

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	80	V
Peak reverse voltage	V_{RM}	85	
Forward current	I_F	200	mA
Non-repetitive peak surge forward current	I_{FSM}		A
$t = 1 \mu\text{s}$		4.5	
$t = 1 \text{ ms}$		1	
$t = 1 \text{ s single}$		0.5	
$t = 1 \text{ s double}$		0.75	
Total power dissipation	P_{tot}		mW
BAV70, $T_S \leq 33^\circ\text{C}$		250	
BAV70S, $T_S \leq 85^\circ\text{C}$		250	
BAV70U, $T_S \leq 90^\circ\text{C}$		250	
BAV70W, $T_S \leq 103^\circ\text{C}$		250	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BAV70		≤ 460	
BAV70S		≤ 260	
BAV70U		≤ 240	
BAV70W		≤ 190	

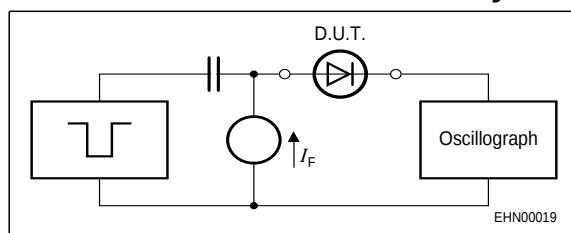
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{\text{(BR)}} = 100\text{ }\mu\text{A}$	$V_{\text{(BR)}}$	85	-	-	V
Reverse current $V_{\text{R}} = 70\text{ V}$ $V_{\text{R}} = 25\text{ V}, T_{\text{A}} = 150\text{ }^{\circ}\text{C}$ $V_{\text{R}} = 70\text{ V}, T_{\text{A}} = 150\text{ }^{\circ}\text{C}$	I_{R}	- - -	- - -	0.15 30 50	μA
Forward voltage $I_{\text{F}} = 1\text{ mA}$ $I_{\text{F}} = 10\text{ mA}$ $I_{\text{F}} = 50\text{ mA}$ $I_{\text{F}} = 100\text{ mA}$ $I_{\text{F}} = 150\text{ mA}$	V_{F}	- - - - -	- - - - -	715 855 1000 1200 1250	mV

AC Characteristics

Diode capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_T	-	-	1.5	pF
Reverse recovery time $I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$, measured at $I_R = 1 \text{ mA}$, $R_L = 100 \Omega$	t_{rr}	-	-	4	ns

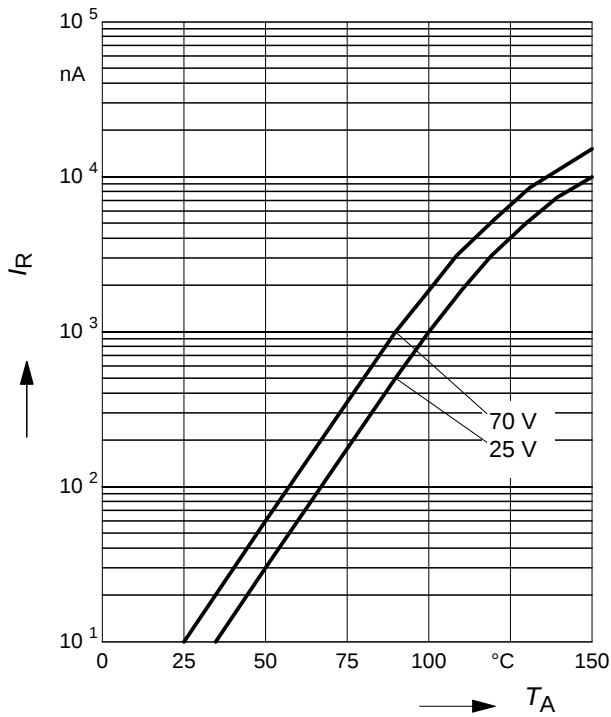
Test circuit for reverse recovery time


Pulse generator: $t_p = 100\text{ns}$, $D = 0.05$, $t_r = 0.6\text{ns}$,
 $R_i = 50\Omega$

