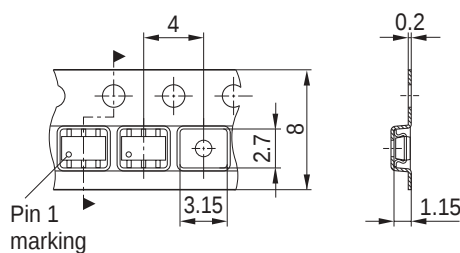
Small variations in positioning of Date code, Type code and Manufacture are possible.



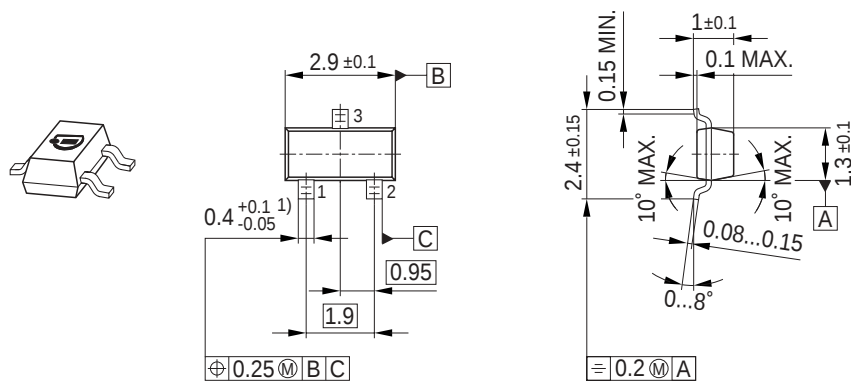
Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.

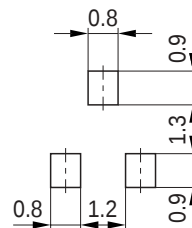


Package Outline

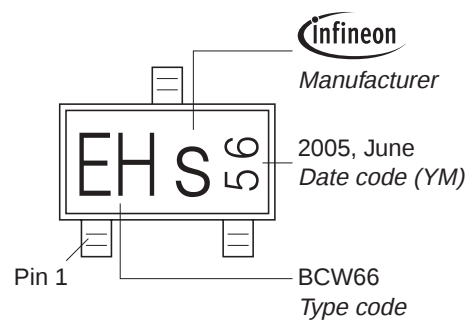


1) Lead width can be 0.6 max. in dambar area

Foot Print

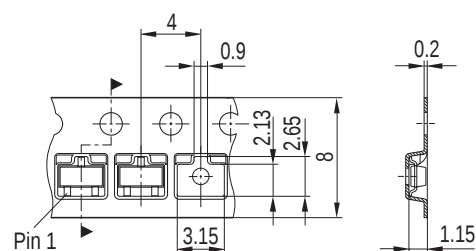


Marking Layout (Example)

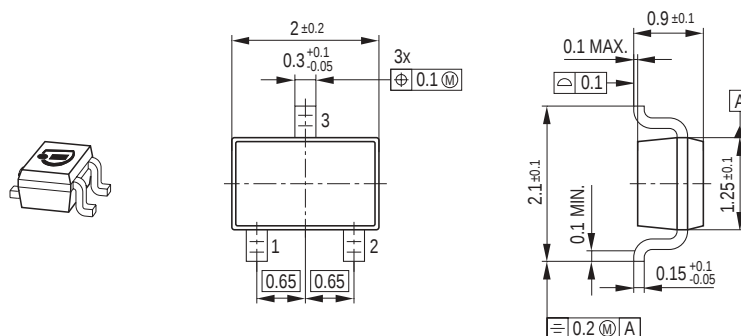


Standard Packing

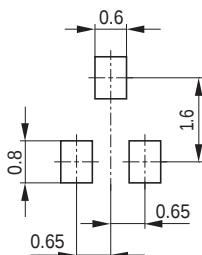
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



