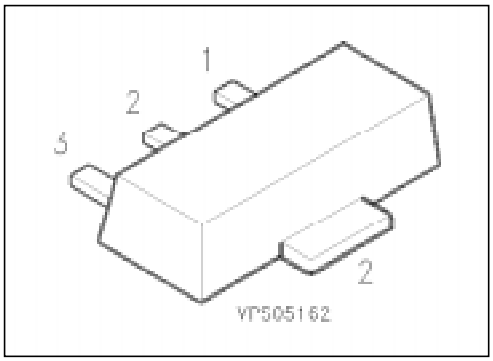
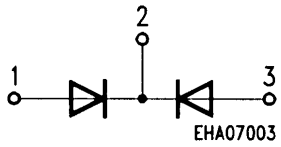
SIEMENS

## Silicon Switching Diodes

**BAW 79 A**
**... BAW 79 D**

- For high-speed switching
- High breakdown voltage
- Common cathode




| Type | Marking | Ordering Code (tape and reel) | Pin Configuration | Package[1)] |
|---|---|---|---|---|
| BAW 79 A<br>BAW 79 B<br>BAW 79 C<br>BAW 79 D | GE<br>GF<br>GG<br>GH | Q62702-A781<br>Q62702-A782<br>Q62702-A771<br>Q62702-A733 |  | SOT-89 |



### Maximum Ratings per Diode

| Parameter | Symbol | Values | | | | Unit |
|---|---|---|---|---|---|---|
| | | BAW | BAW | BAW | BAW | |
| Reverse voltage | $V_R$ | 50 | 100 | 200 | 400 | V |
| Peak reverse voltage | $V_{RM}$ | 50 | 100 | 200 | 400 | |
| Forward current | $I_F$ | 1 | | | | A |
| Peak forward current | $I_{FM}$ | 1 | | | | |
| Surge forward current<br>$t$ = 1 µs | $I_{FS}$ | 10 | | | | |
| Total power dissipation<br>$T_S$ = 115 ˚C | $P_{tot}$ | 1 | | | | W |
| Junction temperature | $T_j$ | 150 | | | | ˚C |
| Storage temperature range | $T_{stg}$ | – 65 … + 150 | | | | |

### Thermal Resistance

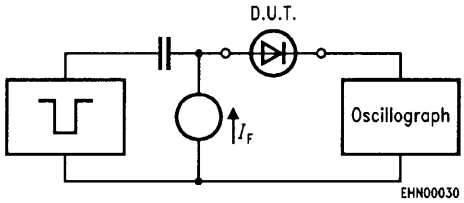
| | | | |
|---|---|---|---|
| Junction - ambient[2)] | $R_{th\ JA}$ | ≤ 175 | K/W |
| Junction - soldering point | $R_{th\ JS}$ | ≤ 35 | |

1) For detailed information see chapter Package Outlines.
2) Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

**Electrical Characteristics per Diode**
at $T_A$ = 25 °C, unless otherwise specified.

| Parameter | Symbol | Values | | | Unit |
|---|---|---|---|---|---|
| | | min. | typ. | max. | |
| **DC characteristics** | | | | | |
| Breakdown voltage<br>$I_{(BR)}$ = 100 µA | $V_{(BR)}$ | | | | V |
| BAW 79 A | | 50 | – | – | |
| BAW 79 B | | 100 | – | – | |
| BAW 79 C | | 200 | – | – | |
| BAW 79 D | | 400 | – | – | |
| Forward voltage[1]<br>$I_F$ = 1 A<br>$I_F$ = 2 A | $V_F$ | <br>–<br>– | <br>–<br>– | <br>1.6<br>2 | V |
| Reverse current<br>$V_R = V_{Rmax}$<br>$V_R = V_{Rmax}$, $T_A$ = 150 °C | $I_R$ | <br>–<br>– | <br>–<br>– | <br>1<br>50 | µA |
| **AC characteristics** | | | | | |
| Diode capacitance<br>$V_R$ = 0 V, $f$ = 1 MHz | $C_D$ | – | 10 | – | pF |
| Reverse recovery time<br>$I_F$ = 200 mA, $I_R$ = 200 mA,<br>$R_L$ = 100 Ω<br>measured at $I_R$ = 20 mA | $t_{rr}$ | – | 1 | – | µs |

