

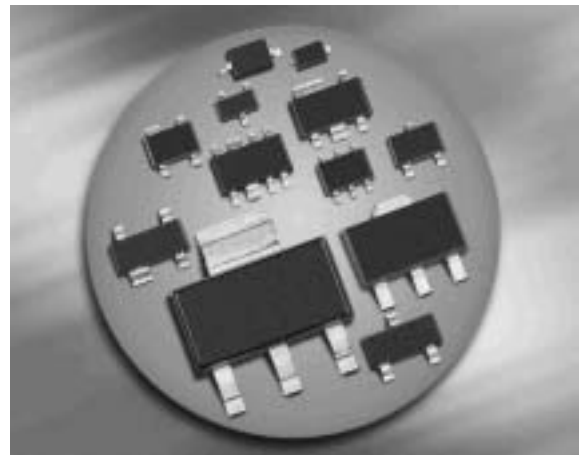
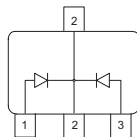
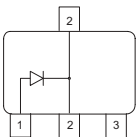


# THE DATASHEET OF BAW78DH6327XTSA1



**Silicon Switching Diodes**

- Switching applications
- High breakdown voltage
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BAW78D**
**BAW79D**


Type	Package	Configuration	Marking
BAW78D	SOT89	single	GD
BAW79D	SOT89	common cathode	GH

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	400	V
Peak reverse voltage	$V_{RM}$	400	
Forward current	$I_F$	1	A
Peak forward current	$I_{FM}$	1	
Peak forward current	$I_{FM}$	1	
Surge forward current, $t = 1 \mu\text{s}$	$I_{FS}$	10	
Non-repetitive peak surge forward current	$I_{FSM}$	-	
Total power dissipation	$P_{tot}$		W
BAW78D, $T_S \leq 125^\circ\text{C}$		1	
BAW79D, $T_S \leq 115^\circ\text{C}$		1	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-65 ... 150	

<sup>1)</sup>Pb-containing package may be available upon special request

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAW78D		≤ 25	
BAW79D		≤ 35	

**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

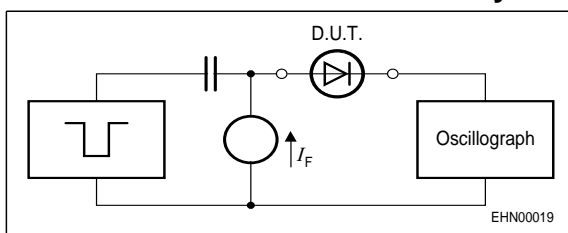
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC Characteristics**

Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	400	-	-	V
Reverse current $V_R = 400 \text{ V}$ $V_R = 400 \text{ V}, T_A = 150 \text{ }^\circ\text{C}$	$I_R$	-	-	1 50	$\mu\text{A}$
Forward voltage $I_F = 1 \text{ A}$ $I_F = 2 \text{ A}$	$V_F$	-	-	1.6 2	V

**AC Characteristics**

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

**Test circuit for reverse recovery time**


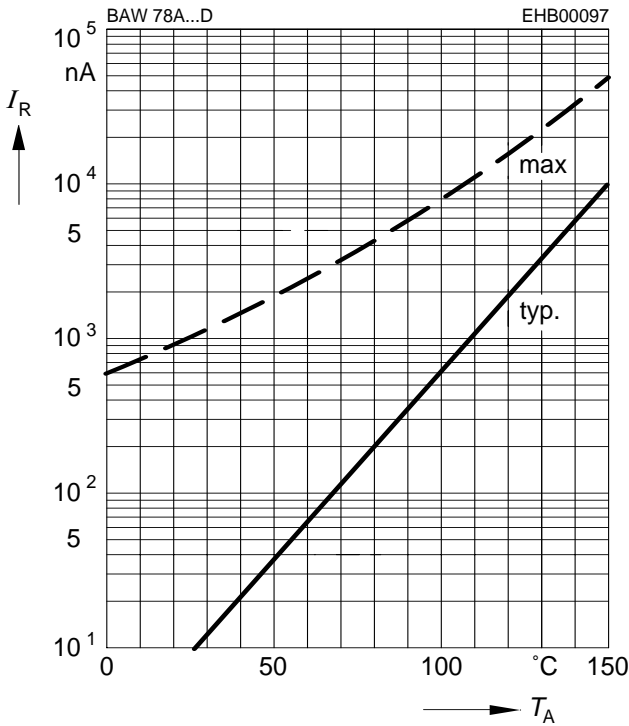
Puls generator:  $t_p = 10\mu\text{s}$ ,  $D = 0.05$ ,  
 $t_r = 0.6\text{ns}$ ,  $R_i = 50\Omega$

