SIEMENS
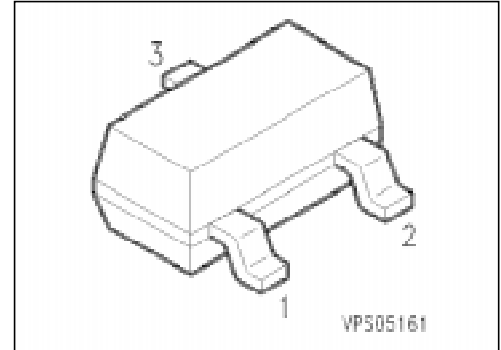
Silicon Switching Diode   BAR 99

● For high-speed switching

Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package[1]
BAR 99	JGs	Q62702-A388	3 1 EHA00003	SOT-23

Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	70	V
Peak reverse voltage	V_{RM}	70	
Forward current	I_F	250	mA
Surge forward current, $t = 1\ \mu s$	I_{FS}	4.5	A
Total power dissipation, $T_S = 54\ °C$	P_{tot}	370	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	$-65 \ldots +150$	

Thermal Resistance

Parameter	Symbol	Values	Unit
Junction - ambient[2]	$R_{th\ JA}$	≤ 330	K/W
Junction - soldering point	$R_{th\ JS}$	≤ 260	

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[1] For detailed information see chapter Package Outlines.
[2] Package mounted on epoxy pcb 40 mm $\times$ 40 mm $\times$ 1.5 mm/6 cm^2 Cu.

Electrical Characteristics

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

AC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Diode capacitance $V_R = 0$ V, $f = 1$ MHz	C_D	–	–	1.5	pF
Reverse recovery time $I_F = 10$ mA, $I_R = 10$ mA, $R_L = 100$ Ω measured at $I_R = 1$ mA	t_{rr}	–	–	6	ns

Test circuit for reverse recovery time

D.U.T.

Oscillograph

EHN00016
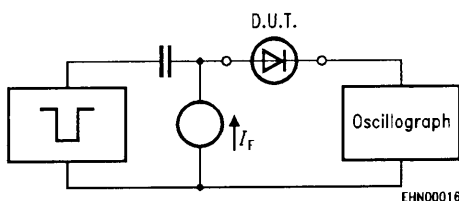
Pulse generator: $t_p = 100$ ns, $D = 0.05$ Oscillograph: $R = 50$ Ω
$t_r = 0.6$ ns, $R_j = 50$ Ω $t_r = 0.35$ ns
$C \leq 1$ pF

