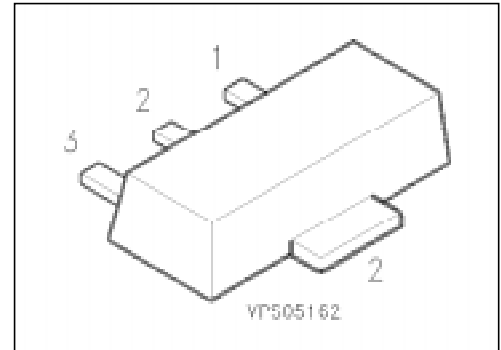


## Silicon Switching Diodes

**BAW 78 A**  
**... BAW 78 D**

- Switching applications
- High breakdown voltage



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package <sup>1)</sup>
BAW 78 A	GA	Q62702-A778		SOT-89
BAW 78 B	GB	Q62702-A779		
BAW 78 C	GC	Q62702-A784		
BAW 78 D	GD	Q62702-A109		

### Maximum Ratings

Parameter	Symbol	Values				Unit
		BAW 78 A	BAW 78 B	BAW 78 C	BAW 78 D	
Reverse voltage	$V_R$	50	100	200	400	V
Peak reverse voltage	$V_{RM}$	50	100	200	400	
Forward current	$I_F$	1				A
Peak forward current	$I_{FM}$	1				
Surge forward current $t = 1 \mu\text{s}$	$I_{FS}$	10				
Total power dissipation $T_s = 125 \text{ }^\circ\text{C}$	$P_{tot}$	1				W
Junction temperature	$T_j$	150				$^\circ\text{C}$
Storage temperature range	$T_{stg}$	- 65 ... + 150				

### Thermal Resistance

Junction - ambient <sup>2)</sup>	$R_{th JA}$	$\leq 95$	K/W
Junction - soldering point	$R_{th JS}$	$\leq 25$	

<sup>1)</sup> For detailed information see chapter Package Outlines.

<sup>2)</sup> Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm<sup>2</sup> Cu.

## Electrical Characteristics

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

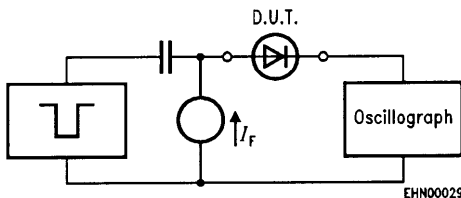
### DC characteristics

Breakdown voltage $I_{(BR)} = 100\text{ }\mu\text{A}$	$V_{(BR)}$				V
BAW 78 A		50	—	—	
BAW 78 B		100	—	—	
BAW 78 C		200	—	—	
BAW 78 D		400	—	—	
Forward voltage <sup>1)</sup> $I_F = 1\text{ A}$ $I_F = 2\text{ A}$	$V_F$	—	—	1.6 2	V
Reverse current $V_R = V_{Rmax}$ $V_R = V_{Rmax}, T_A = 150\text{ °C}$	$I_R$	—	—	1 50	$\mu\text{A}$

### AC characteristics

Diode capacitance $V_R = 0, f = 1\text{ MHz}$	$C_D$	—	10	—	pF
Reverse recovery time $I_F = 200\text{ mA}, I_R = 200\text{ mA},$ $R_L = 100\text{ }\Omega$ measured at $I_R = 20\text{ mA}$	$t_{rr}$	—	1	—	$\mu\text{s}$

### Test circuit for reverse recovery time



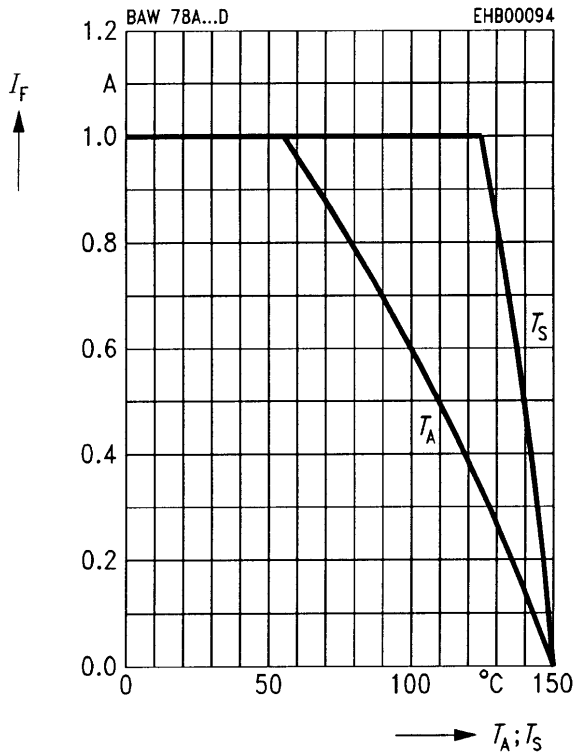
Pulse generator:  $t_p = 5\text{ }\mu\text{s}, D = 0.05$   
 $t_r = 0.6\text{ ns}, R_j = 50\text{ }\Omega$

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

<sup>1)</sup> Pulse test:  $t_p \leq 300\text{ }\mu\text{s}, D = 2\text{ %}$ .

