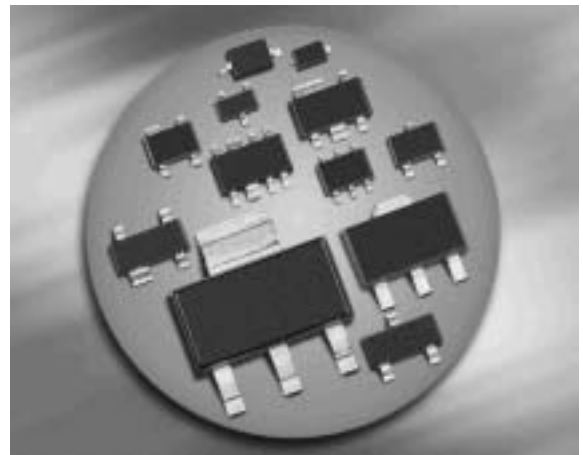
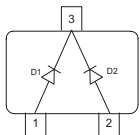


Silicon Low Leakage Diode Array

- Low-leakage applications
- Medium speed switching times
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



BAV170



Type	Package	Configuration	Marking
BAV170	SOT23	common cathode	JXs

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	
$t = 1 \text{ s}$		0.5	
Total power dissipation $T_S \leq 35^\circ\text{C}$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

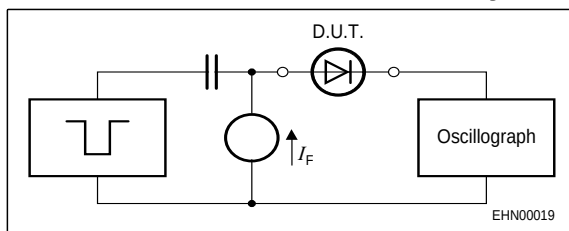
Parameter	Symbol	Value	Unit
Junction - soldering point ²⁾	R_{thJS}	≤ 460	K/W
BAV170			

¹⁾Pb-containing package may be available upon special request

²⁾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 $I_{(BR)} = 100 \mu A$	$V_{(BR)}$	85	-	-	V
Reverse current $V_R = 75 V$ $V_R = 75 V, T_A = 150 ^\circ C$	I_R	- -	- -	5 80	nA
Forward voltage $I_F = 1 mA$ $I_F = 10 mA$ $I_F = 50 mA$ $I_F = 150 mA$	V_F	- - - -	- - - -	900 1000 1100 1250	mV
AC Characteristics					
Diode capacitance $V_R = 0 V, f = 1 MHz$	C_T	-	2	-	pF
Reverse recovery time $I_F = 10 mA, I_R = 10 mA$, measured at $I_R = 1mA$, $R_L = 100 \Omega$	t_{rr}	-	0.6	1.5	μs

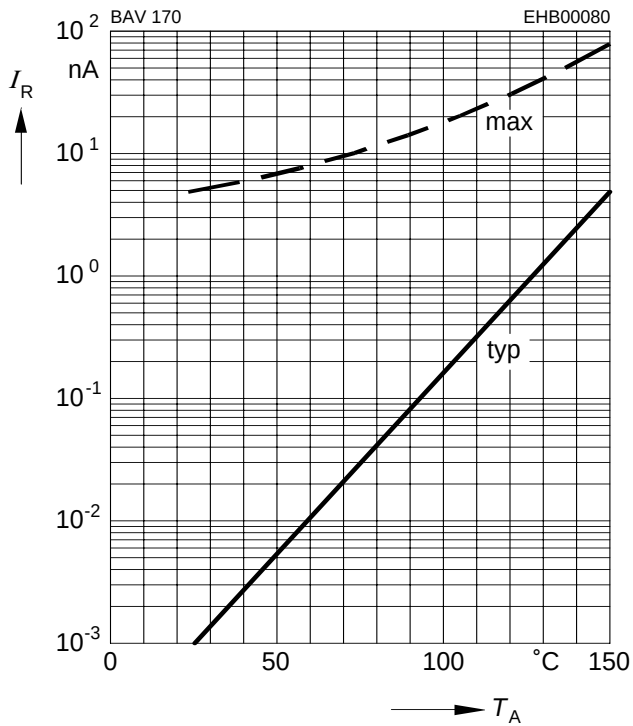
Test circuit for reverse recovery time


Pulse generator: $t_p = 10 \mu\text{s}$, $D = 0.05$, $t_r = 0.6 \text{ ns}$,
 $R_i = 50 \Omega$

