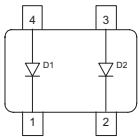


**Silicon Switching Diode**

- Electrically insulated high-voltage medium-speed diodes
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BAW101**


Type	Package	Configuration	Marking
BAW101	SOT143	parallel	JPs

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	300	V
Peak reverse voltage	$V_{RM}$	300	
Forward current	$I_F$	250	mA
Peak forward current	$I_{FM}$	500	
Peak forward current	$I_{FM}$	500	mA
Surge forward current, $t = 1 \mu\text{s}$	$I_{FS}$	4.5	A
Non-repetitive peak surge forward current	$I_{FSM}$	-	
Total power dissipation $T_S \leq 35^\circ\text{C}$	$P_{tot}$	350	mW
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> BAW101	$R_{thJS}$	$\leq 330$	K/W

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

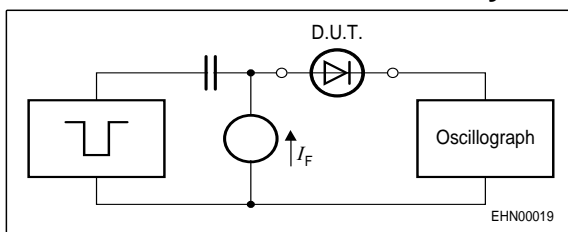
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC Characteristics**

Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	300	-	-	V
Reverse current $V_R = 250 \text{ V}$ $V_R = 250 \text{ V}, T_A = 150^\circ\text{C}$	$I_R$	-	-	0.15 50	$\mu\text{A}$
Forward voltage $I_F = 100 \text{ mA}$	$V_F$	-	-	1.3	V

**AC Characteristics**

Diode capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	$C_T$	-	6	-	pF
Reverse recovery time $I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$ , measured at $I_R = 1 \text{ mA}$ , $R_L = 100 \Omega$	$t_{rr}$	-	1	-	$\mu\text{s}$

**Test circuit for reverse recovery time**


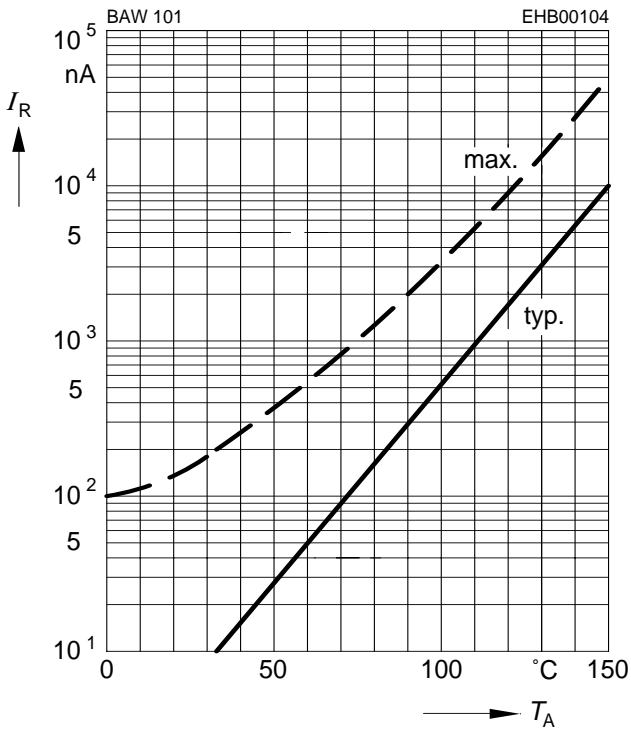
Pulse generator:  $t_p = 10 \mu\text{s}$ ,  $D = 0.05$ ,  $t_r = 0.6 \text{ ns}$ ,  
 $R_i = 50 \Omega$

