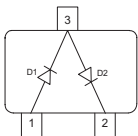


Silicon Low Leakage Diode

- Low-leakage applications
- Medium speed switching times
- Series pair configuration


BAV199
BAV199F


Type	Package	Configuration	Marking
BAV199	SOT23	series	JYs
BAV199F*	TSFP-3	series	JYs

* Preliminary

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	P_{tot}		mW
BAV199, $T_S \leq 31^\circ\text{C}$		330	
BAV199F, $T_S \leq \text{tbd}$		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⁾ BAV199 BAV199F	R_{thJS}	≤ 360 $\leq tbd$	K/W

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

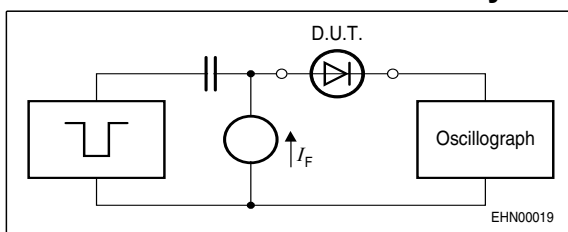
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	85	-	-	V
Reverse current $V_R = 75 \text{ V}$ $V_R = 75 \text{ V}, T_A = 150^\circ\text{C}$	I_R	-	-	5 80	nA
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 50 \text{ mA}$ $I_F = 150 \text{ mA}$	V_F	-	-	900 1000 1100 1250	mV

AC Characteristics

Diode capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_T	-	2	-	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}	-	0.6	1.5	μs

Test circuit for reverse recovery time


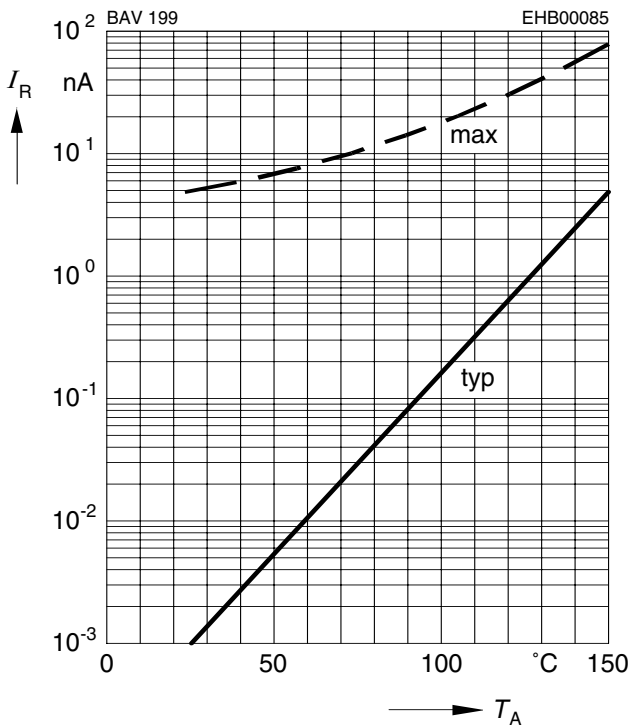
Pulse generator: $t_p = 10 \mu\text{s}$, $D = 0.05$, $t_r = 0.6 \text{ ns}$,
 $R_i = 50 \Omega$