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

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

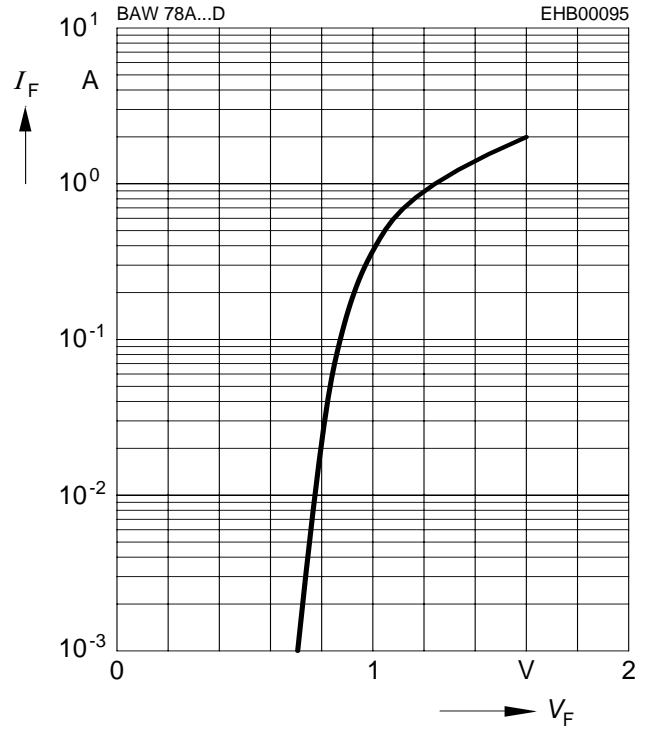
Reverse current  $I_R = f(T_A)$

$V_R = 400V$

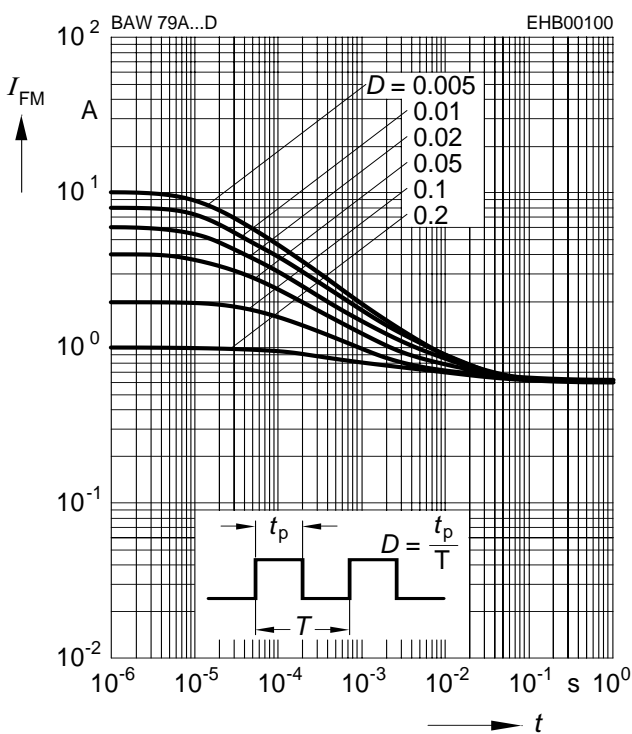


Forward current  $I_F = f(V_F)$

$T_A = 25^\circ C$

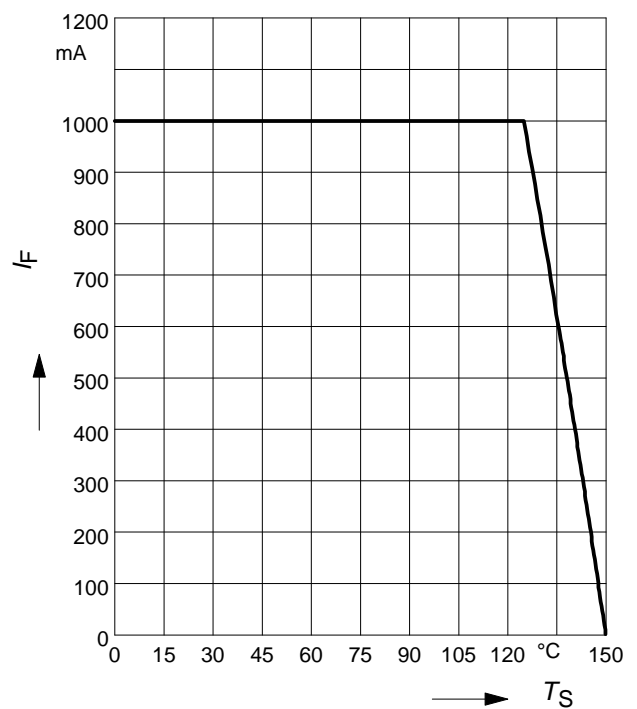


Peak forward current  $I_{FM} = f(t_p)$



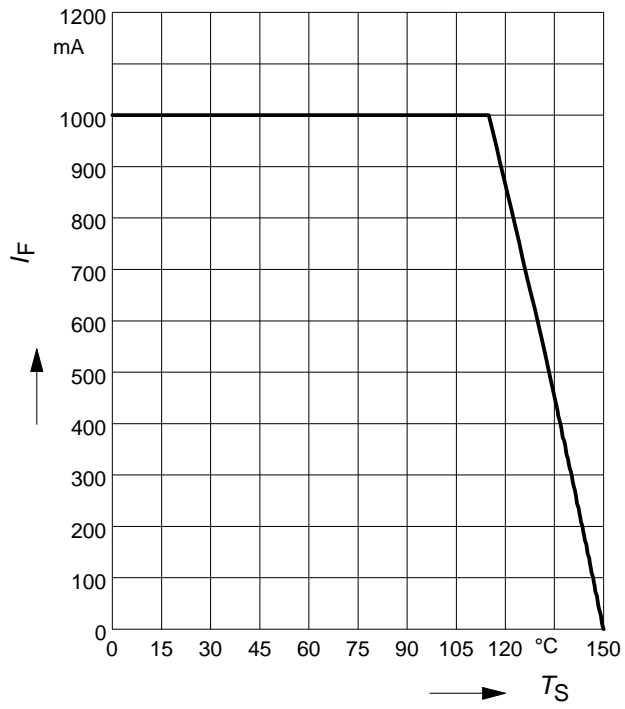
Forward current  $I_F = f(T_S)$

BAW78D