Oscilloscope: $R = 50\Omega$, $t_r = 0.35\text{ns}$, $C = 0.05\text{pF}$

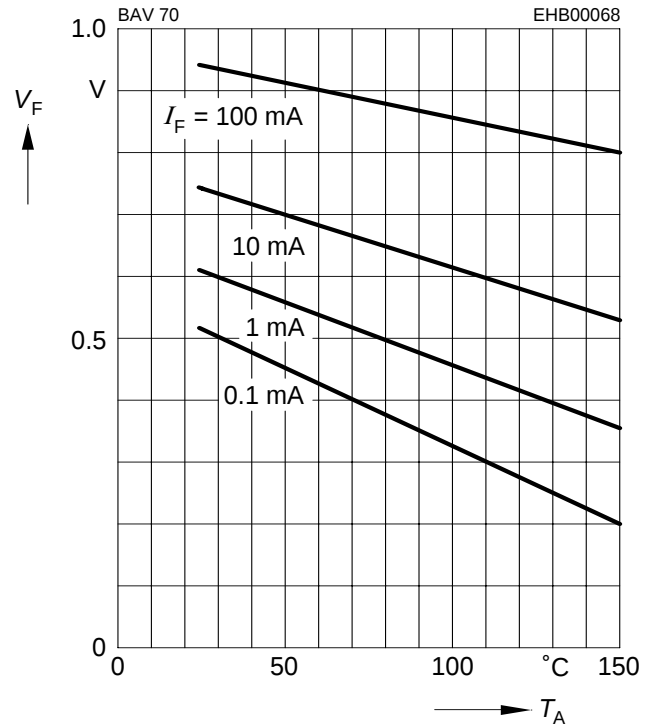
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



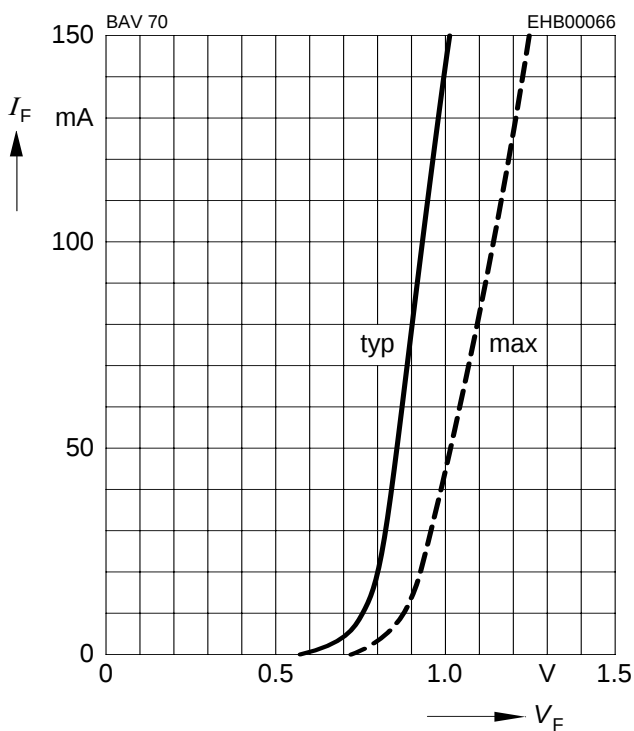
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



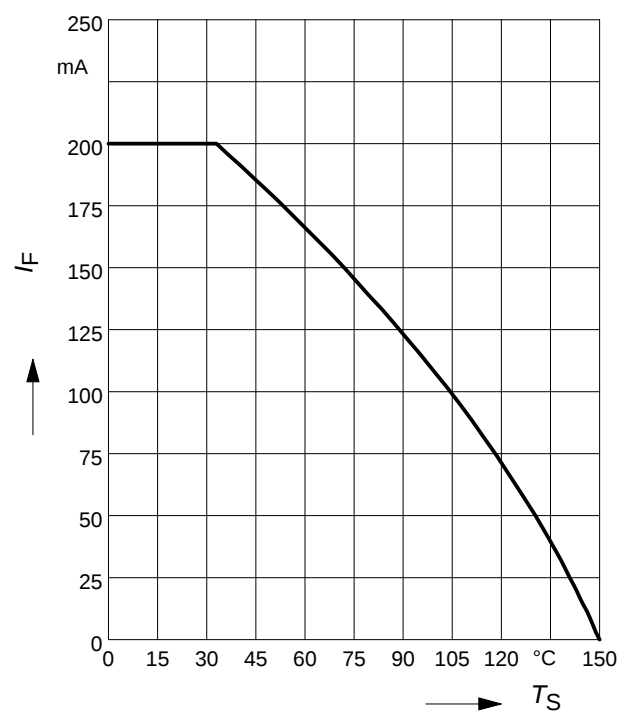
Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