**Test circuit for reverse recovery time**

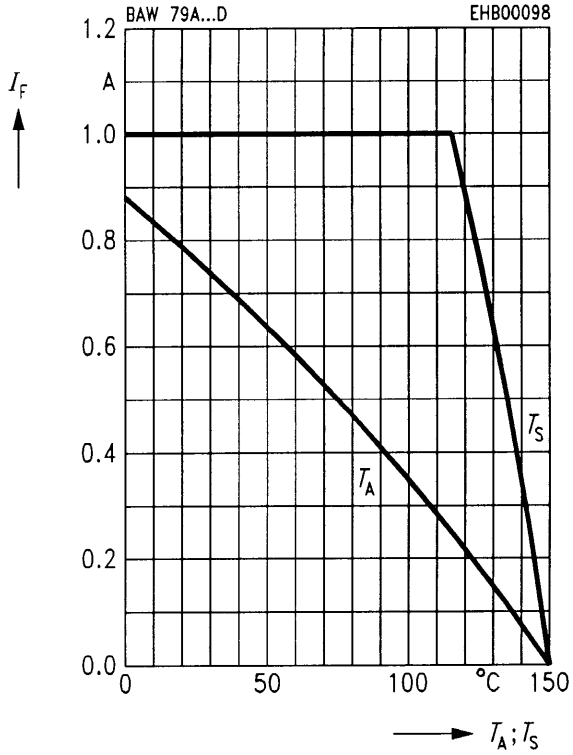



Pulse generator: $t_p$ = 5 µs, $D$ = 0.05
$t_r$ = 0.6 ns, $R_i$ = 50 Ω

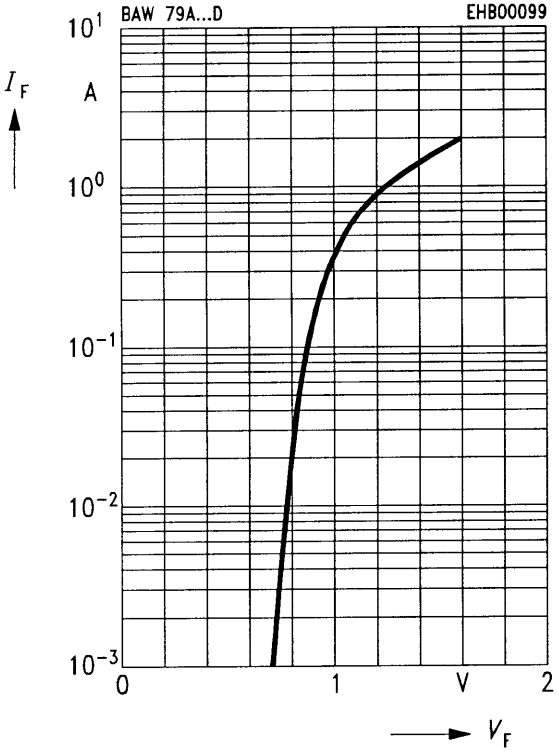
Oscillograph: $R$ = 50 Ω
$t_r$ = 0.35 ns
$C \leq$ 1 pF

[1] Pulse test: $t_p \leq$ 300 µs, $D$ = 2 %.

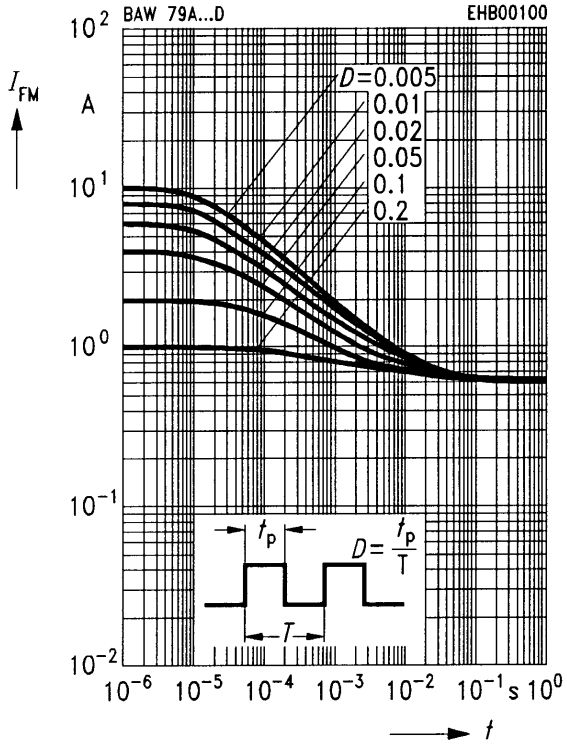
**Forward current** $I_F = f(T_A^*; T_S)$
* Package mounted on epoxy




**Forward current** $I_F = f(V_F)$
$T_A$ = 25 °C




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




**Reverse current** $I_R = f(T_A)$
$V_R = V_{Rmax}$