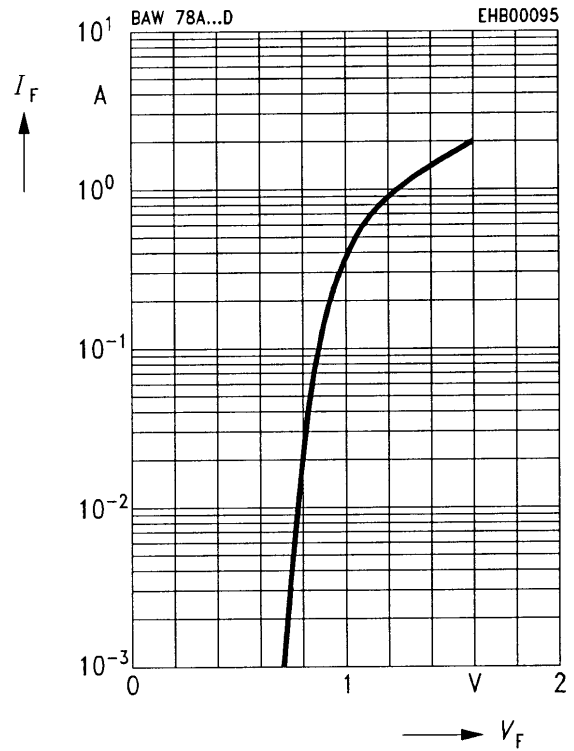
### Forward current $I_F = f(T_A^*; T_S)$

\* Package mounted on epoxy



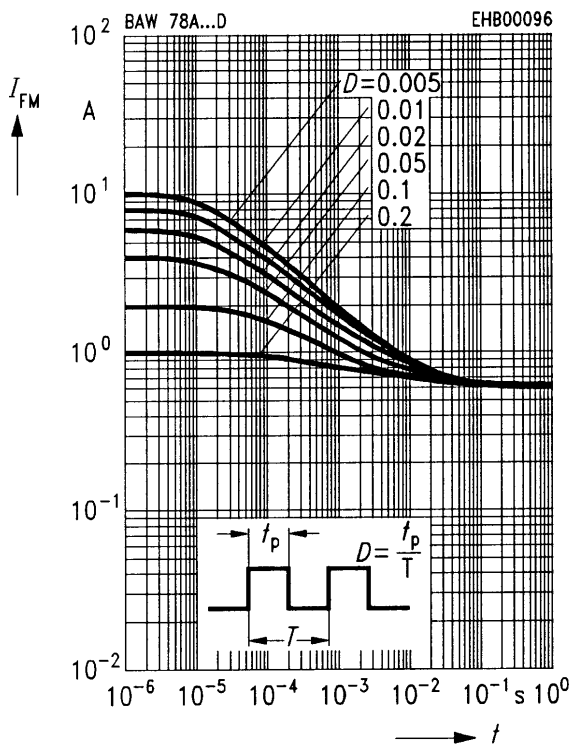
### Forward current $I_F = f(V_F)$

$T_A = 25\text{ °C}$



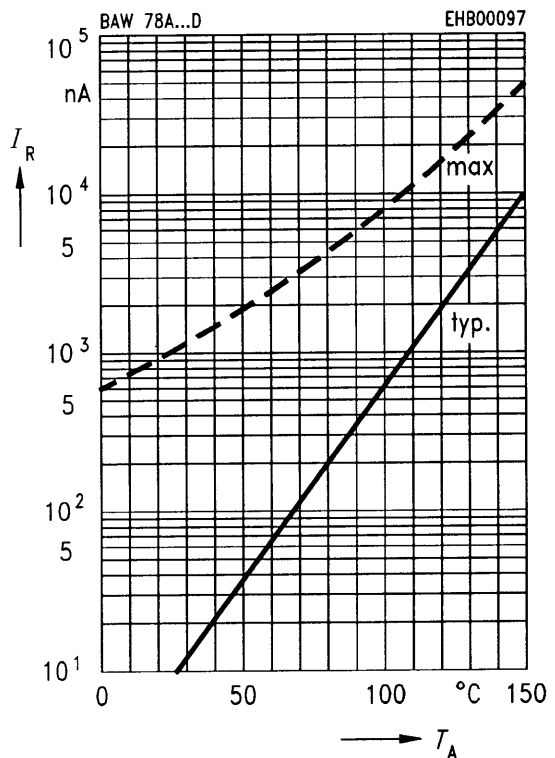
### Peak forward current $I_{FM} = f(t)$

$T_A = 25\text{ °C}$



### Reverse current $I_R = f(T_A)$

$V_R = V_{Rmax}$





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