

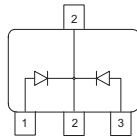
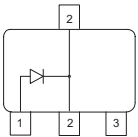


**THE DATASHEET OF
BAW78DE6327HTSA1**



Silicon Switching Diodes

- Switching applications
- High breakdown voltage
- Pb-free (RoHS compliant) package ¹⁾
- 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	

¹⁾Pb-containing package may be available upon special request

Thermal Resistance

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

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

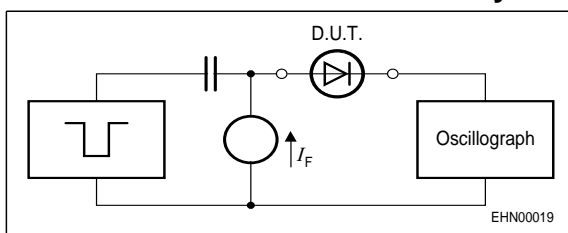
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

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	μA
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 $I_F = 200\text{mA}, I_R = 200\text{mA}$, measured at $I_R = 20\text{mA}$ $R_L = 100\Omega$	t_{rr}	-	1	-	μs

Test circuit for reverse recovery time


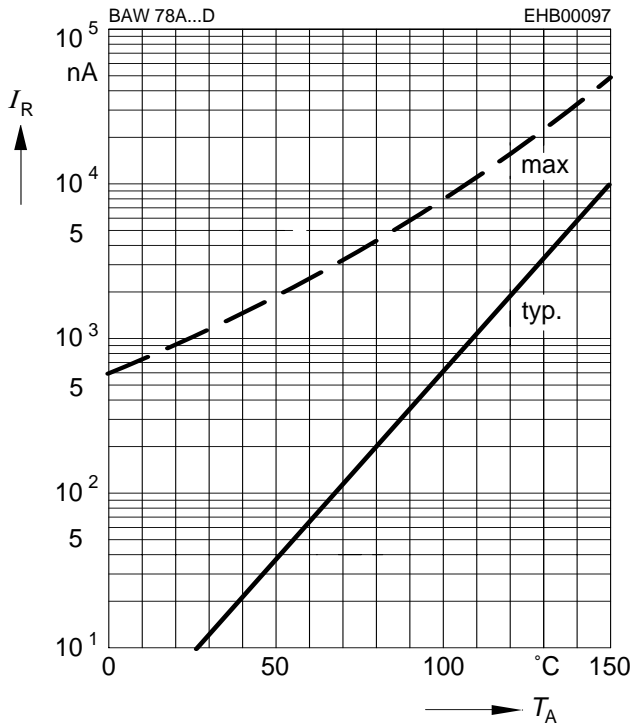
Puls generator: $t_p = 10\mu\text{s}$, $D = 0.05$,
 $t_r = 0.6\text{ns}$, $R_i = 50\Omega$