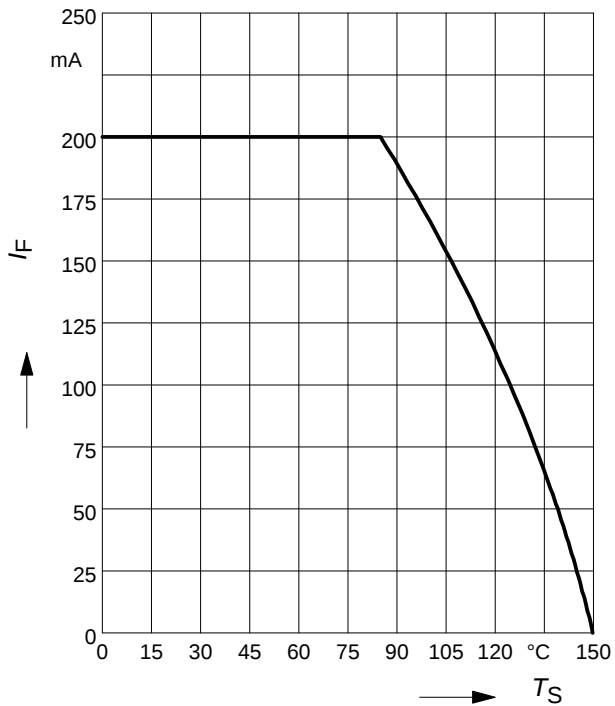
Forward current $I_F = f(T_S)$

BAV70



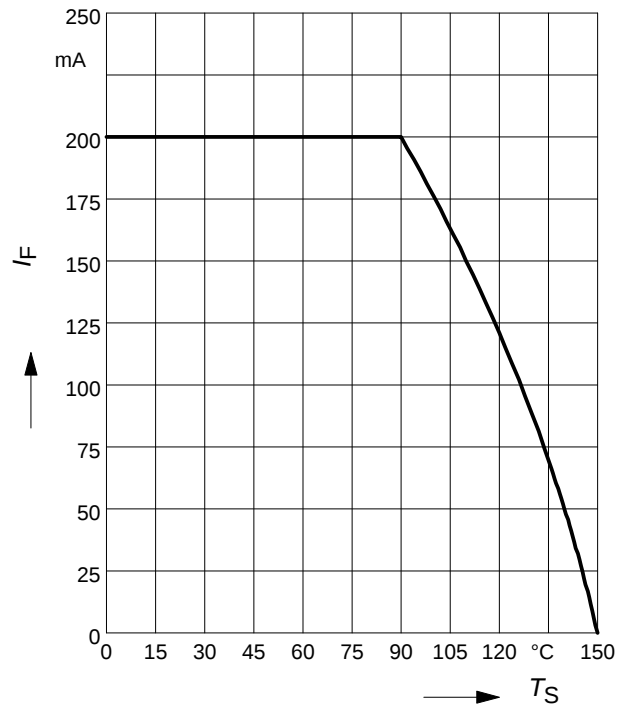
Forward current $I_F = f(T_S)$

BAV70S



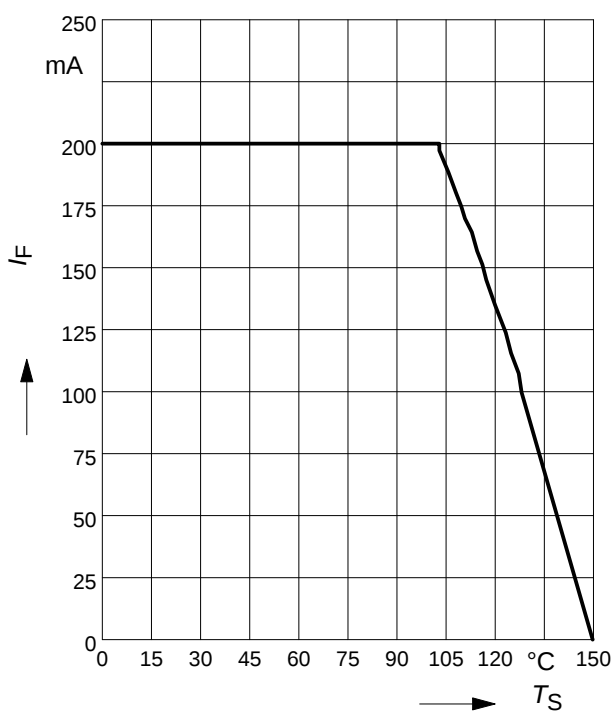
Forward current $I_F = f(T_S)$

BAV70U



