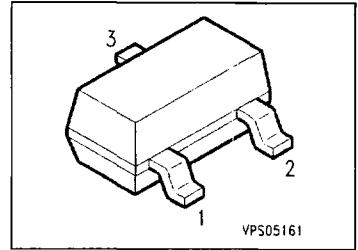# SIEMENS

Silicon Low Leakage Diode Array

BAV 170

- Low leakage applications
- Medium speed switching times
- Common cathode

Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package[1]
BAV 170	JXs	Q62702-A920		SOT-23

Maximum Ratings

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, $t = 1$ μs	I_{FS}	4.5	A
Total power dissipation, $T_S = 35$ °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	$-65 \ldots +150$	

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 Cu.

Electrical Characteristics per Diode

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Breakdown voltage $I_{(BR)} = 100\ \mu A$	$V_{(BR)}$	70	–	–	V
Forward voltage	V_F				mV
$I_F =\ 1$ mA		–	–	900	
$I_F =\ 10$ mA		–	–	1000	
$I_F =\ 50$ mA		–	–	1100	
$I_F = 150$ mA		–	–	1250	
Reverse current	I_R				nA
$V_R = 70$ V		–	–	5	
$V_R = 70$ V, $T_A = 150\ °C$		–	–	80	

AC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Diode capacitance $V_R = 0$ V, $f = 1$ MHz	C_D	–	2	–	pF
Reverse recovery time $I_F = 10$ mA, $I_R = 10$ mA, $R_L = 100\ \Omega$ measured at $I_R = 1$ mA	t_{rr}	–	0.5	3	μs

Test circuit for reverse recovery time
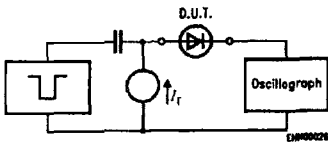
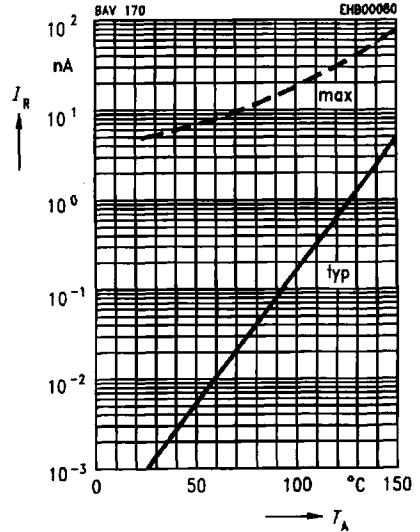Pulse generator: $t_p = 5\ \mu s$, $D = 0.05$
 $t_r = 0.6$ ns, $R_i = 50\ \Omega$

Oscillograph: $R = 50\ \Omega$
 $t_r = 0.35$ ns
 $C \le 1$ pF

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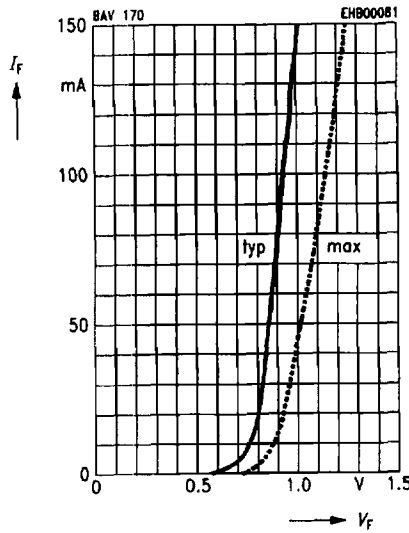### * Package mounted on epoxy
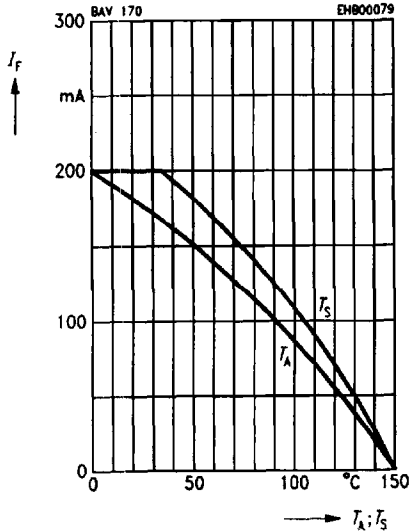
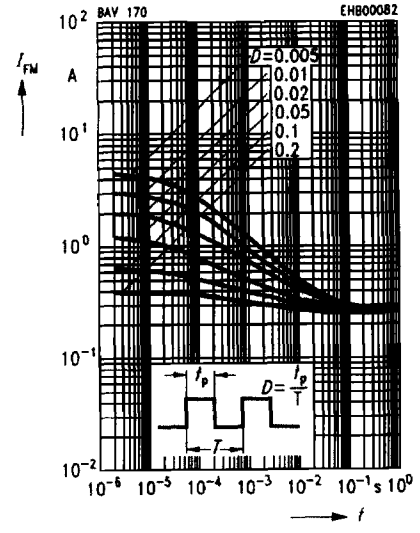## Reverse current $I_R = f(T_A)$

Forward current $I_F = f(V_F)$
$T_A = 25\ °C$

Peak forward current $I_{FM} = f(t)$

Forward voltage $V_F = f(T_A)$