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

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

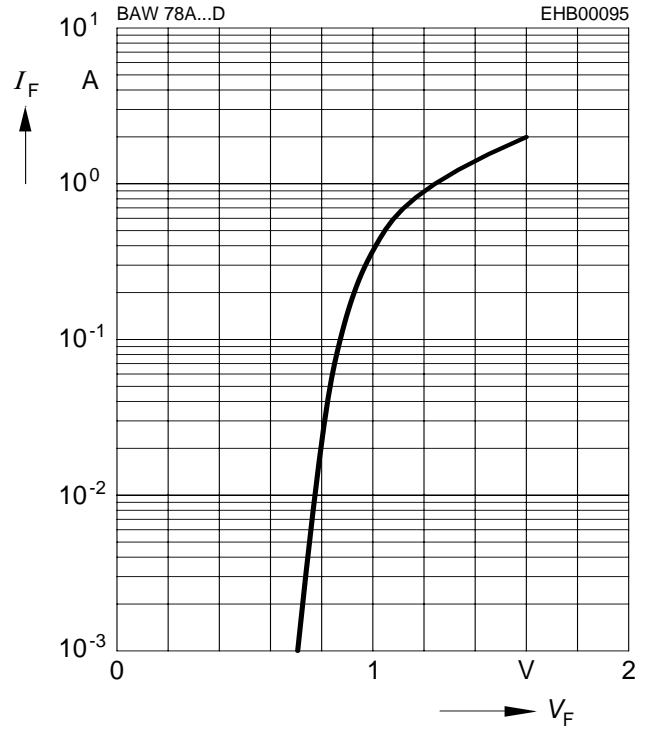
Reverse current $I_R = f(T_A)$

$V_R = 400V$

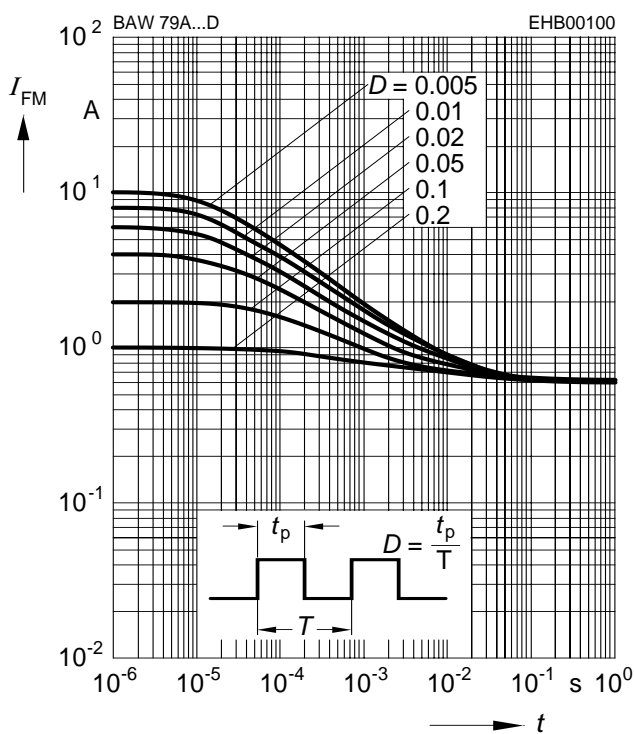


Forward current $I_F = f(V_F)$

$T_A = 25^\circ C$

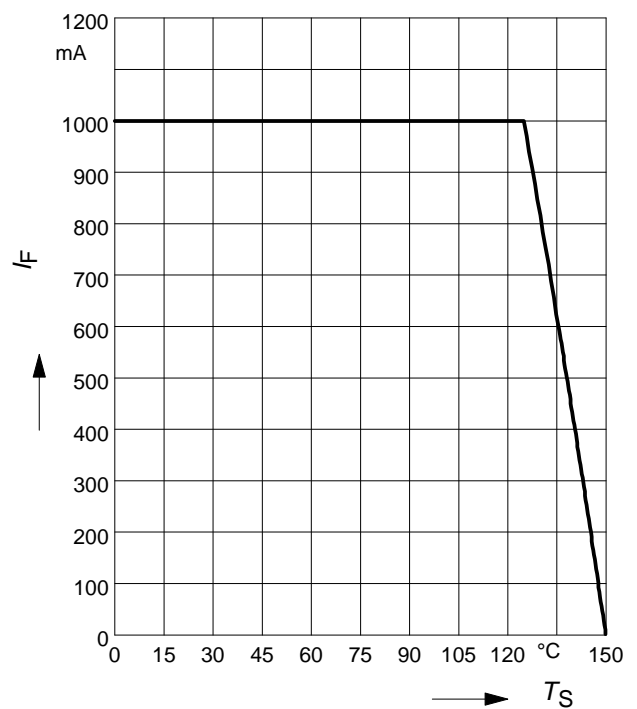


Peak forward current $I_{FM} = f(t_p)$



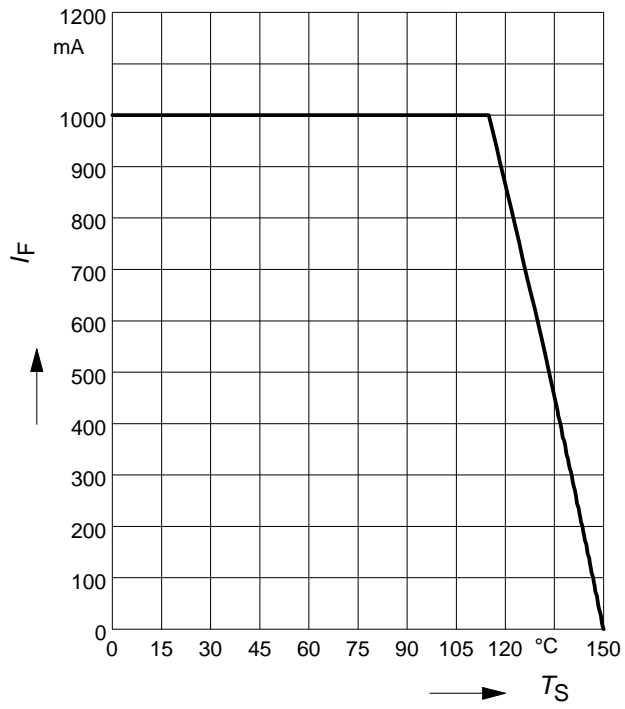
Forward current $I_F = f(T_S)$

