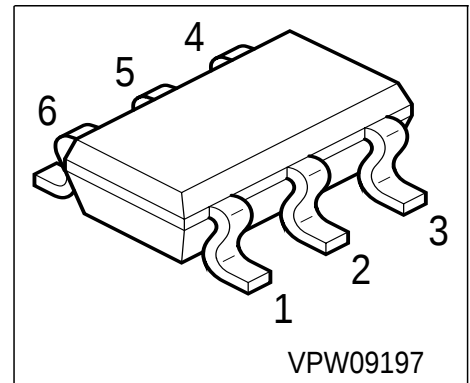
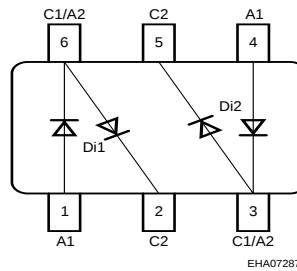


Silicon Switching Diode Array

- For high-speed switching applications
- Connected in series
- Internal (galvanic) isolated diodes in one package



Type	Marking	Pin Configuration						Package
BAV99U	A7s	1=A1	2=C2	3=C1/A2	4=A1	5=C2	6=C1/A2	SC74

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	70	V
Peak reverse voltage	V_{RM}	70	
Forward current	I_F	200	mA
Surge forward current, $t = 1 \mu s$	I_{FS}	4.5	A
Total power dissipation, $T_S = 113^\circ C$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

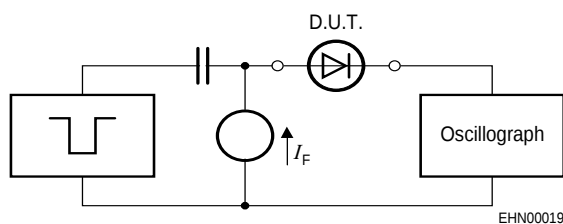
Junction - soldering point ¹⁾	R_{thJS}	≤ 150	K/W
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¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(\text{BR})} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})}$	70	-	-	V
Forward voltage $I_{\text{F}} = 1\text{ mA}$ $I_{\text{F}} = 10\text{ mA}$ $I_{\text{F}} = 50\text{ mA}$ $I_{\text{F}} = 150\text{ mA}$	V_{F}	- - - -	- - - -	715 855 1000 1250	mV
Reverse current $V_{\text{R}} = 70\text{ V}$	I_{R}	-	-	2.5	μA
Reverse current $V_{\text{R}} = 25\text{ V}$, $T_{\text{A}} = 150\text{ }^{\circ}\text{C}$ $V_{\text{R}} = 70\text{ V}$, $T_{\text{A}} = 150\text{ }^{\circ}\text{C}$	I_{R}	- -	- -	30 50	
AC characteristics					
Diode capacitance $V_{\text{R}} = 0\text{ V}$, $f = 1\text{ MHz}$	C_{D}	-	-	1.5	pF
Reverse recovery time $I_{\text{F}} = 10\text{ mA}$, $I_{\text{R}} = 10\text{ mA}$, $R_{\text{L}} = 100\text{ }\Omega$, measured at $I_{\text{R}} = 1\text{ mA}$	t_{rr}	-	-	6	ns

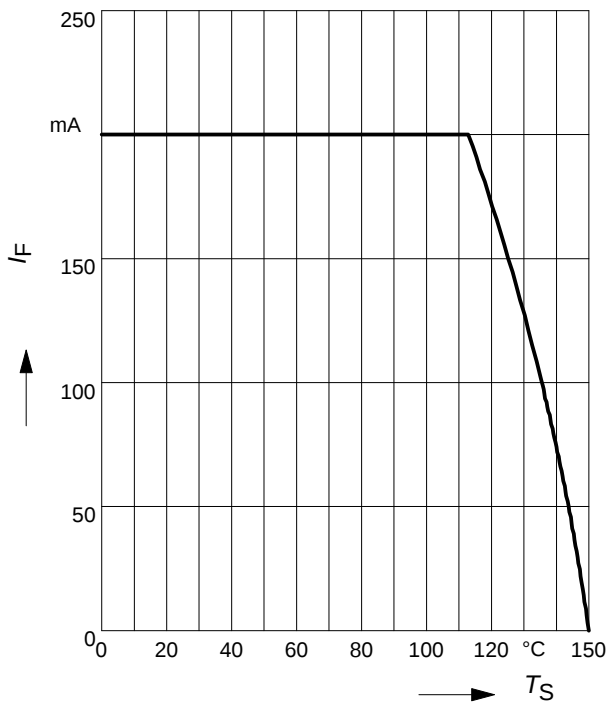
Test circuit for reverse recovery time



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

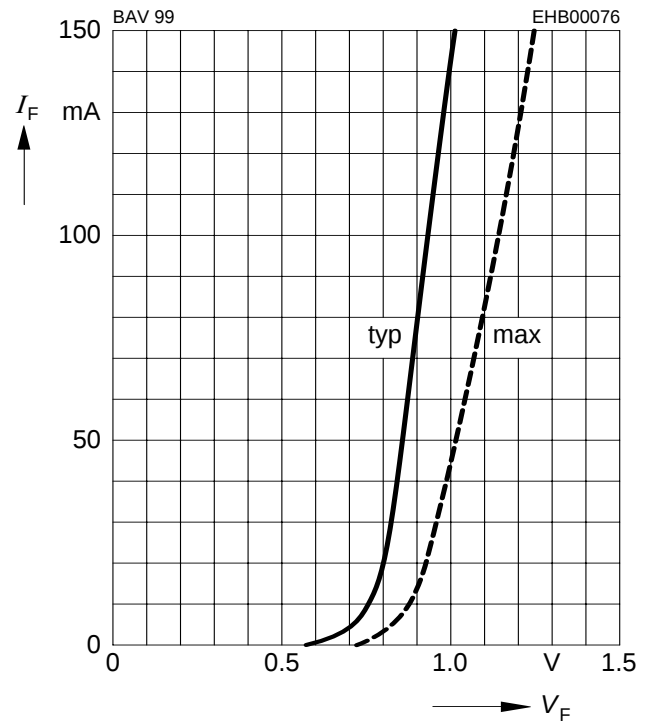
Oscilloscope: $R = 50 \Omega$, $t_r = 0.35 \text{ ns}$,
 $C \leq 1 \text{ pF}$

