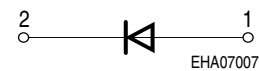
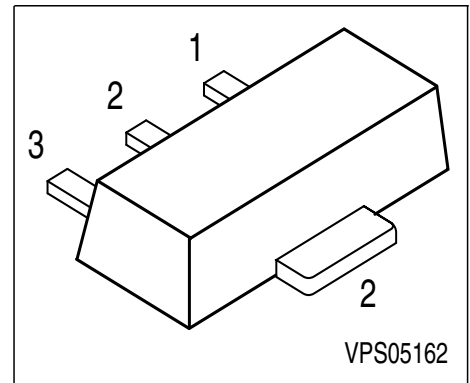


Silicon Switching Diodes

- Switching applications
- High breakdown voltage



Type	Marking	Pin Configuration			Package
BAW 78A	GA	1 = A	2 = C	3 = n.c.	SOT-89
BAW 78B	GB	1 = A	2 = C	3 = n.c.	SOT-89
BAW 78C	GC	1 = A	2 = C	3 = n.c.	SOT-89
BAW 78D	GD	1 = A	2 = C	3 = n.c.	SOT-89

Maximum Ratings

Parameter	Symbol	BAW	BAW	BAW	BAW	Unit
		78 A	78 B	78 C	78 D	
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, $t = 1 \mu s$	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	T_{stg}	-65 ... 150				

Thermal Resistance

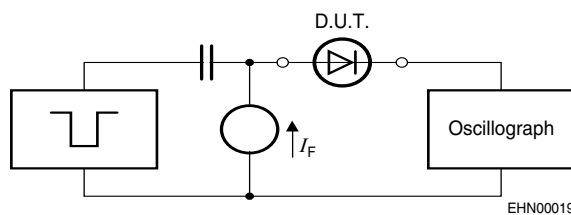
Junction - ambient ¹⁾	R_{thJA}	≤ 95	K/W
Junction - soldering point	R_{thJS}	≤ 25	

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 6cm² Cu

Electrical Characteristics at $T_A = 25\text{ }^\circ\text{C}$, 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 $I_F = 1\text{ A}$ $I_F = 2\text{ A}$	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

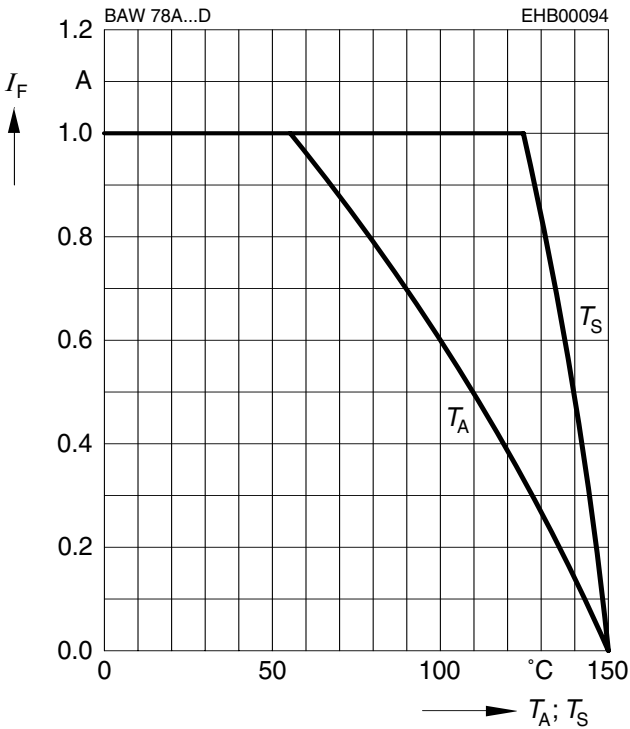


Pulse generator: $t_p = 100\text{ ns}$, $D = 0.05$,
 $t_r = 0.6\text{ ns}$, $R_i = 50\text{ }\Omega$

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

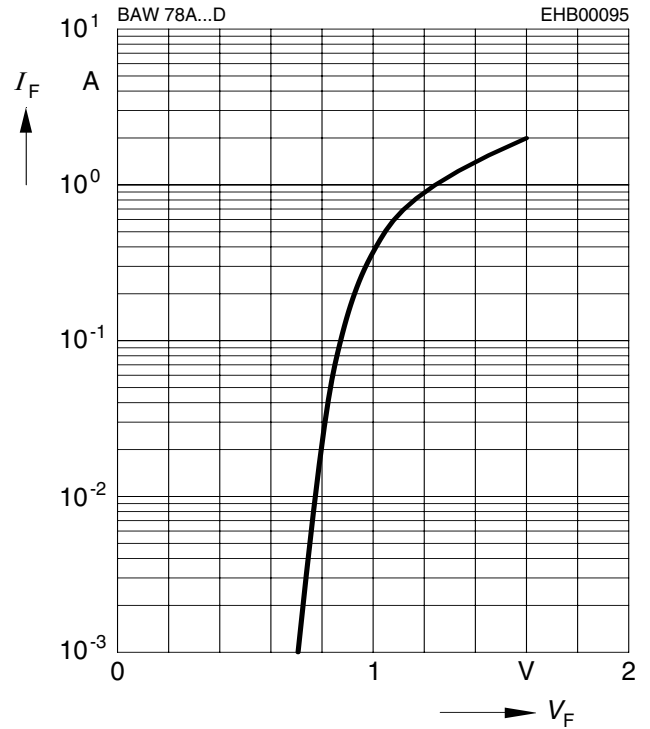
Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy



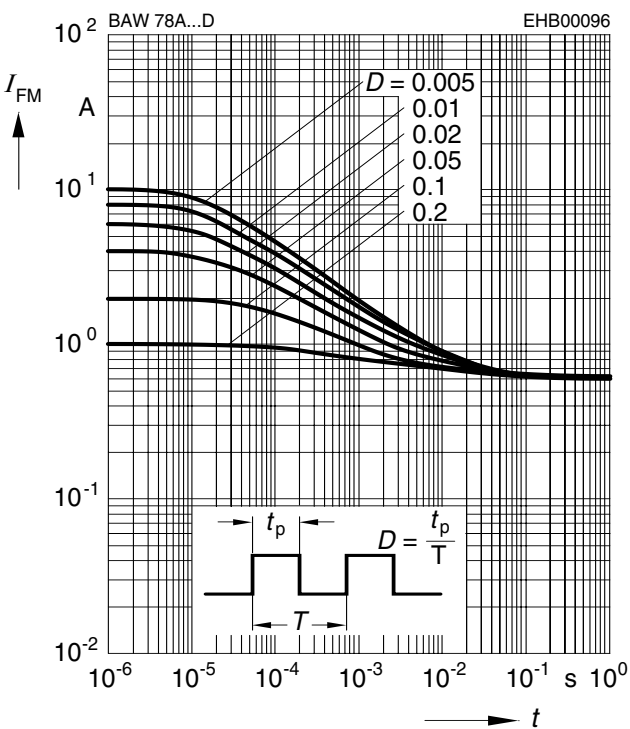
Forward current $I_F = f(V_F)$

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



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

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



Reverse current $I_R = f(T_A)$

$V_R = V_{Rmax}$

