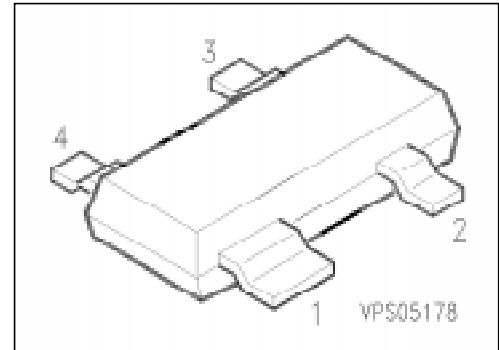


## Silicon Switching Diode Array

**BAW 101**

- Electrically insulated high-voltage medium-speed diodes



| Type    | Marking | Ordering Code (tape and reel) | Pin Configuration | Package <sup>1)</sup> |
|---------|---------|-------------------------------|-------------------|-----------------------|
| BAW 101 | JPs     | Q62702-A712                   |                   | SOT-143               |

### Maximum Ratings

| Parameter   | Symbol    | Values         | Unit             |
|---|-----------|----------------|------------------|
| Reverse voltage   | $V_R$     | 300            | V                |
| Peak reverse voltage  | $V_{RM}$  | 300            |                  |
| Forward current   | $I_F$     | 250            | mA               |
| Peak forward current  | $I_{FM}$  | 500            |                  |
| Surge forward current, $t = 1 \mu s$                          | $I_{FS}$  | 4.5            | A                |
| Total power dissipation, $T_s \leq 35 \text{ }^\circ\text{C}$ | $P_{tot}$ | 350            | mW               |
| Junction temperature  | $T_j$     | 150            | $^\circ\text{C}$ |
| Storage temperature range                                     | $T_{stg}$ | - 65 ... + 150 |                  |

### Thermal Resistance

|                                  |             |            |     |
|----------------------------------|-------------|------------|-----|
| Junction - ambient <sup>2)</sup> | $R_{th JA}$ | $\leq 470$ | K/W |
| Junction - soldering point       | $R_{th JS}$ | $\leq 330$ |     |

<sup>1)</sup> For detailed information see chapter Package Outlines.

<sup>2)</sup> Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm<sup>2</sup> Cu.

## Electrical Characteristics

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

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

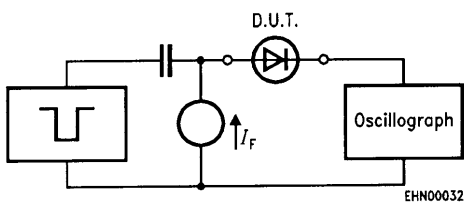
### DC characteristics

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

### AC characteristics

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

### Test circuit for reverse recovery time

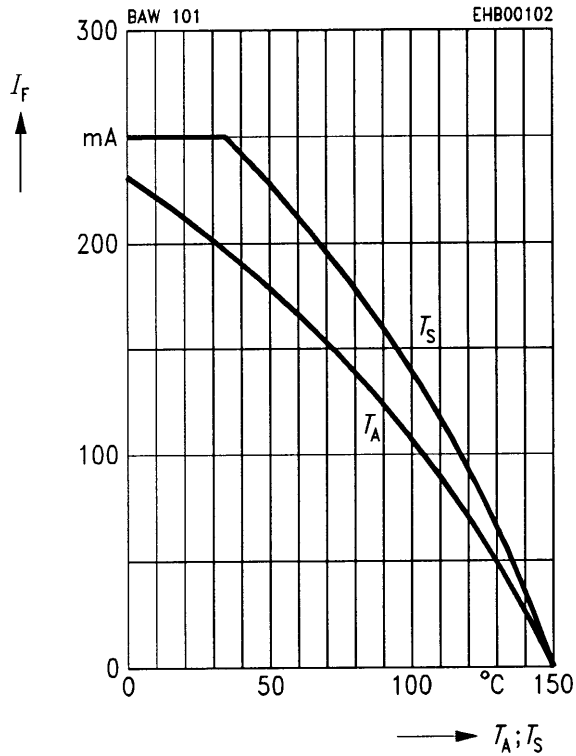


Pulse generator:  $t_p = 100\text{ ns}, D = 0.05$   
 $t_r = 0.6\text{ ns}, R_j = 50\text{ }\Omega$

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

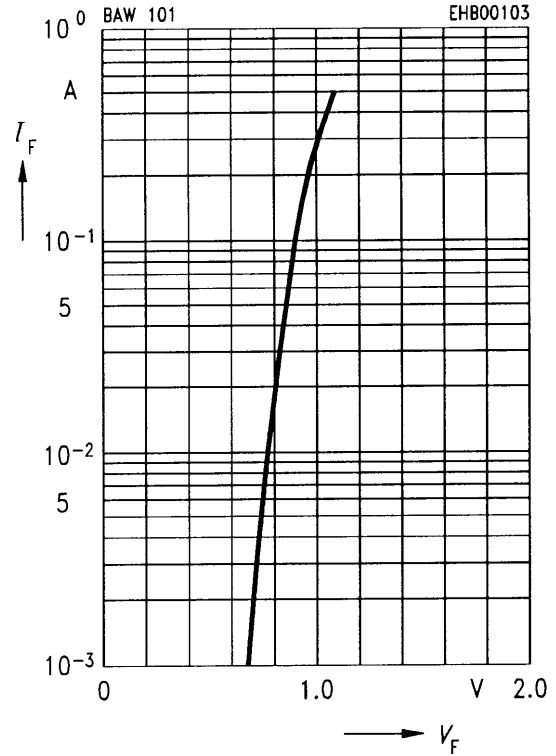
**Forward current  $I_F = f(T_A^*; T_S)$**

\* Package mounted on epoxy



**Forward current  $I_F = f(V_F)$**

$T_A = 25^{\circ}C$



**Reverse current  $I_R = f(T_A)$**