Oscilloscope: $R = 50 \Omega$, $t_r = 0.35 \text{ ns}$, $C \leq 1 \text{ pF}$

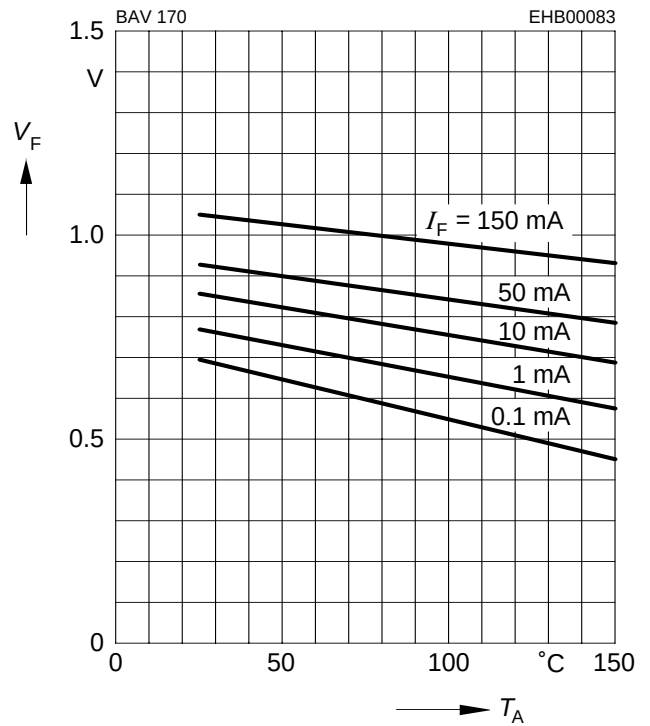
Reverse current $I_R = f(T_A)$

$V_R = 70V$



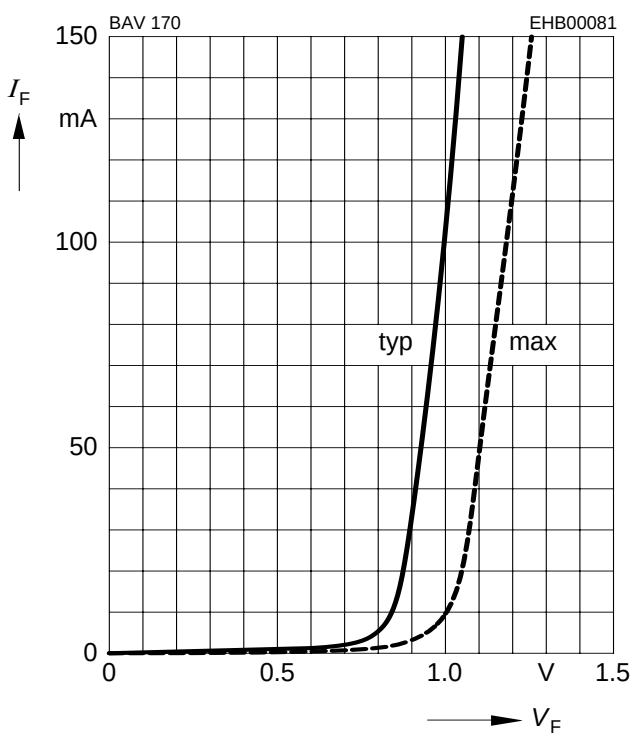
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



