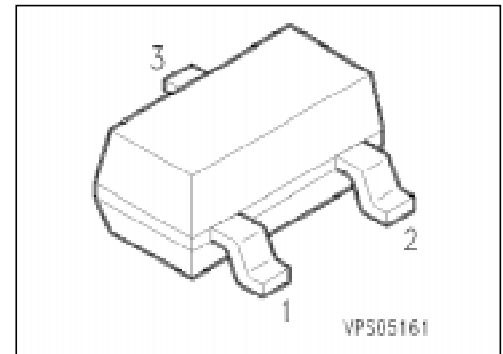


Silicon Switching Diode Array

BAV 99

Features

- For high-speed switching
- Connected in series



| Type | Marking | Ordering Code (tape and reel) | Pin Configuration | Package ¹⁾ |
|--------|---------|-------------------------------|-------------------|-----------------------|
| BAV 99 | A7s | Q68000-A549 | | SOT-23 |

Maximum Ratings per Diode

| Parameter | Symbol | Values | Unit |
|--|-----------|----------------|------------------|
| Reverse voltage | V_R | 70 | V |
| Peak reverse voltage | V_{RM} | 70 | |
| Forward current | I_F | 200 | mA |
| Surge forward current, $t = 1 \mu s$ | I_{FS} | 4.5 | A |
| Total power dissipation, $T_s = 31 \text{ }^\circ\text{C}$ | P_{tot} | 330 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | - 65 ... + 150 | |

¹⁾For detailed information see chapter Package Outlines.

Thermal Resistance

| | | | |
|----------------------------------|-------------|------------|-----|
| Junction - ambient ²⁾ | $R_{th JA}$ | ≤ 500 | K/W |
| Junction - soldering point | $R_{th JS}$ | ≤ 360 | |

Electrical Characteristics per Diode

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

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

DC characteristics

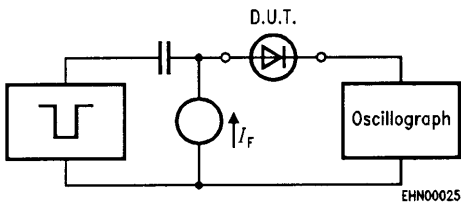
| | | | | | |
|---|------------|------------------|------------------|----------------------------|---------------|
| Breakdown voltage $I_{(BR)} = 100\ \mu\text{A}$ | $V_{(BR)}$ | 70 | – | – | V |
| Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 50\ \text{mA}$ $I_F = 150\ \text{mA}$ | V_F | – – – – | – – – – | 715 855 1000 1250 | mV |
| Reverse current $V_R = 70\ \text{V}$ $V_R = 25\ \text{V}, T_A = 150\text{ °C}$ $V_R = 70\ \text{V}, T_A = 150\text{ °C}$ | I_R | – – – | – – – | 2.5 30 50 | μA |

AC characteristics

| | | | | | |
|--|----------|---|---|-----|----|
| Diode capacitance $V_R = 0\ \text{V}, f = 1\ \text{MHz}$ | C_D | – | – | 1.5 | pF |
| Reverse recovery time $I_F = 10\ \text{mA}, I_R = 10\ \text{mA}, R_L = 100\ \Omega$ measured at $I_R = 1\ \text{mA}$ | t_{rr} | – | – | 6 | ns |

²⁾Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

Test Circuit for Reverse Recovery Time

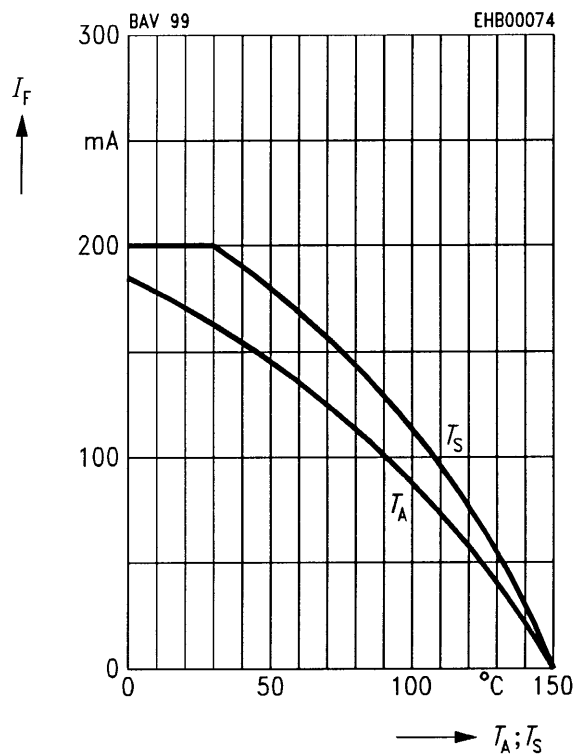


Pulse generator: $t_p = 100 \text{ ns}$, $D = 0.05$
 $t_r = 0.6 \text{ ns}$, $R_i = 50 \Omega$