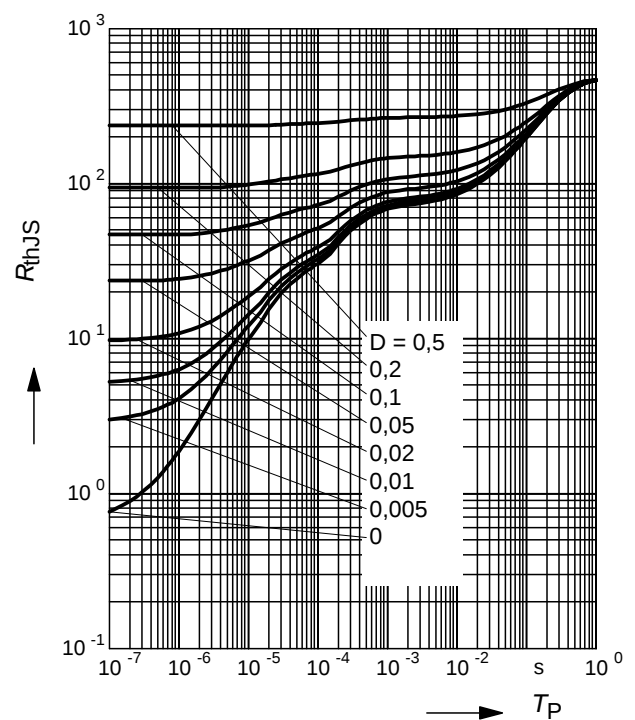
Forward current $I_F = f(T_S)$

BAV70W



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

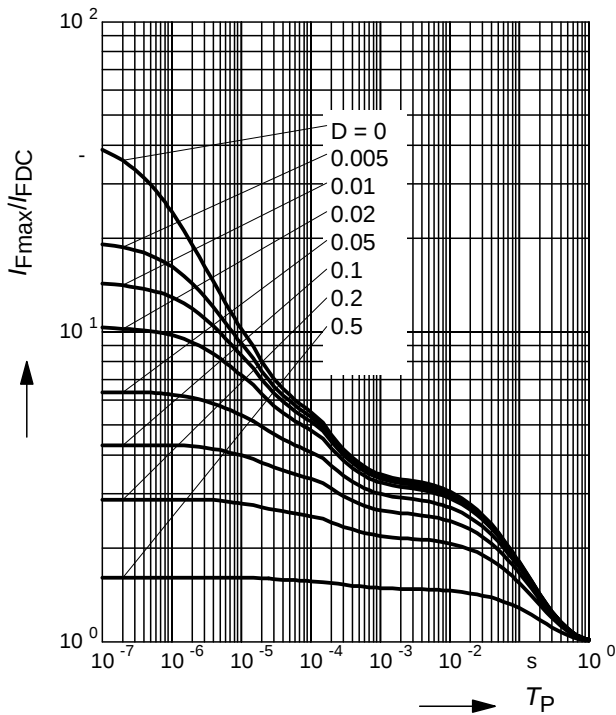
BAV70



Permissible Pulse Load

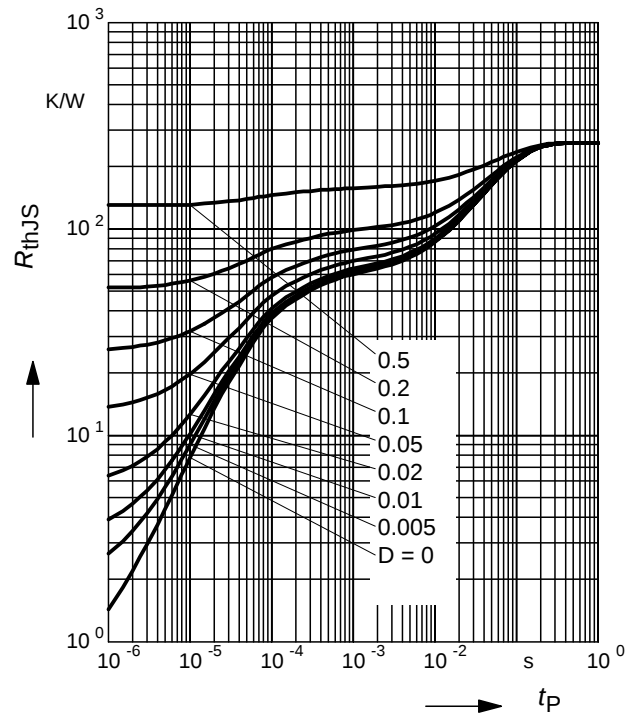