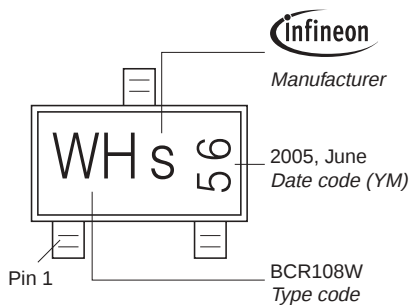
Package Outline



Foot Print

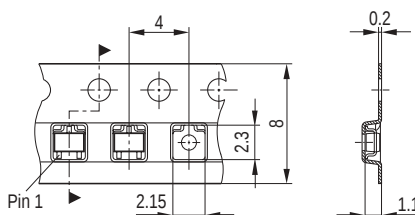


Marking Layout (Example)

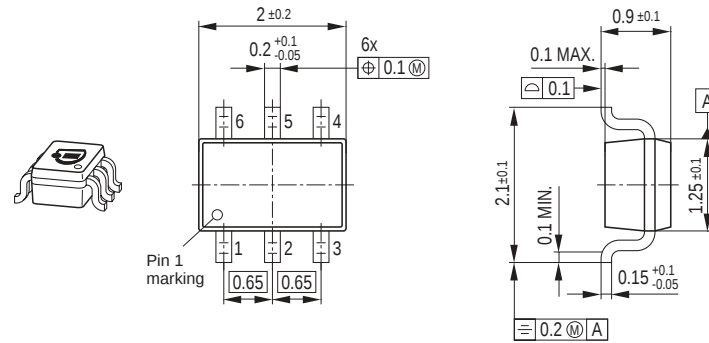


Standard Packing

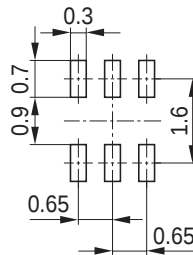
Reel $\varnothing 180 \text{ mm}$ = 3.000 Pieces/Reel
 Reel $\varnothing 330 \text{ mm}$ = 10.000 Pieces/Reel



Package Outline

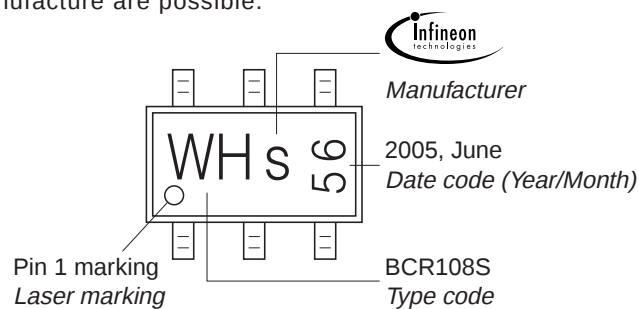


Foot Print



Marking Layout (Example)

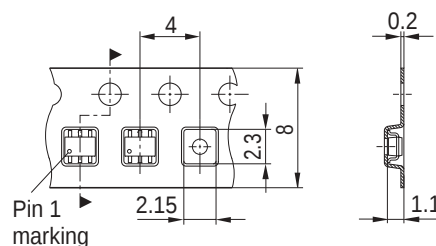
Small variations in positioning of Date code, Type code and Manufacture are possible.



Standard Packing

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

For symmetric types no defined Pin 1 orientation in reel.



[illegible]

Technical drawing of a mechanical part. The drawing shows a top view and a side view. The top view is a rectangle with a width of 0.4 and a height of 0.45. The side view is a rectangle with a width of 0.4 and a height of 1.05. The drawing is labeled with dimensions: 0.4, 0.45, 1.05, and 0.4.

Figure 1 illustrates the marking of the BCR847BF component. The component is a rectangular package with three pins. The top pin is labeled 'infineon' and 'Manufacturer'. The bottom-left pin is labeled 'Pin 1'. The bottom-right pin is labeled 'BCR847BF' and 'Type code'. The central area of the component is labeled '1F S'.

Technical drawing of a mechanical part with dimensions. The drawing shows a side view of a component with a total width of 8. The top edge has a thickness of 0.3. The bottom edge has a thickness of 0.7. The part features three circular features (holes or pins) with diameters of 1.2, 1.5, and 1.35. The distance between the centers of the first two circular features is 4. The distance between the center of the second circular feature and the center of the third circular feature is 1.35. The distance from the right edge of the part to the center of the third circular feature is 0.2. The part is labeled 'Pin 1' at the bottom left.

Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

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