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

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

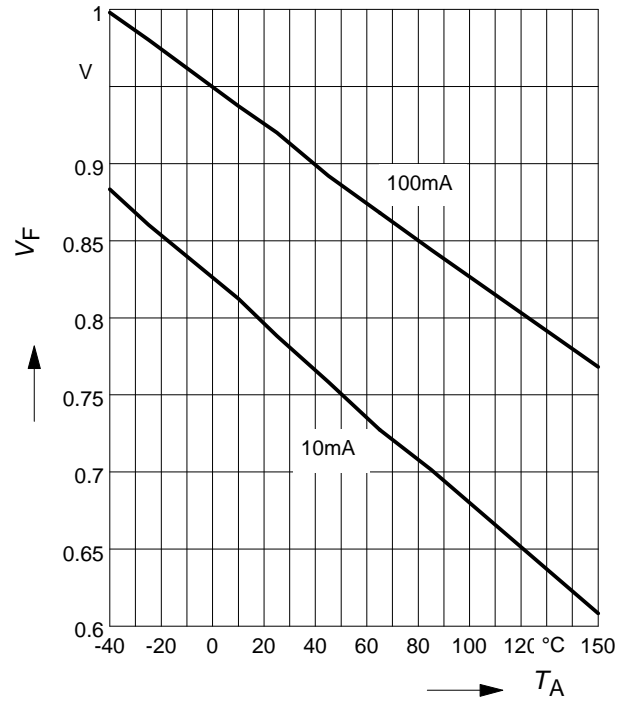
Reverse current  $I_R = f(T_A)$

$V_R = 250V$



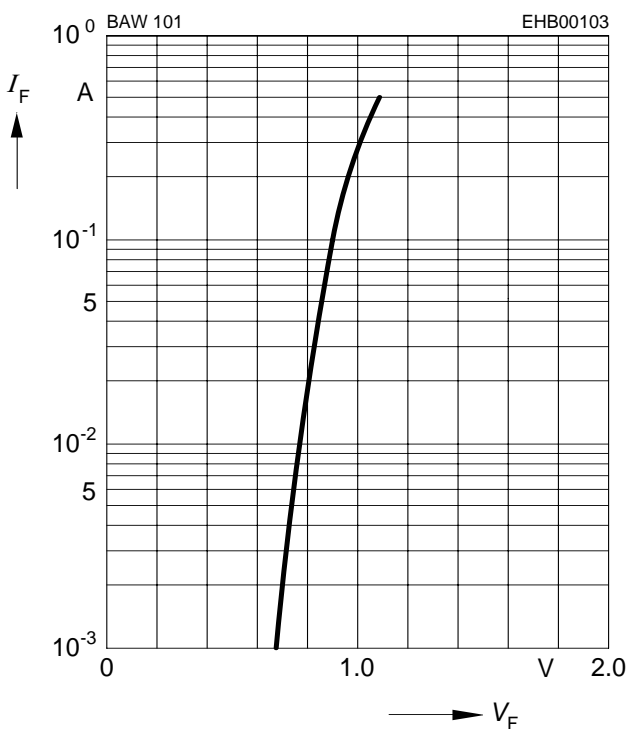
Forward Voltage  $V_F = f(T_A)$

$I_F = \text{Parameter}$



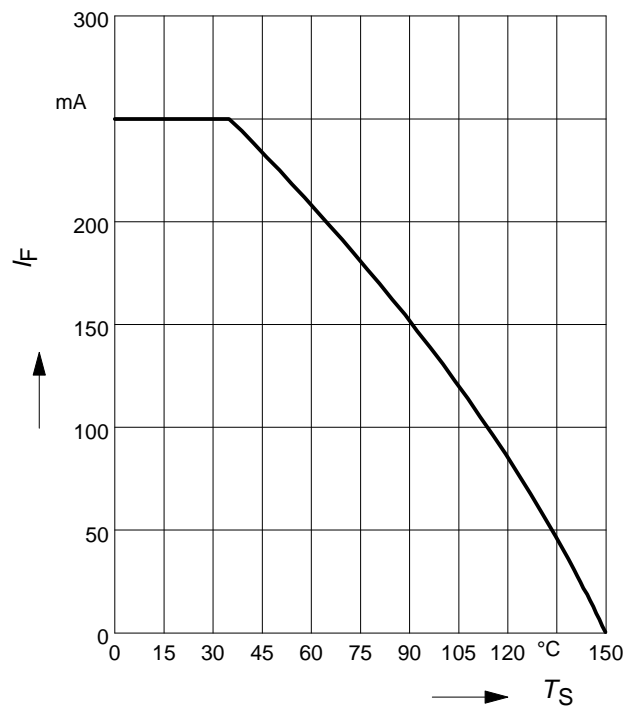
Forward current  $I_F = f(V_F)$

$T_A = 25^\circ C$

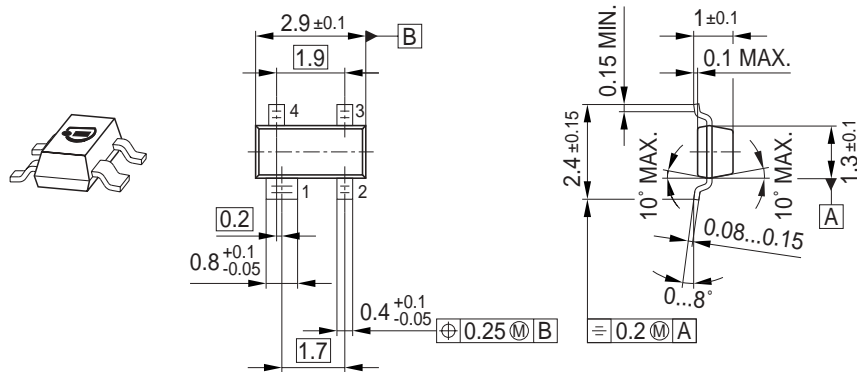


Forward current  $I_F = f(T_S)$

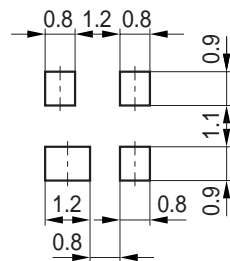
BAW101



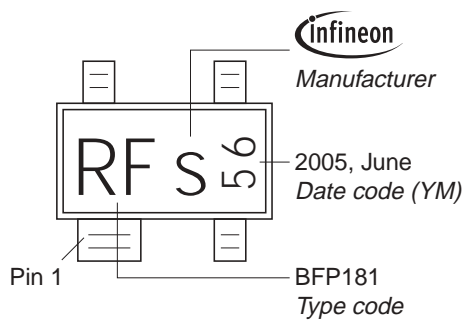
Package Outline



Foot Print

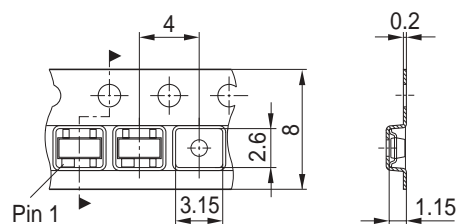


Marking Layout (Example)



Standard Packing

Reel  $\varnothing 180 \text{ mm}$  = 3.000 Pieces/Reel  
 Reel  $\varnothing 330 \text{ mm}$  = 10.000 Pieces/Reel



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