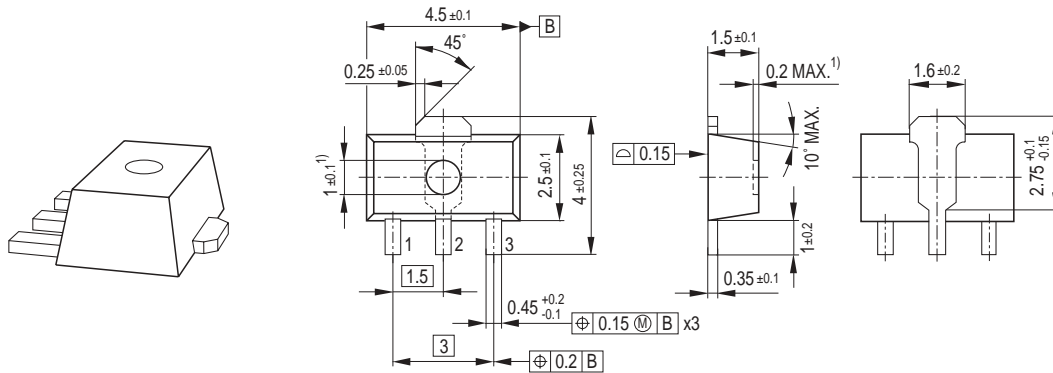


Forward current  $I_F = f(T_S)$

BAW79D

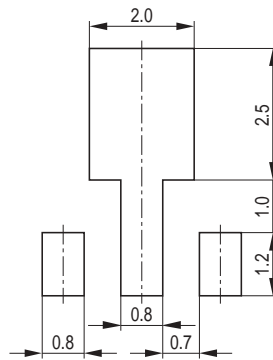


Package Outline

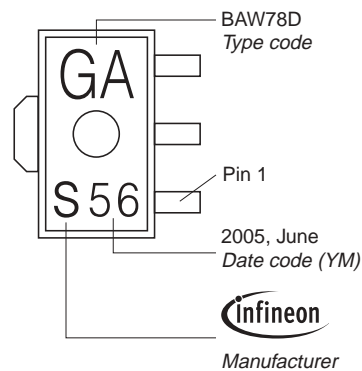


1) Ejector pin markings possible

Foot Print

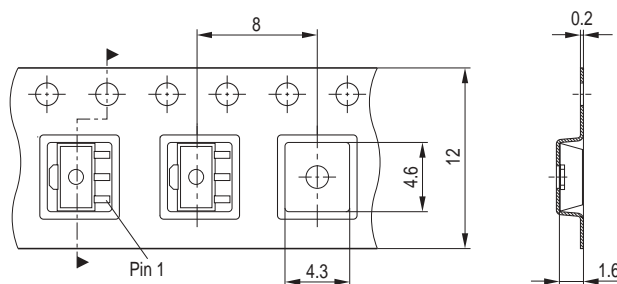


Marking Layout (Example)



Standard Packing

Reel  $\varnothing$ 180 mm = 1.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 4.000 Pieces/Reel



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