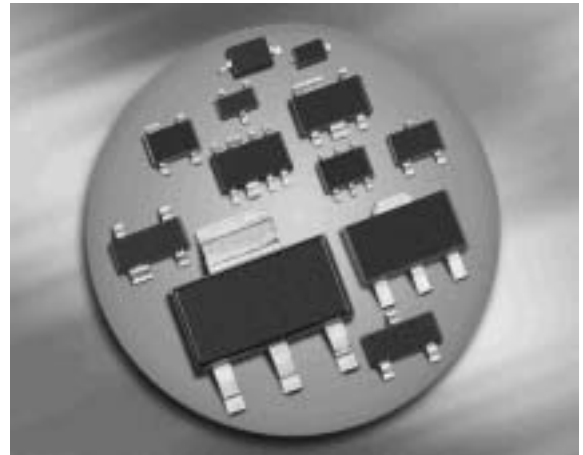
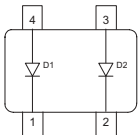


## Silicon Switching Diode

- 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<br>$T_S \leq 35^\circ\text{C}$ | $P_{tot}$ | 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><br>BAW101 | $R_{thJS}$ | $\leq 330$ | K/W  |

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

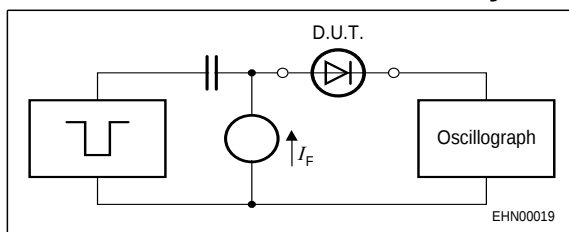
| Parameter | Symbol | Values |      |      | Unit |
|-----------|--------|--------|------|------|------|
|           |        | min.   | typ. | max. |      |

**DC Characteristics**

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

**AC Characteristics**

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

**Test circuit for reverse recovery time**


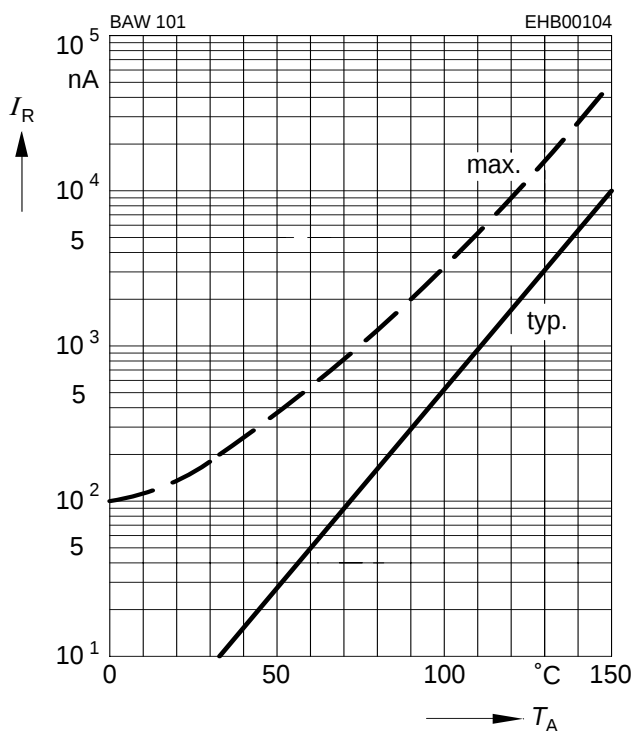
Pulse generator:  $t_p = 10 \mu\text{s}$ ,  $D = 0.05$ ,  $t_r = 0.6 \text{ ns}$ ,  
 $R_i = 50 \Omega$