BAW78D

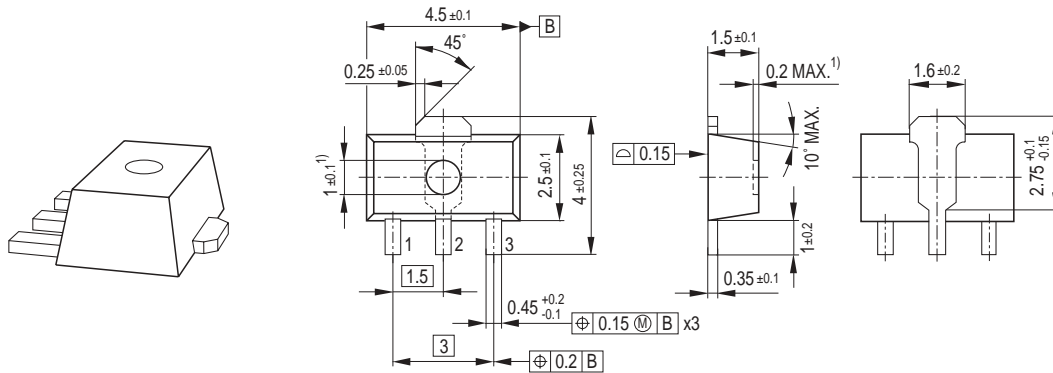


Forward current $I_F = f(T_S)$

BAW79D

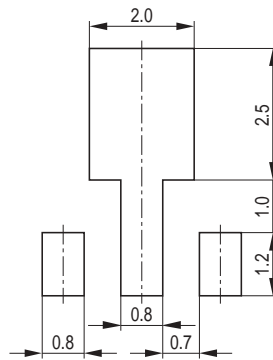


Package Outline

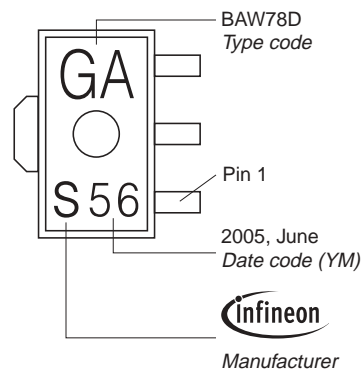


1) Ejector pin markings possible

Foot Print

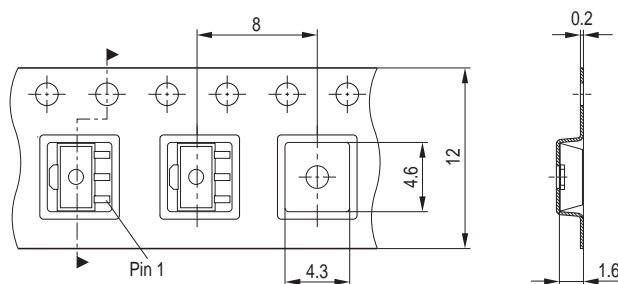


Marking Layout (Example)



Standard Packing

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



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