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

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

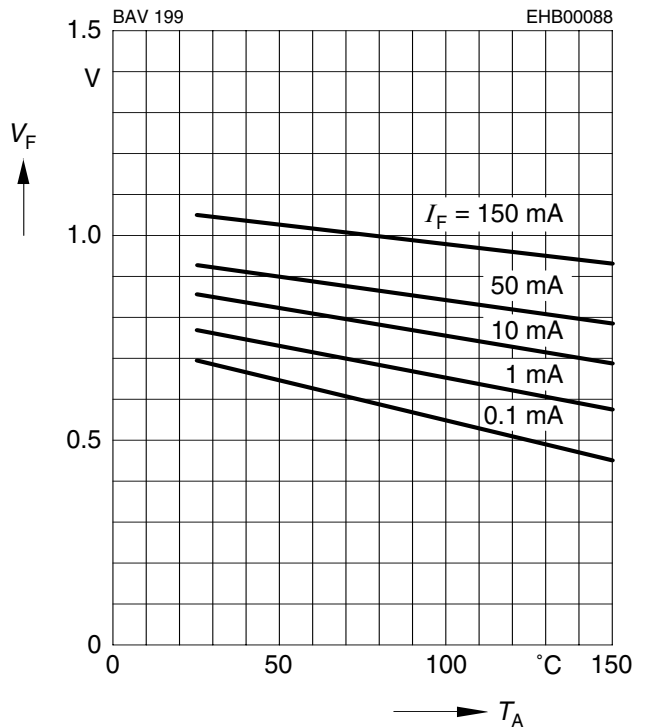
Reverse current $I_R = f(T_A)$

$V_R = 70V$



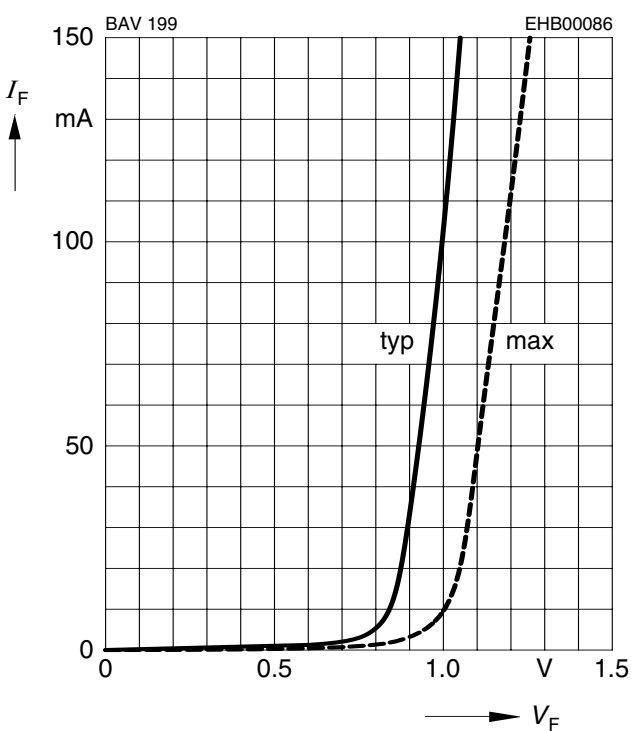
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



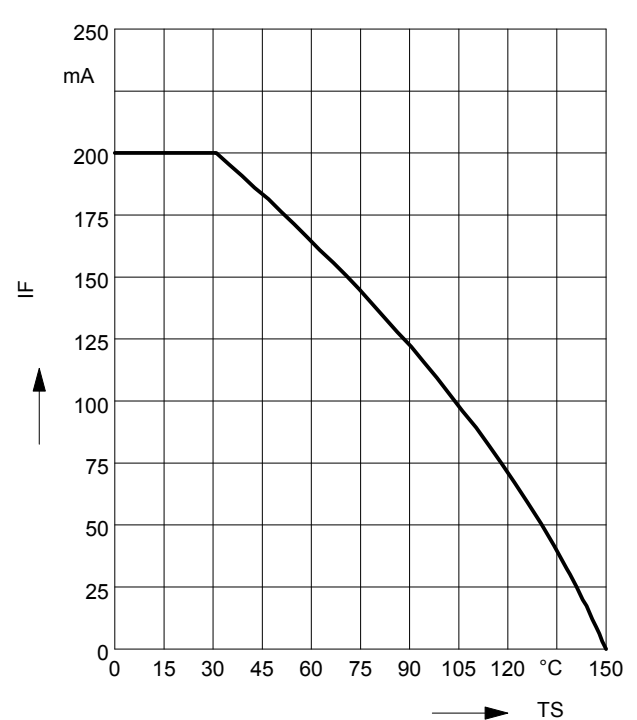
Forward current $I_F = f(V_F)$

$T_A = 25^\circ C$

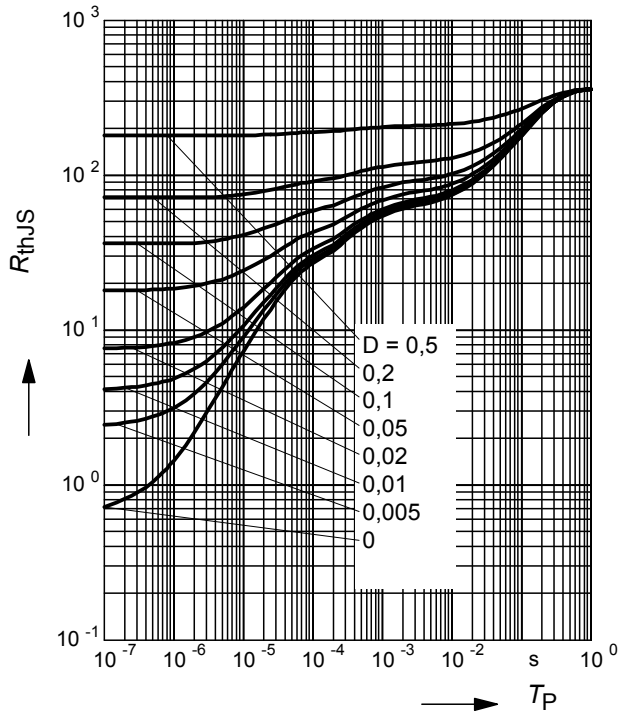


Forward current $I_F = f(T_S)$

BAV199



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



Permissible Pulse Load

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