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAV70



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

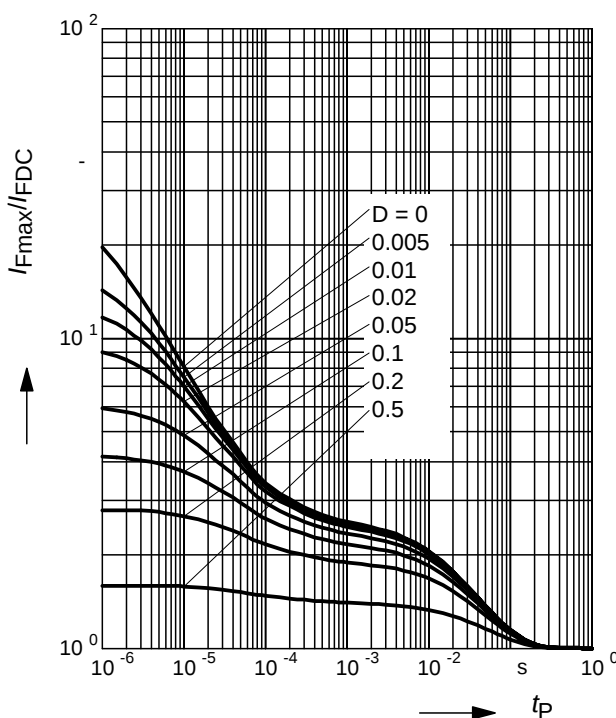
BAV70S



Permissible Pulse Load

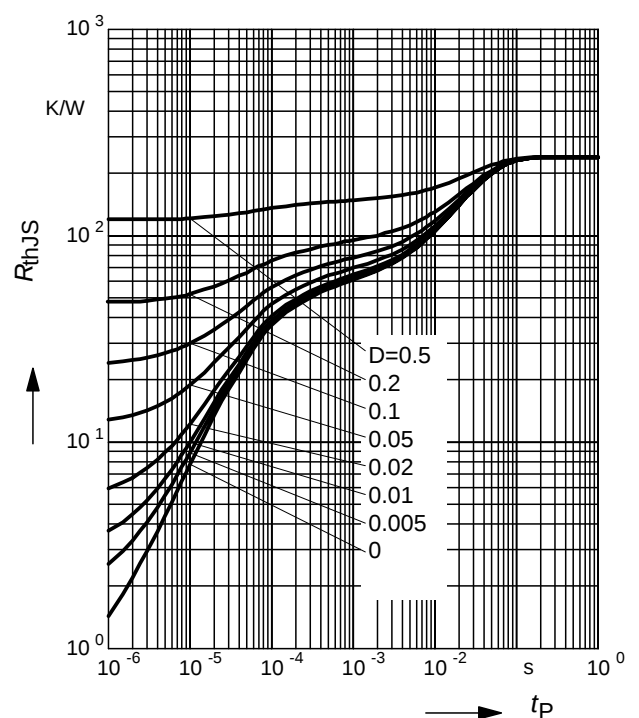
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAV70S