Forward current $I_F = f(T_S)$

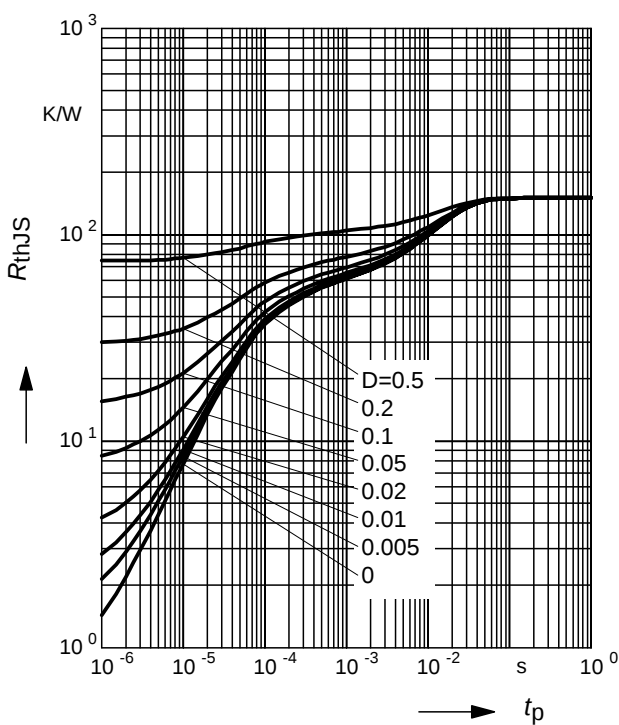


Forward current $I_F = f(V_F)$

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

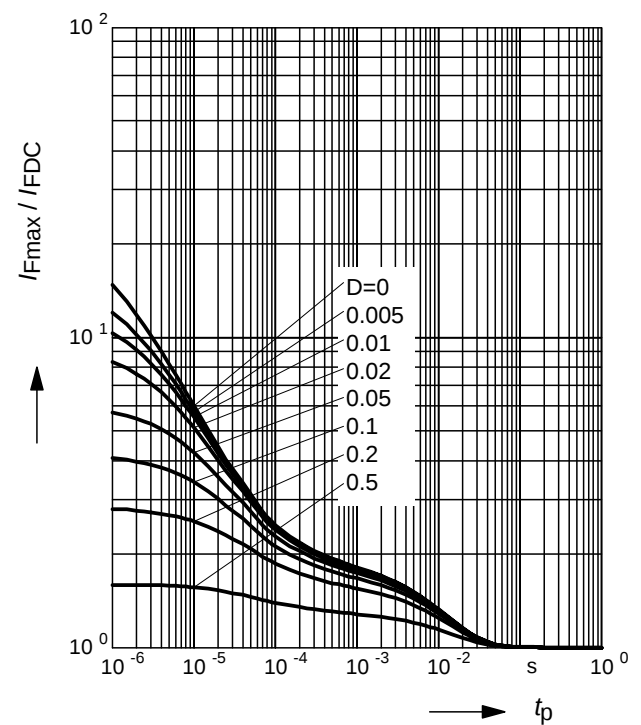


Permissible Pulse Load $R_{thJS} = f(t_p)$

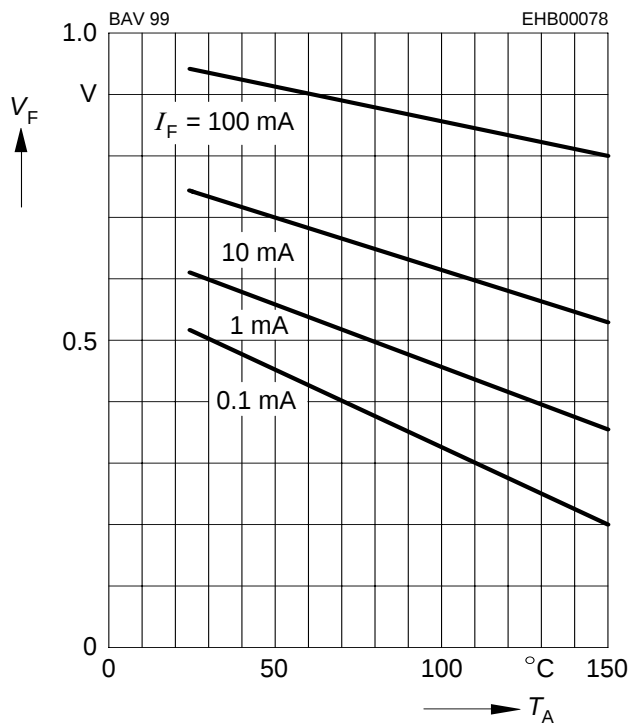


Permissible Pulse Load

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



Forward voltage $V_F = f(T_A)$



Reverse current $I_R = f(T_A)$

