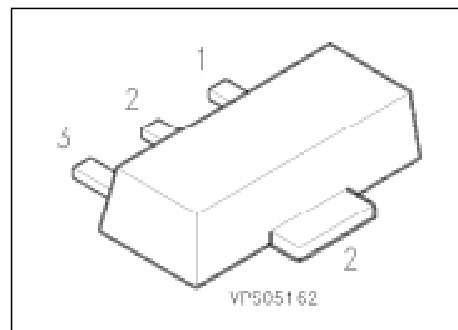


Silicon Switching Diodes

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

- Switching applications
- High breakdown voltage



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package ¹⁾
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 $t = 1 \mu s$	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 ²⁾	$R_{th JA}$	≤ 95	K/W
Junction - soldering point	$R_{th JS}$	≤ 25	

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

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

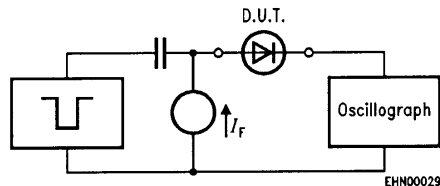
DC characteristics

Breakdown voltage $I_{(BR)} = 100\ \mu\text{A}$	$V_{(BR)}$				V
BAW 78 A		50	–	–	
BAW 78 B		100	–	–	
BAW 78 C		200	–	–	
BAW 78 D		400	–	–	
Forward voltage ¹⁾ $I_F = 1\ \text{A}$ $I_F = 2\ \text{A}$	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	μA

AC characteristics

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

Test circuit for reverse recovery time



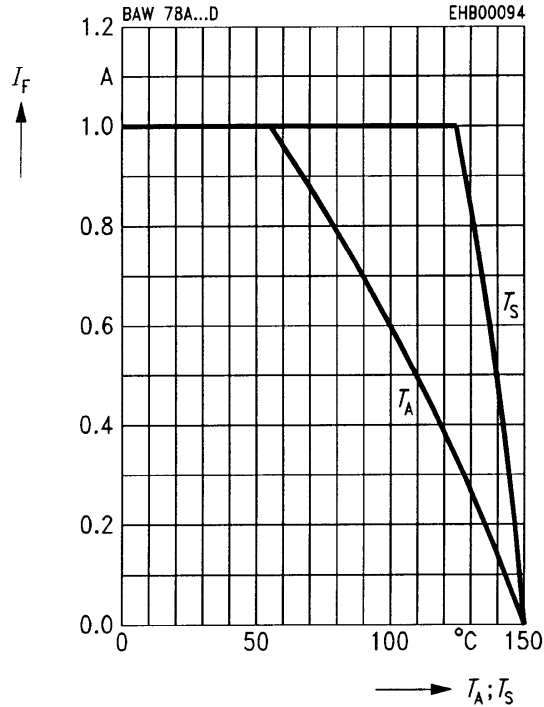
Pulse generator: $t_p = 5\ \mu\text{s}, D = 0.05$
 $t_r = 0.6\ \text{ns}, R_i = 50\ \Omega$

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

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

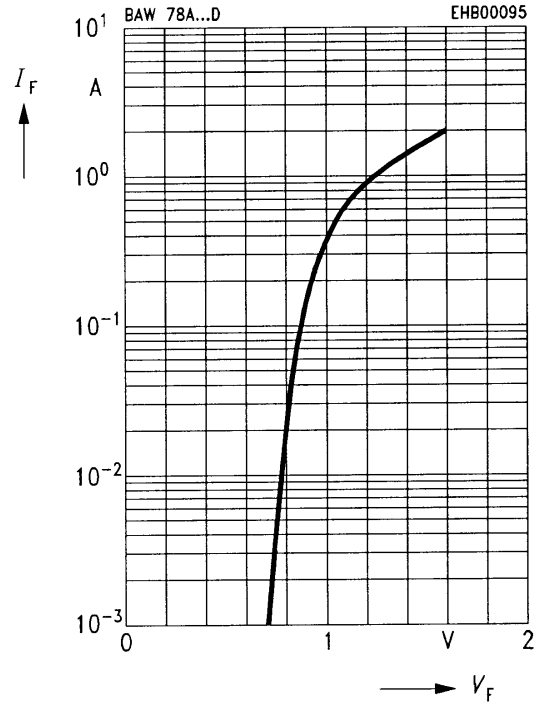
Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy



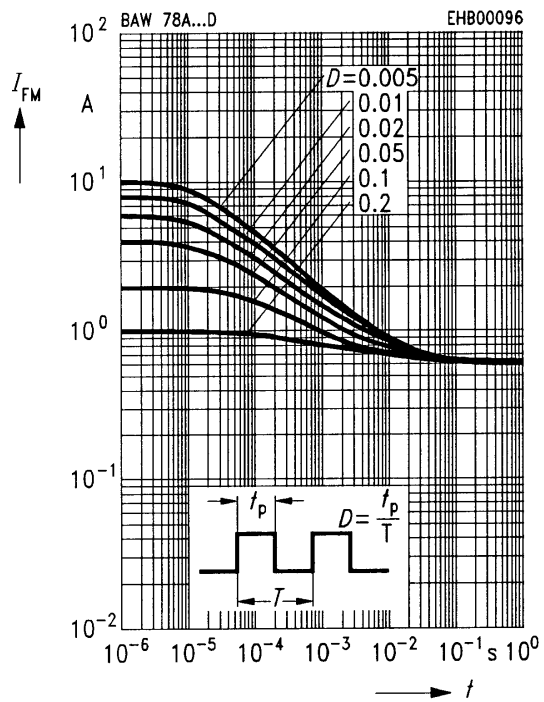
Forward current $I_F = f(V_F)$

$T_A = 25\text{ °C}$



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

$T_A = 25\text{ °C}$



Reverse current $I_R = f(T_A)$

$V_R = V_{Rmax}$

