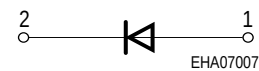
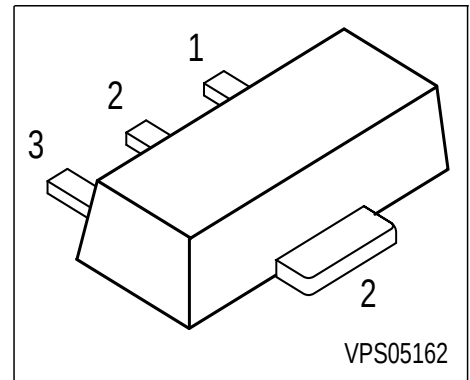


Silicon Switching Diodes

- Switching applications
- High breakdown voltage



Type	Marking	Pin Configuration			Package
BAW78A	GA	1 = A	2 = C	3 = n.c.	SOT89
BAW78B	GB	1 = A	2 = C	3 = n.c.	SOT89
BAW78C	GC	1 = A	2 = C	3 = n.c.	SOT89
BAW78D	GD	1 = A	2 = C	3 = n.c.	SOT89

Maximum Ratings

Parameter	Symbol	BAW 78A	BAW 78B	BAW 78C	BAW 78D	Unit
Diode 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 μs	I_{FS}	10				
Total power dissipation, $T_S = 125\text{ °C}$	P_{tot}	1				W
Junction temperature	T_j	150				°C
Storage temperature	T_{stg}	-65 ... 150				

Thermal Resistance

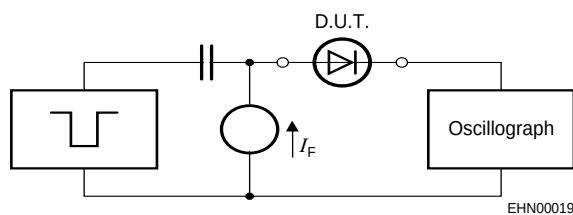
Junction - soldering point ¹⁾	R_{thJS}	≤ 25	K/W
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¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit	
		min.	typ.	max.		
DC characteristics						
Breakdown voltage $I_{(BR)} = 100\text{ }\mu\text{A}$ BAW78A BAW78B BAW78C BAW78D	$V_{(BR)}$	 50 100 200 400	 - - - -	 - - - -	V	
Forward voltage $I_F = 1\text{ A}$ $I_F = 2\text{ A}$	V_F	 - -	 - -	 1.6 2		
Reverse current $V_R = V_{Rmax}$	I_R	 -	 -	 1		μA
Reverse current $V_R = V_{Rmax}$, $T_A = 150\text{ }^{\circ}\text{C}$	I_R	 -	 -	 50		
AC characteristics						
Diode capacitance $V_R = 0\text{ V}$, $f = 1\text{ MHz}$	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	 -	μs	

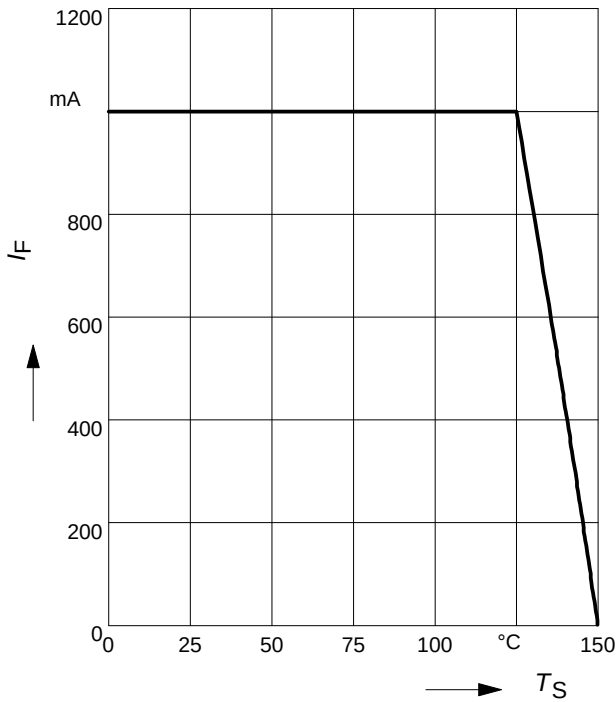
Test circuit for reverse recovery time



Pulse generator: $t_p = 10\text{ }\mu\text{s}$, $D = 0.05$,
 $t_r = 0.6\text{ ns}$, $R_i = 50\text{ }\Omega$

