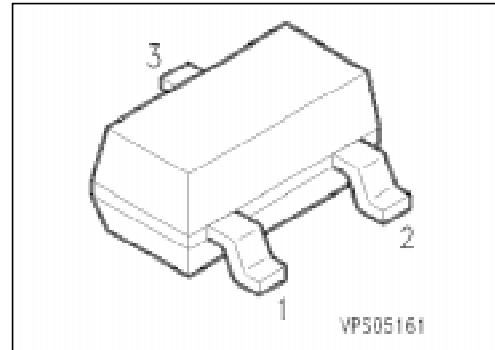


Silicon Switching Diode Array

BAV 70

- For high-speed switching
- Common cathode



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package ¹⁾
BAV 70	A4s	Q68000-A6622		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, $t = 1 \mu\text{s}$	I_{FS}	4.5	A
Total power dissipation, $T_S = 35^\circ\text{C}$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	- 65 ... + 150	

Thermal Resistance

Junction - ambient ²⁾	$R_{th JA}$	≤ 600	K/W
Junction - soldering point	$R_{th JS}$	≤ 460	

¹⁾ For detailed information see chapter Package Outlines.

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

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

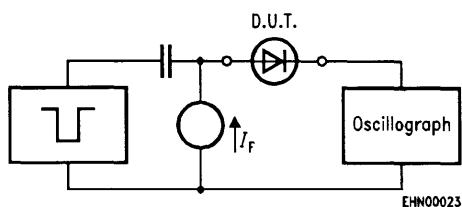
DC characteristics

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

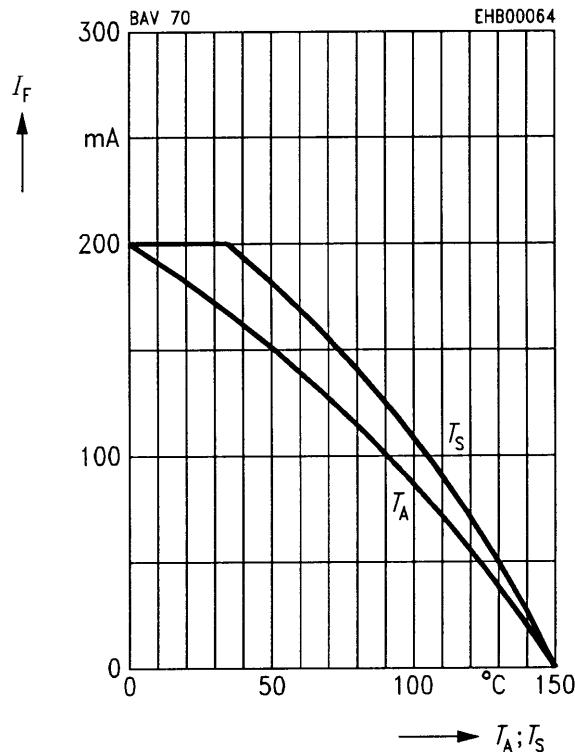
Test circuit for reverse recovery time



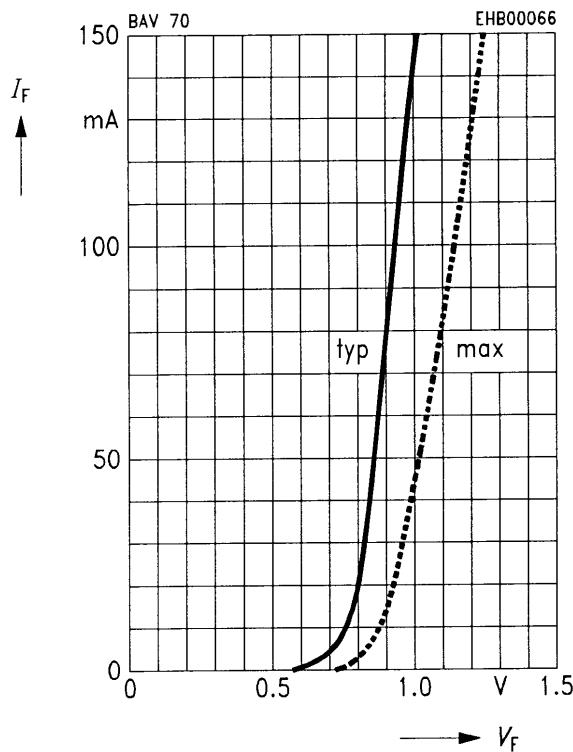
Pulse generator: $t_p = 100 \text{ ns}, D = 0.05$
 $t_r = 0.6 \text{ ns}, R_j = 50 \Omega$

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

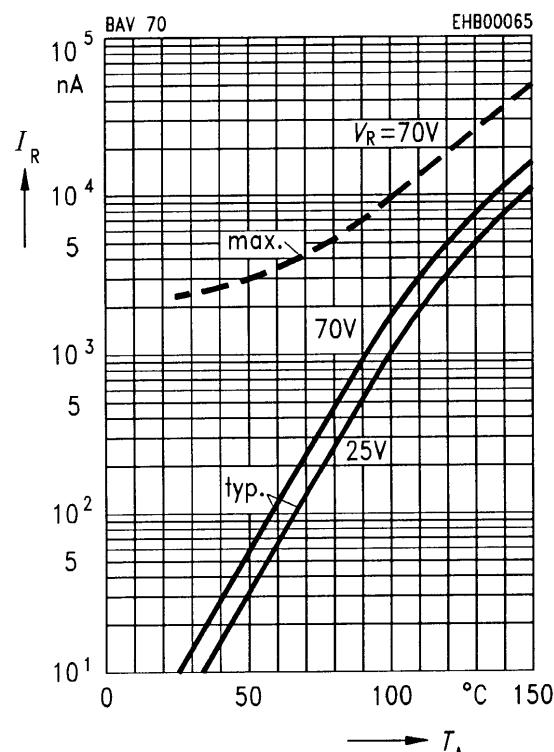
Forward current $I_F = f(T_A^*; T_S)$
 * Package mounted on epoxy



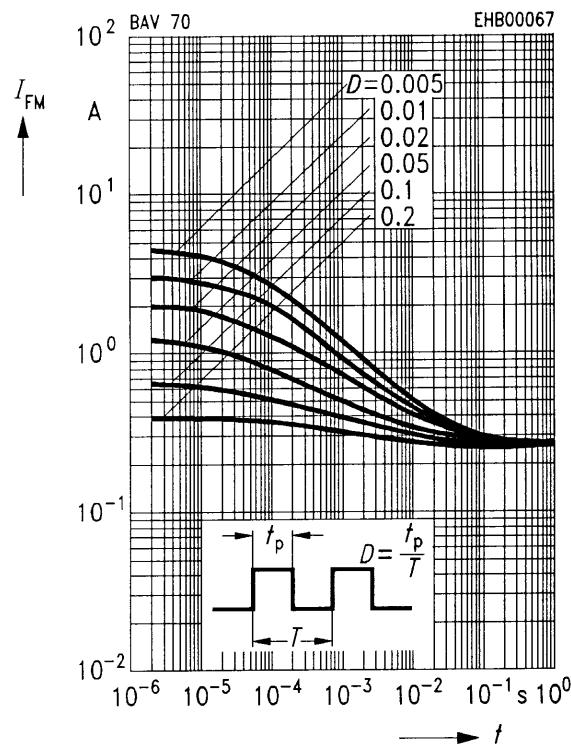
Forward current $I_F = f(V_F)$
 $T_A = 25^\circ\text{C}$



Reverse current $I_R = f(T_A)$



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



Forward voltage $V_F = f(T_A)$