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

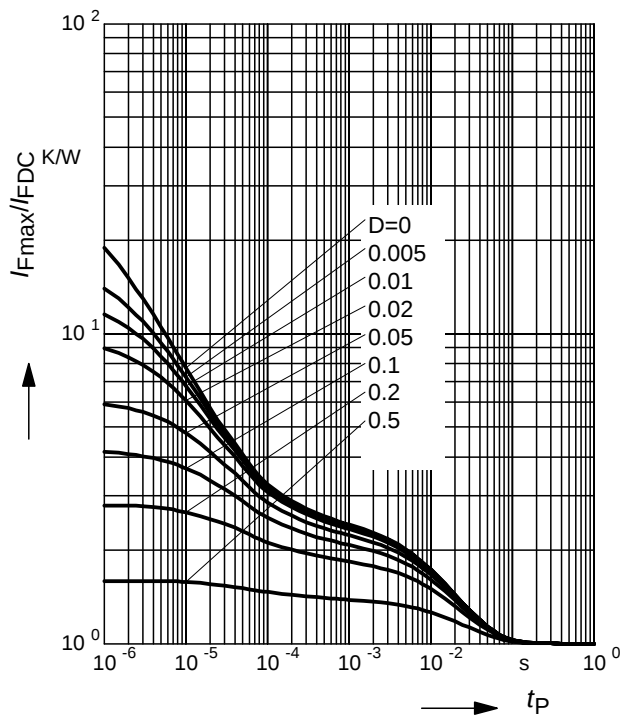
BAV70U



Permissible Pulse Load

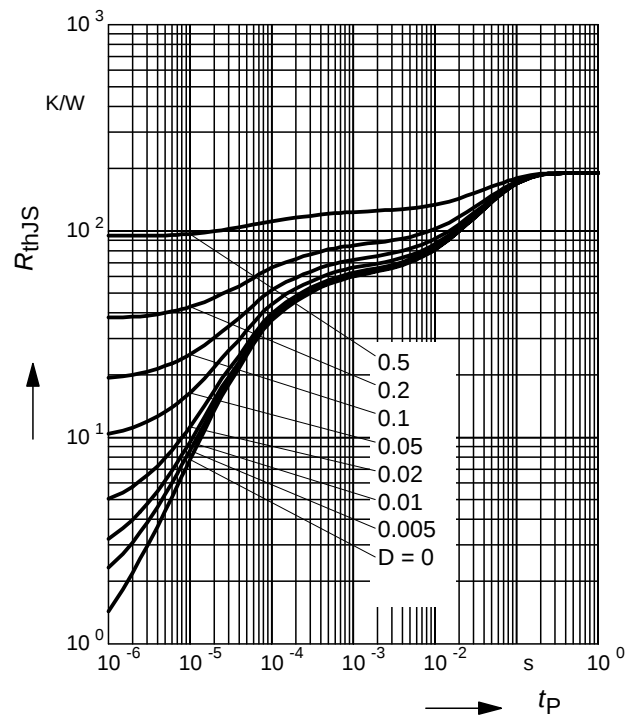
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAV70U