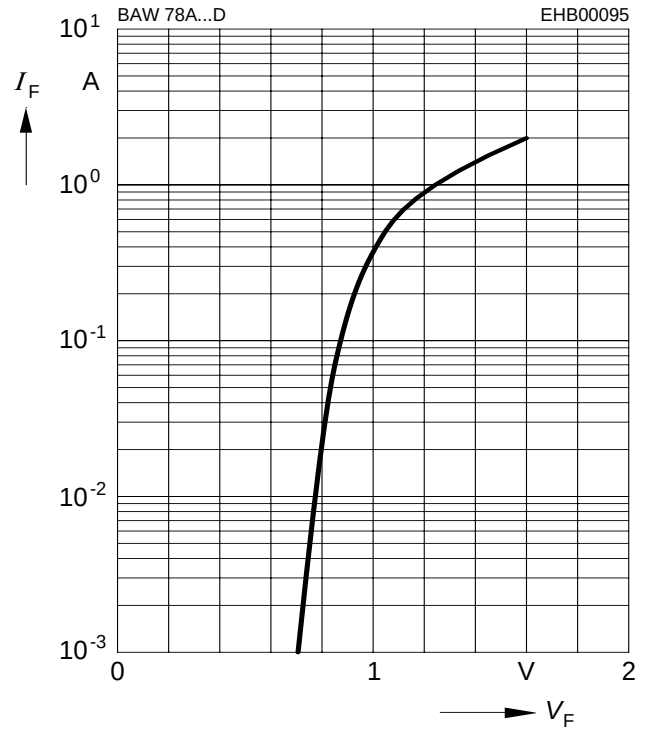
Oscilloscope: $R = 50\text{ }\Omega$, $t_r = 0.35\text{ ns}$,
 $C \leq 1\text{ pF}$

Forward current $I_F = f(T_S)$



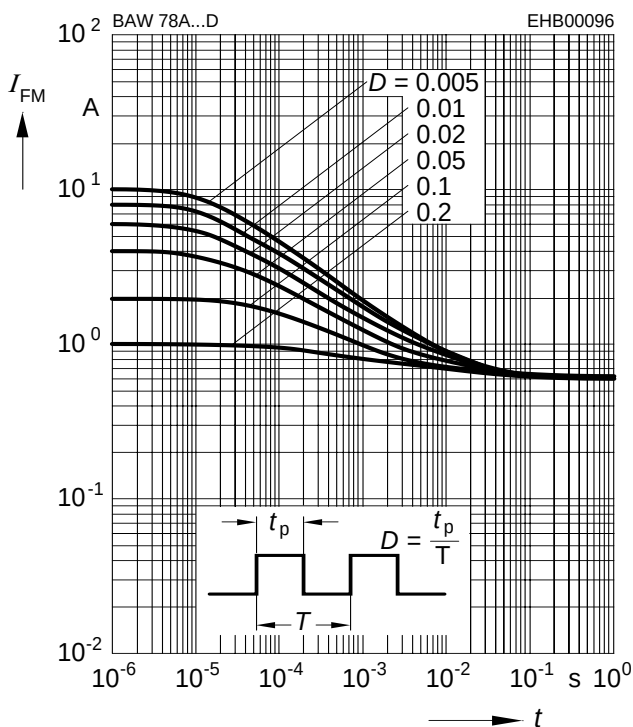
Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



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

$T_A = 25^\circ\text{C}$



Reverse current $I_R = f(T_A)$

$V_R = V_{Rmax}$