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

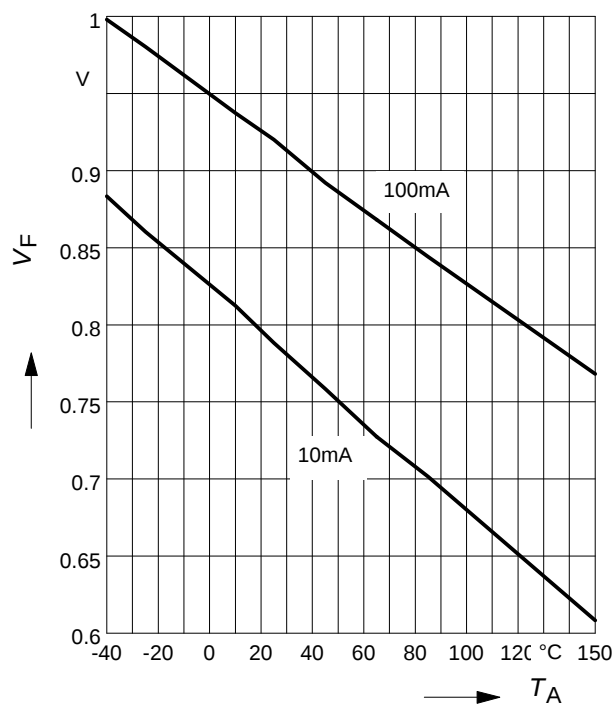
Reverse current  $I_R = f(T_A)$

$V_R = 250V$



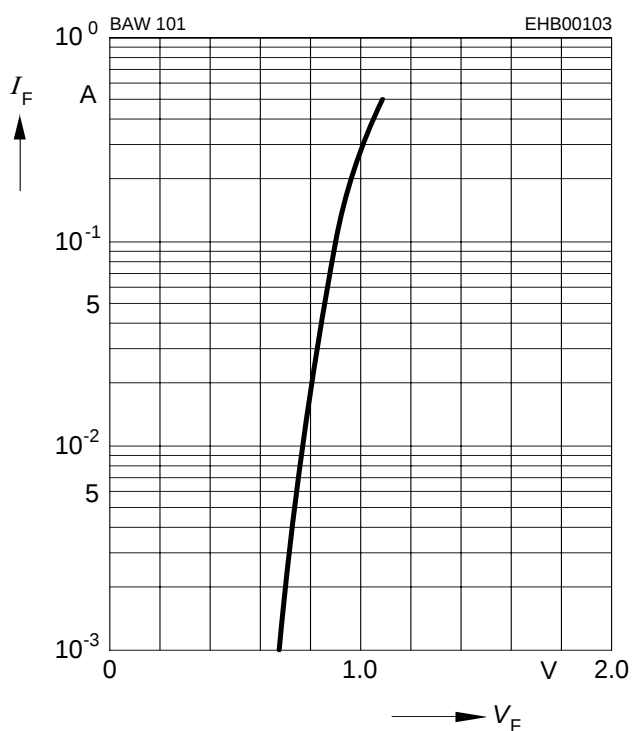
Forward Voltage  $V_F = f(T_A)$

$I_F = \text{Parameter}$



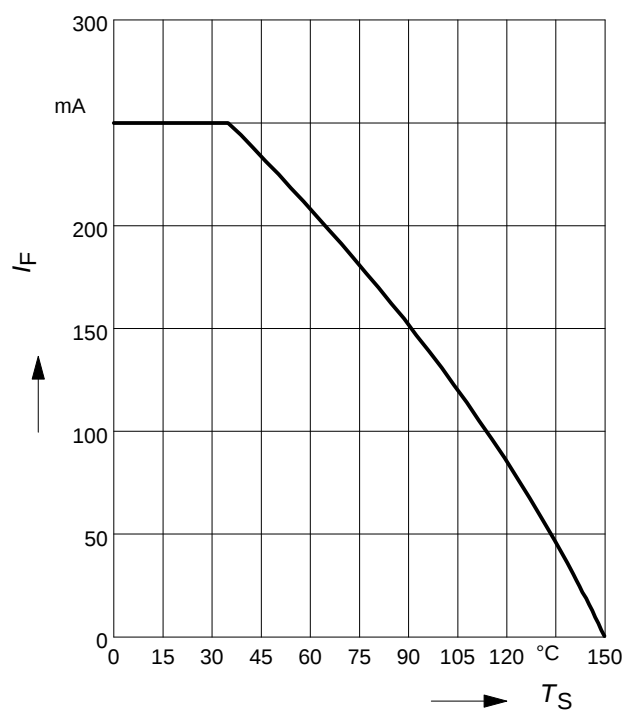
Forward current  $I_F = f(V_F)$

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

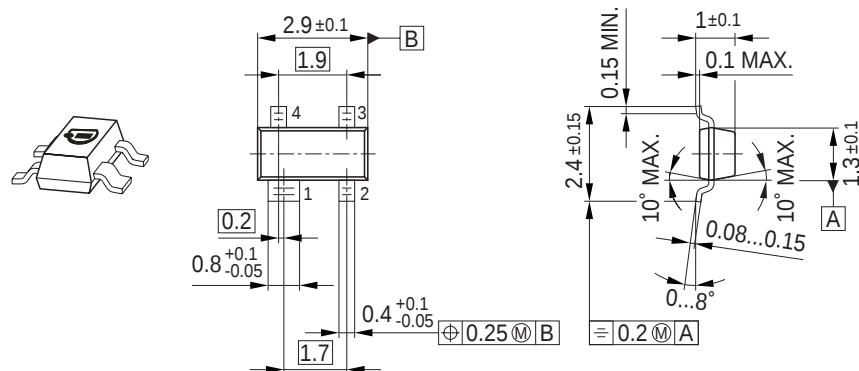


Forward current  $I_F = f(T_S)$

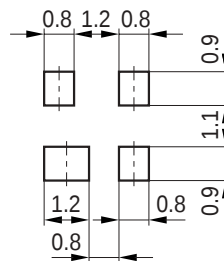
BAW101



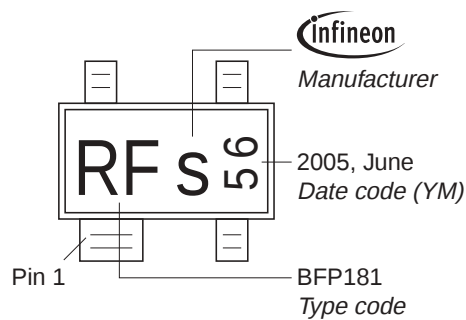
## Package Outline



## Foot Print

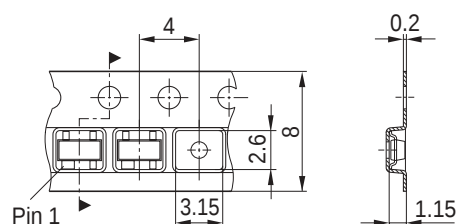


## Marking Layout (Example)



## Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø330 mm = 10.000 Pieces/Reel



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