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

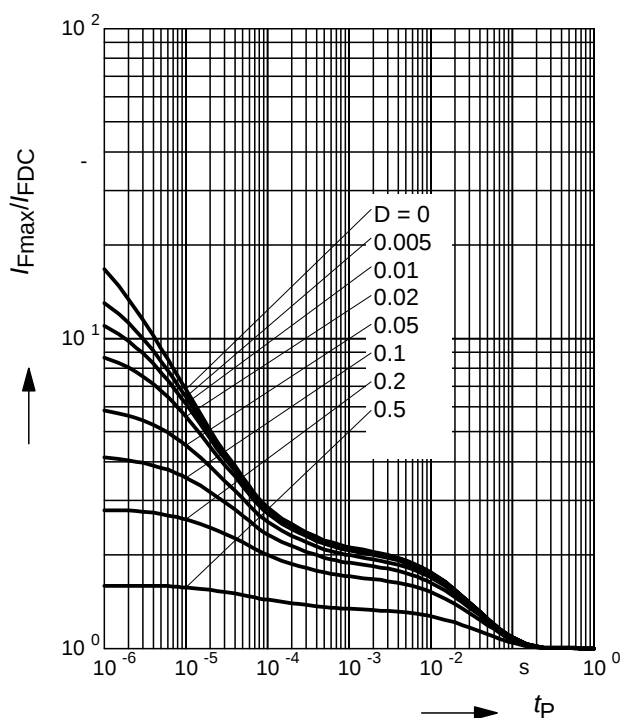
BAV70W



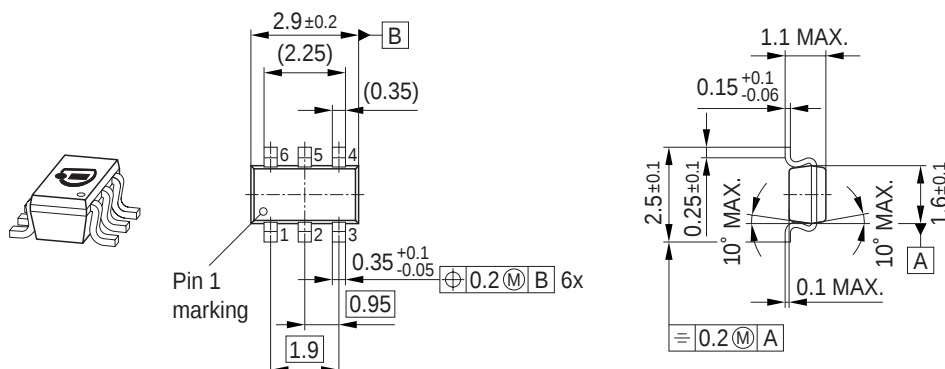
Permissible Pulse Load

$$I_{Fmax}/I_{FDC} = f(t_p)$$

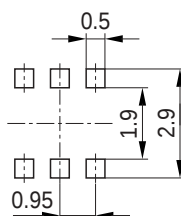
BAV70W



Package Outline

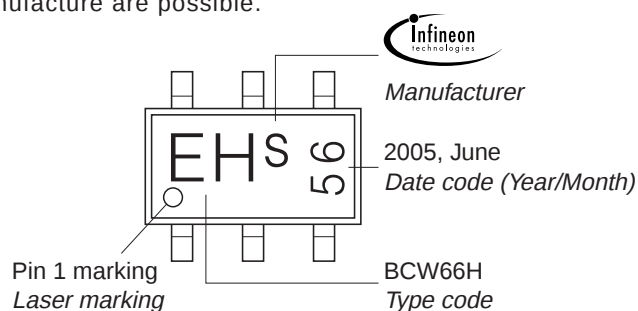


Foot Print



Marking Layout (Example)

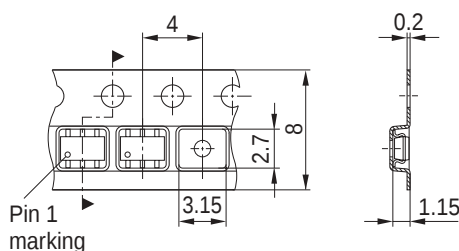
Small variations in positioning of Date code, Type code and Manufacture are possible.



