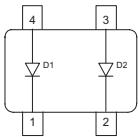


Silicon Switching Diode

- Electrically insulated high-voltage medium-speed diodes
- Pb-free (RoHS compliant) package ¹⁾
- 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	°C
Storage temperature	T_{stg}	-65 ... 150	

¹Pb-containing package may be available upon special request

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾ BAW101	R_{thJS}	≤ 330	K/W

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

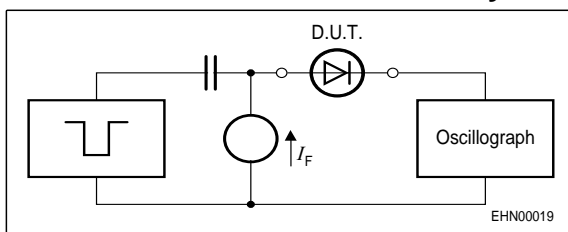
Parameter	Symbol	Values			Unit
		min.	typ.	max.	

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	μA
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	-	μs

Test circuit for reverse recovery time


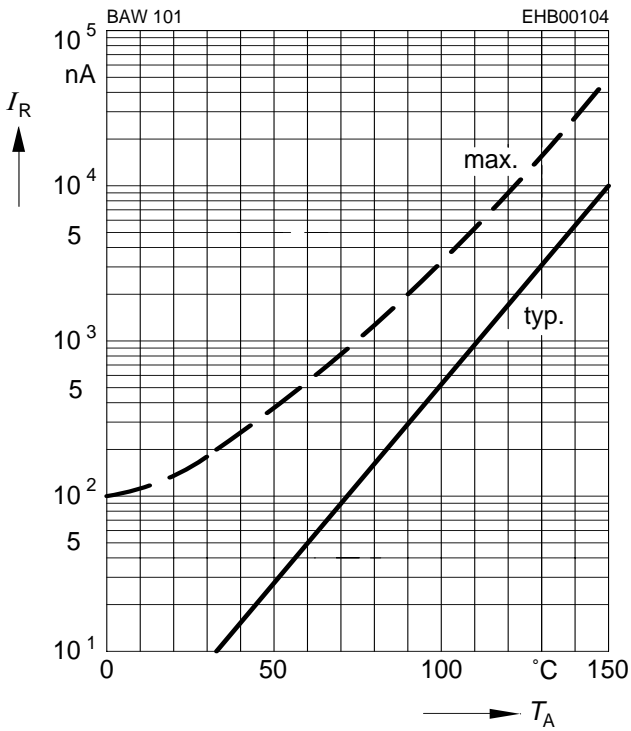
Pulse generator: $t_p = 10 \mu\text{s}$, $D = 0.05$, $t_r = 0.6 \text{ ns}$,
 $R_i = 50 \Omega$

