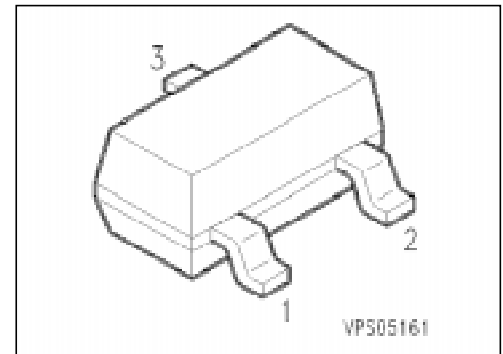


Silicon Switching Diode Array

BAV 99

Features

- For high-speed switching
- Connected in series



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package ¹⁾
BAV 99	A7s	Q68000-A549		SOT-23

Maximum Ratings per Diode

Parameter	Symbol	Values	Unit
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, $T_s = 31 \text{ }^\circ\text{C}$	P_{tot}	330	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	- 65 ... + 150	

¹⁾For detailed information see chapter Package Outlines.

Thermal Resistance

Junction - ambient ²⁾	$R_{th JA}$	≤ 500	K/W
Junction - soldering point	$R_{th JS}$	≤ 360	

Electrical Characteristics per Diode

at $T_A = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC characteristics

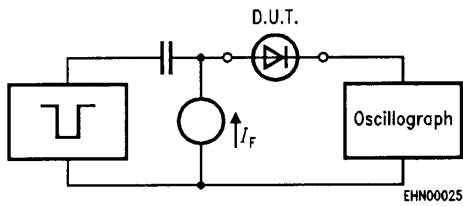
Breakdown voltage $I_{(BR)} = 100\ \mu\text{A}$	$V_{(BR)}$	70	–	–	V
Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 50\ \text{mA}$ $I_F = 150\ \text{mA}$	V_F	– – – –	– – – –	715 855 1000 1250	mV
Reverse current $V_R = 70\ \text{V}$ $V_R = 25\ \text{V}, T_A = 150\text{ °C}$ $V_R = 70\ \text{V}, T_A = 150\text{ °C}$	I_R	– – –	– – –	2.5 30 50	μA

AC characteristics

Diode capacitance $V_R = 0\ \text{V}, f = 1\ \text{MHz}$	C_D	–	–	1.5	pF
Reverse recovery time $I_F = 10\ \text{mA}, I_R = 10\ \text{mA}, R_L = 100\ \Omega$ measured at $I_R = 1\ \text{mA}$	t_{rr}	–	–	6	ns

²⁾Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

Test Circuit for Reverse Recovery Time

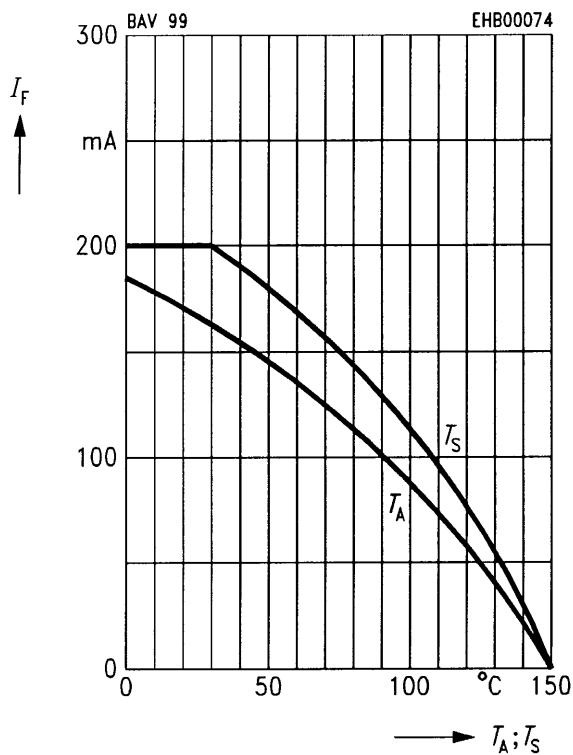


Pulse generator: $t_p = 100 \text{ ns}$, $D = 0.05$
 $t_r = 0.6 \text{ ns}$, $R_i = 50 \Omega$