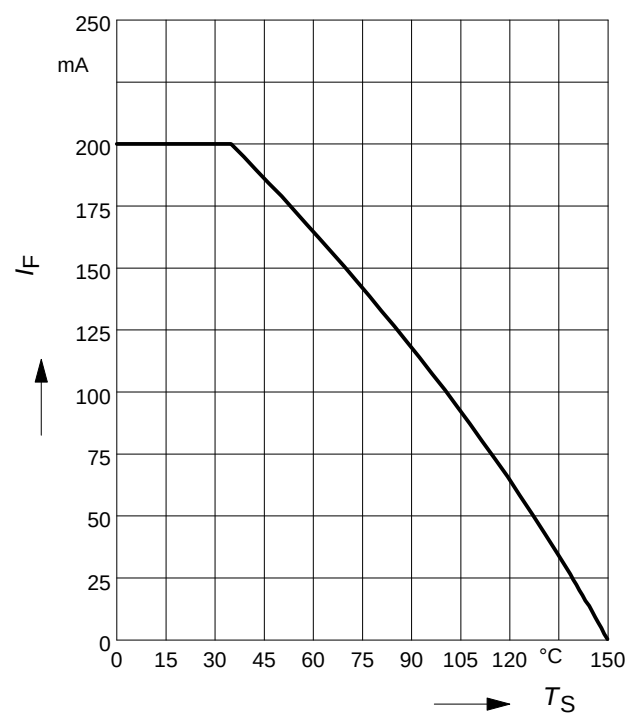
Forward current $I_F = f(V_F)$

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

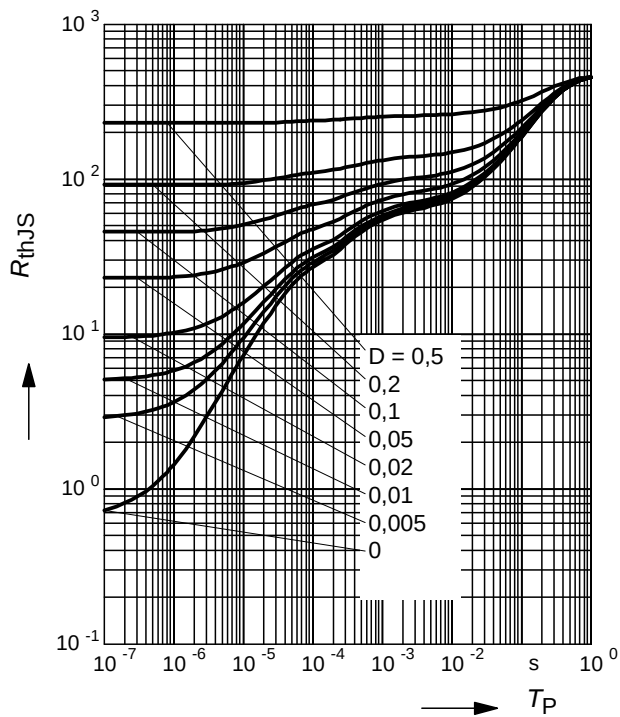


Forward current $I_F = f(T_S)$

BAV170

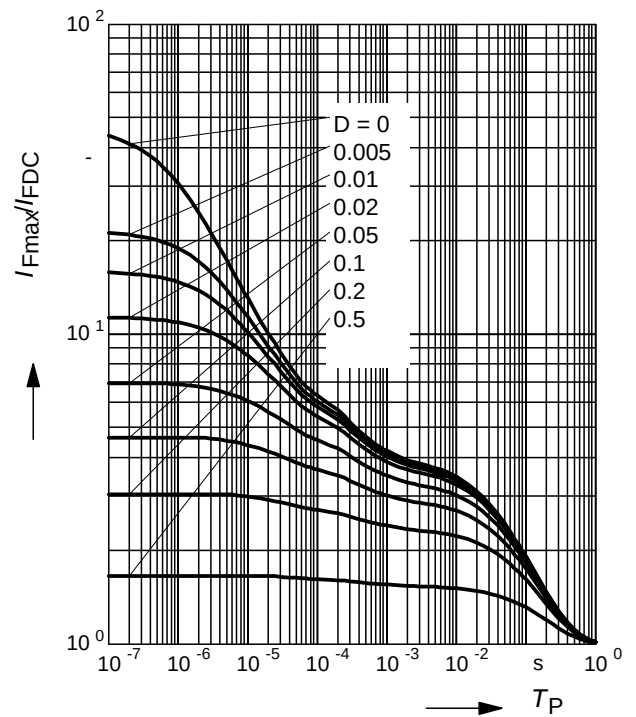


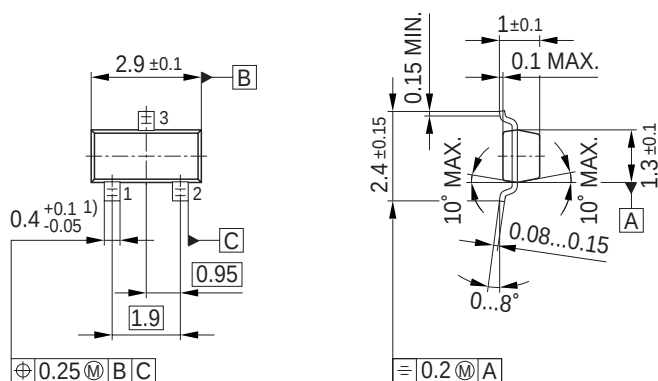
Permissible Puls Load $R_{thJS} = f(t_p)$



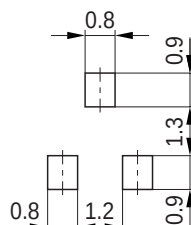
Permissible Pulse Load

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



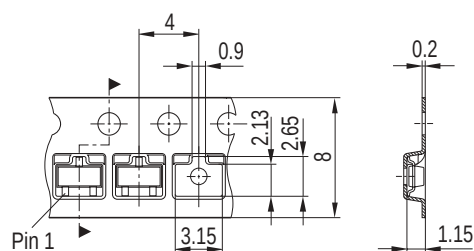


Foot Print



The diagram shows a top-down view of a BCW66 LED package. It is a rectangular component with four pins. The top pin is labeled 'Pin 1'. The package has a central rectangular area containing the text 'EHS' and a date code '05 05'. To the right of the package, the Infineon logo is shown with the text 'Manufacturer'. Below the logo, the text '2005, June' is shown with the text 'Date code (YM)' below it. At the bottom right, the text 'BCW66' is shown with the text 'Type code' below it.

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



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