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

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

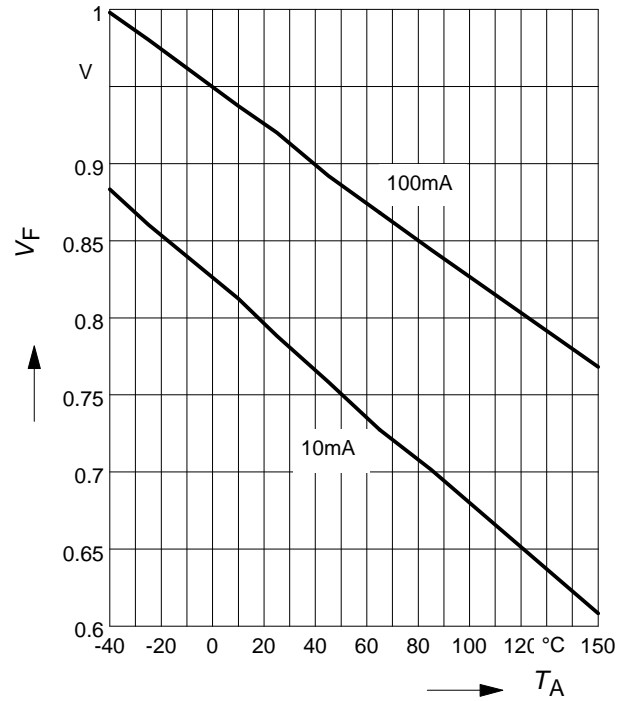
Reverse current $I_R = f(T_A)$

$V_R = 250V$



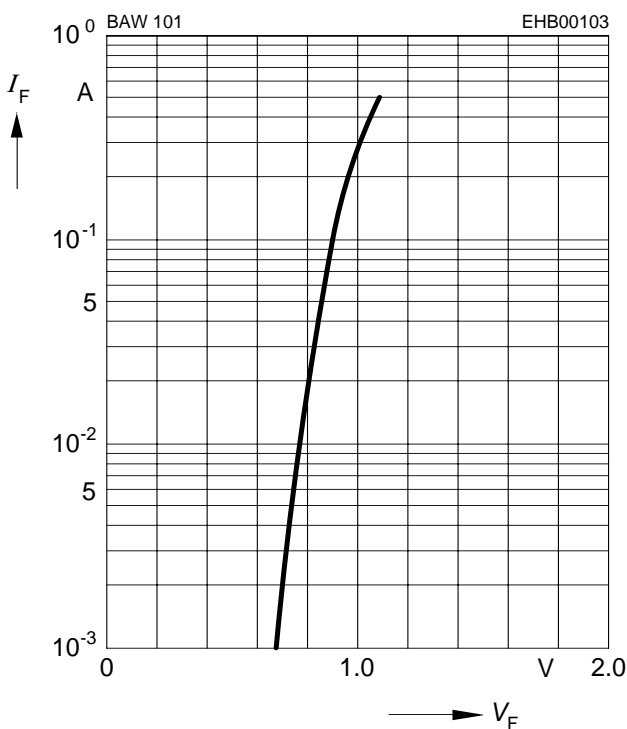
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



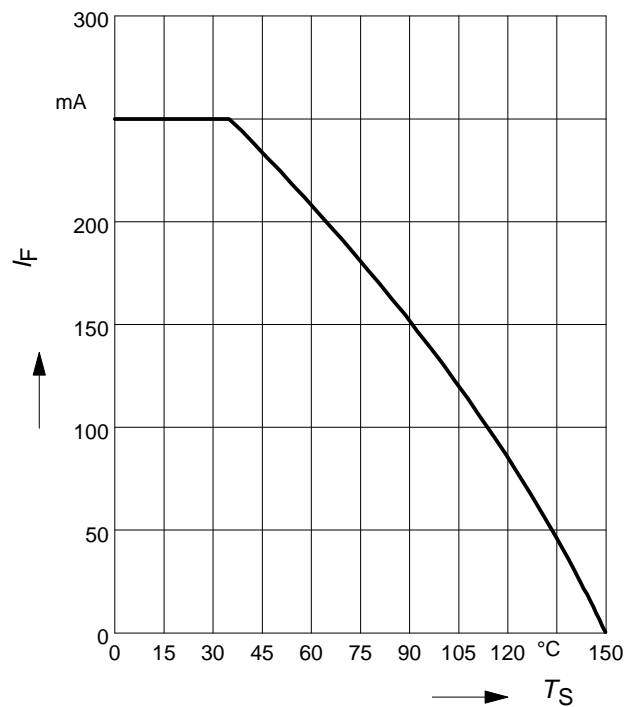
Forward current $I_F = f(V_F)$

$T_A = 25^\circ C$

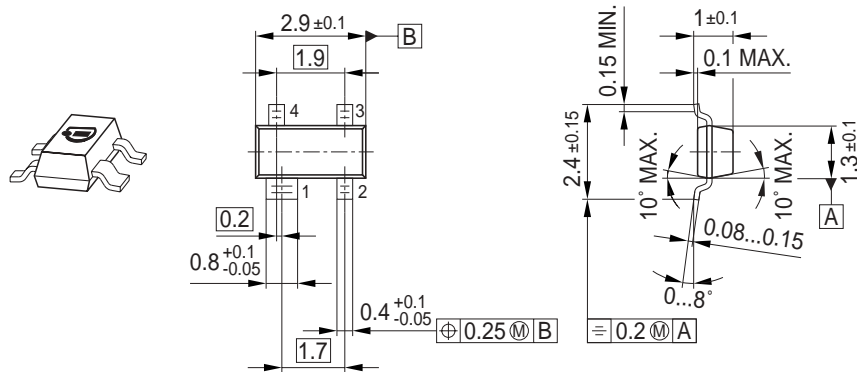


Forward current $I_F = f(T_S)$

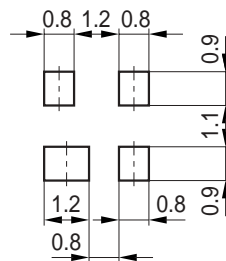
BAW101



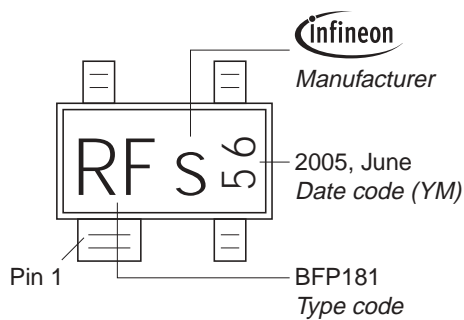
Package Outline



Foot Print

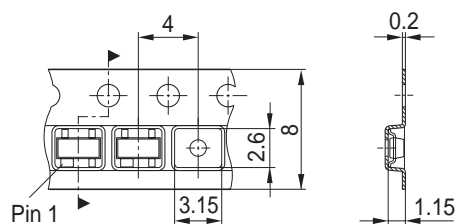


Marking Layout (Example)



Standard Packing

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



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