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

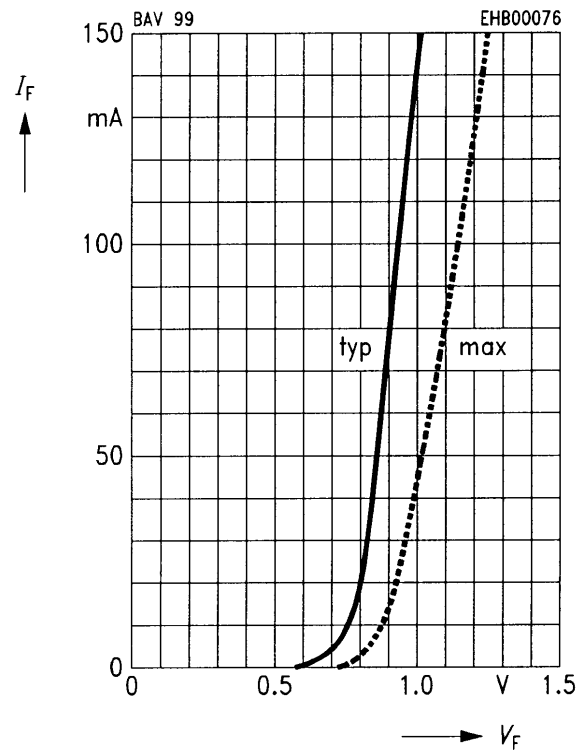
Forward current $I_F = f(T_A^*; T_S)$

* Package mounted on epoxy

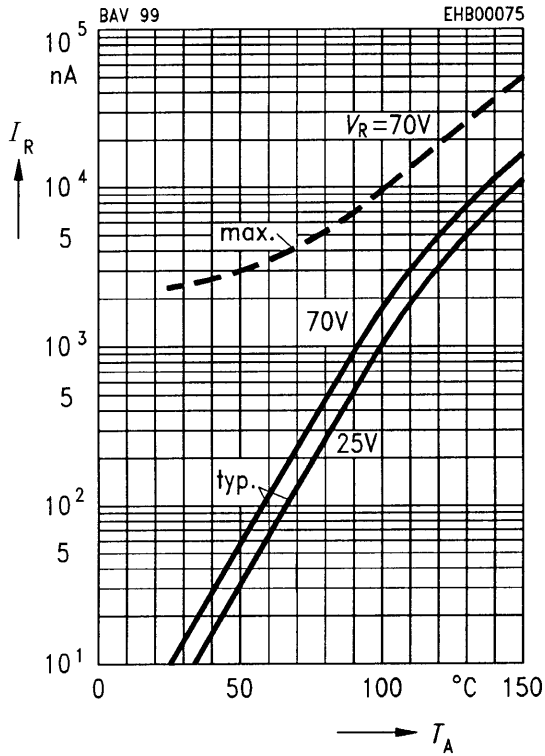


Forward current $I_F = f(V_F)$

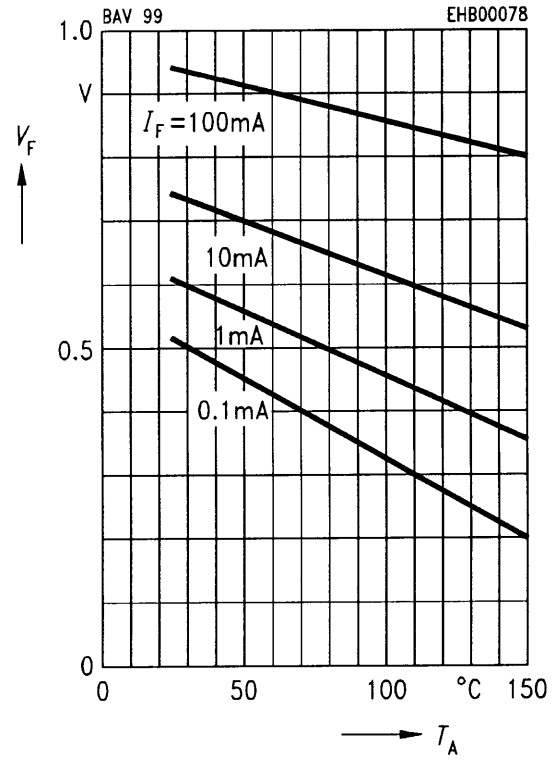
$T_A = 25 \text{ °C}$



Reverse current $I_R = f(T_A)$



Forward voltage $V_F = f(T_A)$



Peak forward current $I_{FM} = f(t)$
 $T_A = 25\text{ °C}$