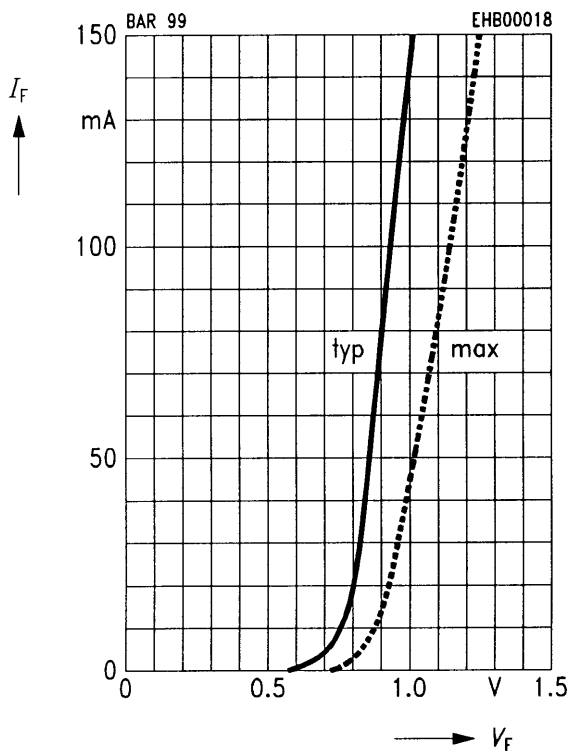**Forward current** $I_F = f(T_A*; T_S)$
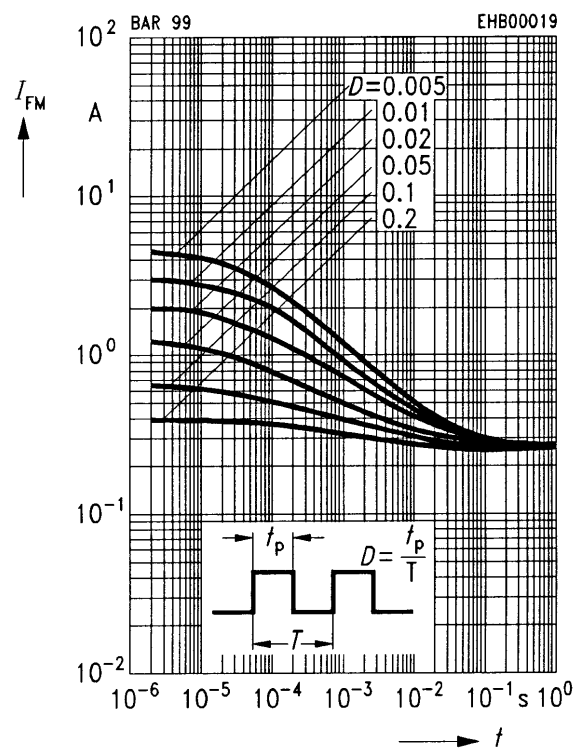* Package mounted on epoxy
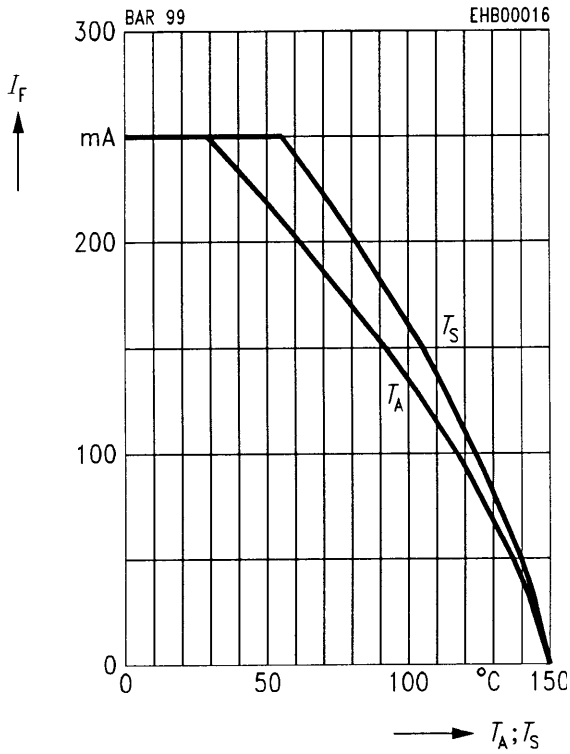
Reverse current $I_R = f(T_A)$
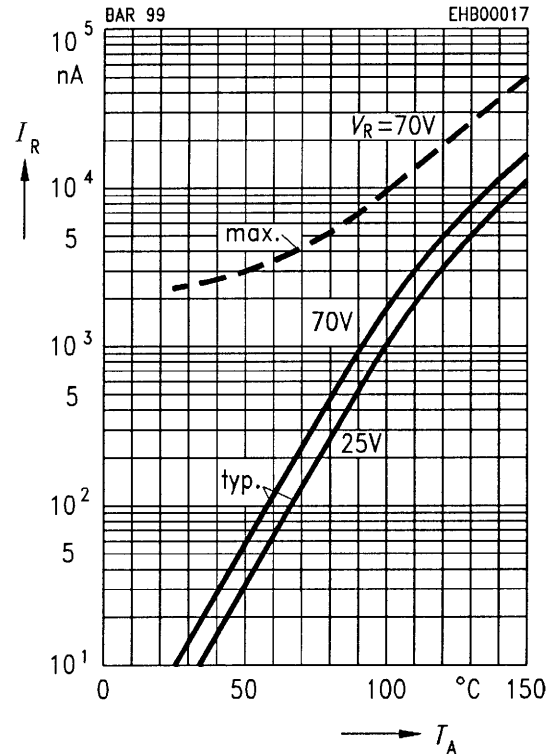
Forward current $I_F = f(V_F)$
$T_A = 25\,°C$

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

Forward voltage $V_F = f(T_A)$