Standard Packing

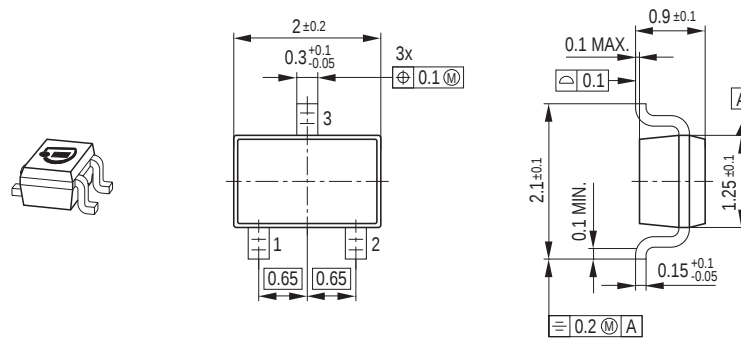
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.

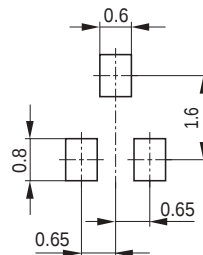


Downloaded from [Arrow.com](https://arrow.com).

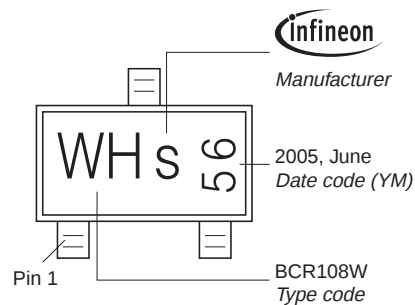
Package Outline



Foot Print

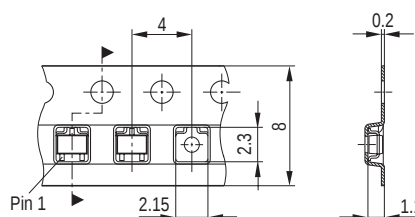


Marking Layout (Example)

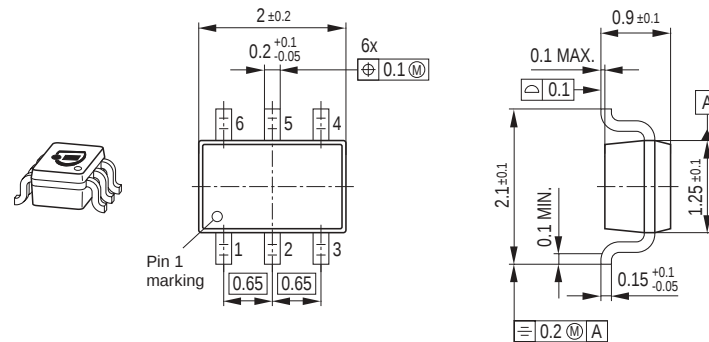


Standard Packing

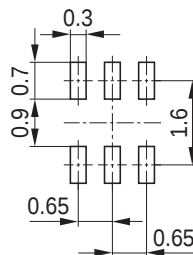
Reel $\varnothing 180$ mm = 3.000 Pieces/Reel
 Reel $\varnothing 330$ mm = 10.000 Pieces/Reel



Package Outline

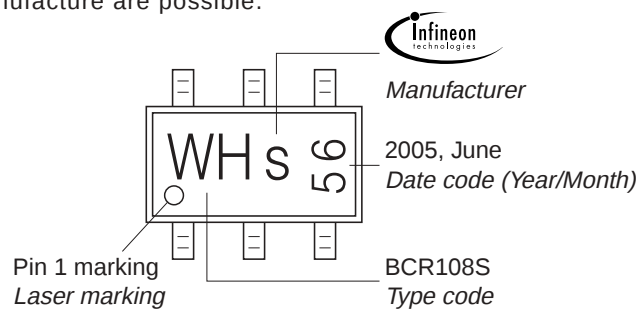


Foot Print



Marking Layout (Example)

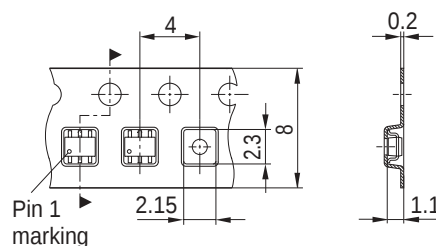
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Standard Packing

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