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

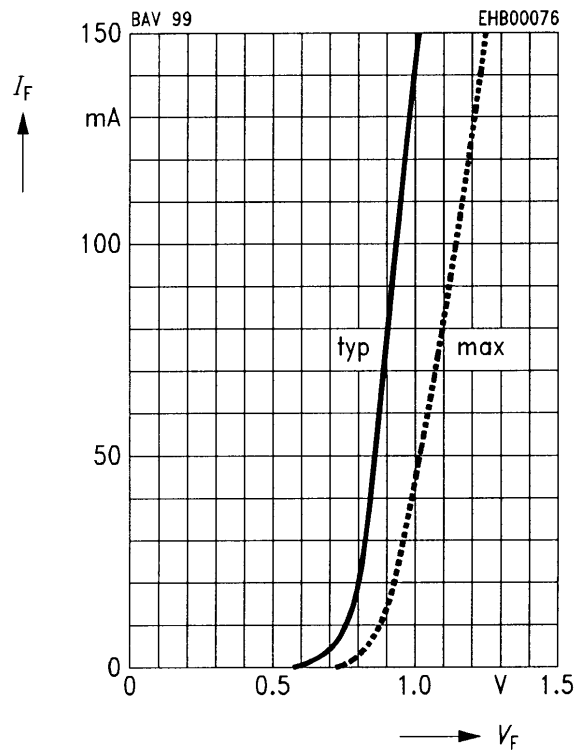
Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy

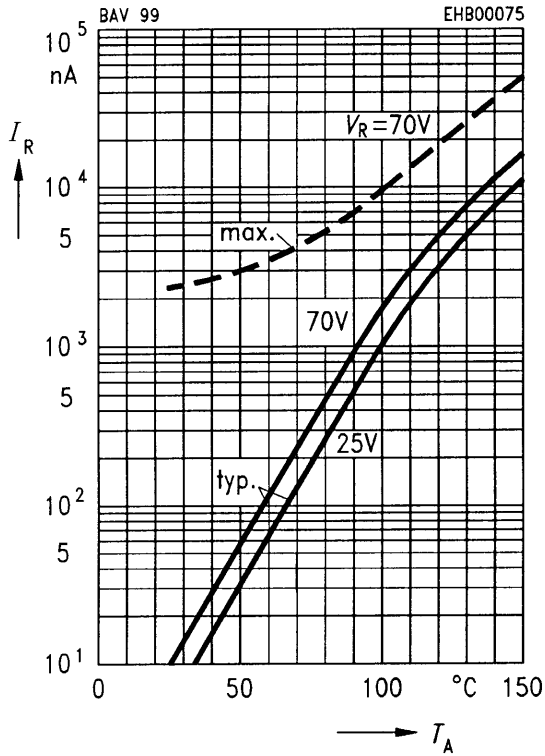


Forward current $I_F = f(V_F)$

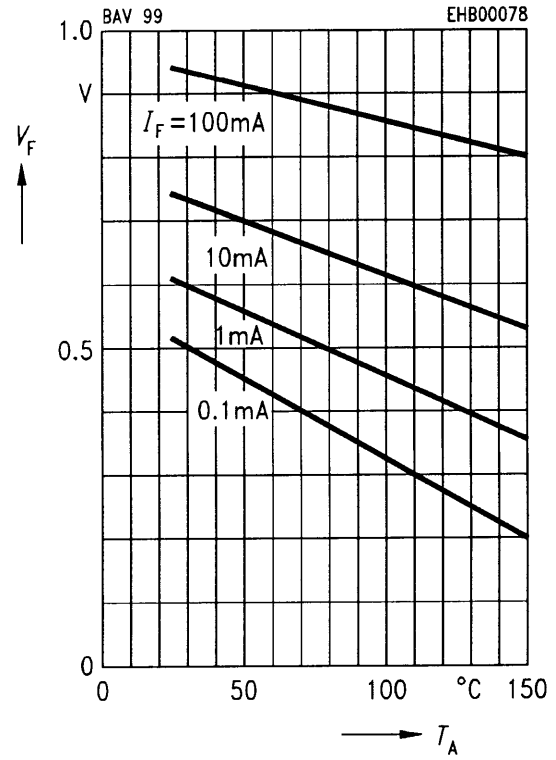
$T_A = 25 \text{ °C}$



Reverse current $I_R = f(T_A)$



Forward voltage $V_F = f(T_A)$



Peak forward current $I_{FM} = f(t)$
 $T_A = 25\text{ °C}$

