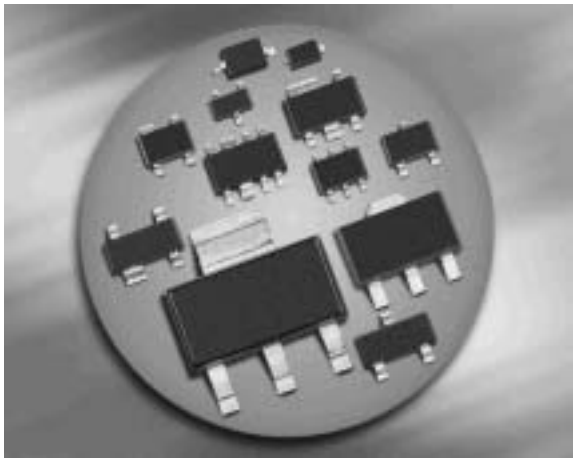
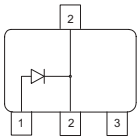
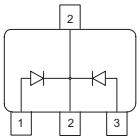
**Silicon Switching Diodes**

- Switching applications
- High breakdown voltage
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



**BAW78D** **BAW79D**




| Type | Package | Configuration | Marking |
|---|---|---|---|
| BAW78D | SOT89 | single | GD |
| BAW79D | SOT89 | common cathode | GH |

**Maximum Ratings** at $T_A$ = 25°C, unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Diode reverse voltage | $V_R$ | 400 | V |
| Peak reverse voltage | $V_{RM}$ | 400 | |
| Forward current | $I_F$ | 1 | A |
| Peak forward current | $I_{FM}$ | 1 | |
| Peak forward current | $I_{FM}$ | 1 | |
| Surge forward current, $t$ = 1 µs | $I_{FS}$ | 10 | |
| Non-repetitive peak surge forward current | $I_{FSM}$ | - | |
| Total power dissipation<br>BAW78D, $T_S \leq$ 125°C<br>BAW79D, $T_S \leq$ 115°C | $P_{tot}$ | <br>1<br>1 | W |
| Junction temperature | $T_j$ | 150 | °C |
| Storage temperature | $T_{stg}$ | -65 ... 150 | |

[1]Pb-containing package may be available upon special request

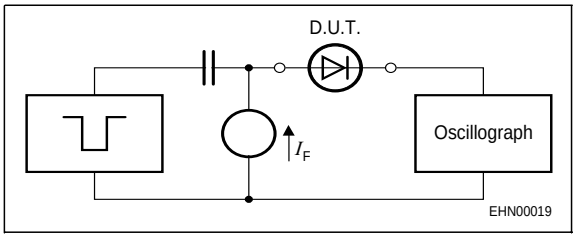
## Thermal Resistance

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Junction - soldering point[1)] | $R_{thJS}$ | | K/W |
| BAW78D | | ≤ 25 | |
| BAW79D | | ≤ 35 | |

## Electrical Characteristics at $T_A$ = 25°C, unless otherwise specified

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

### Test circuit for reverse recovery time



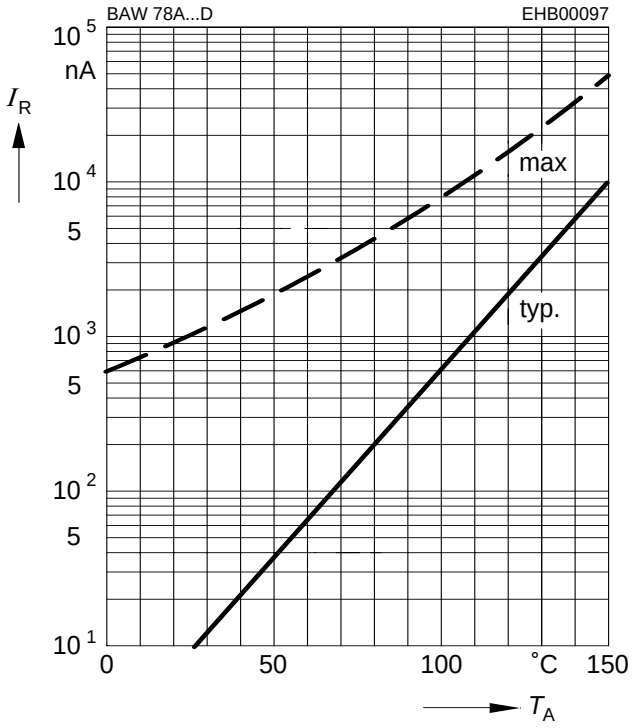

Puls generator: $t_p$ = 10µs, $D$ = 0.05,
$t_r$ = 0.6ns, $R_i$ = 50Ω

Oscillograp: $R$ = 50Ω, $t_r$ = 0.35ns
$C$ ≤ 1pF

[1]For calculation of $R_{thJA}$ please refer to Application Note Thermal Resistance

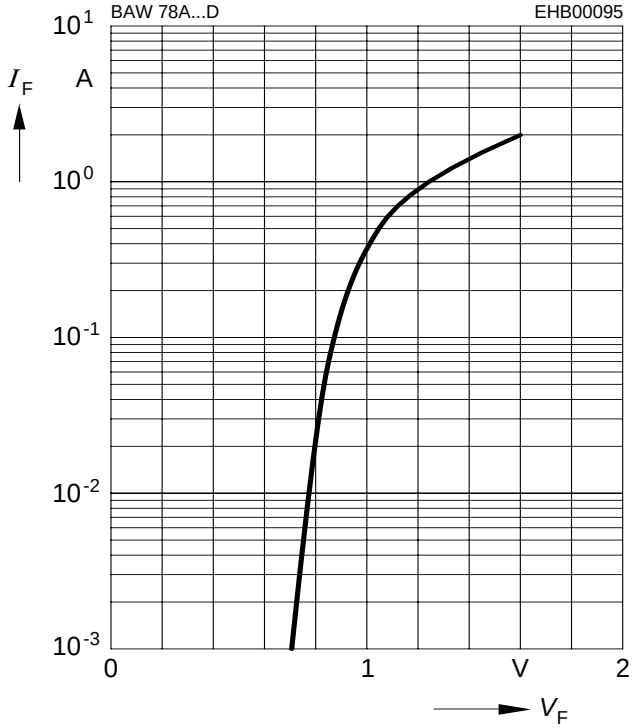
**Reverse current $I_R = f(T_A)$**

$V_R$ = 400V

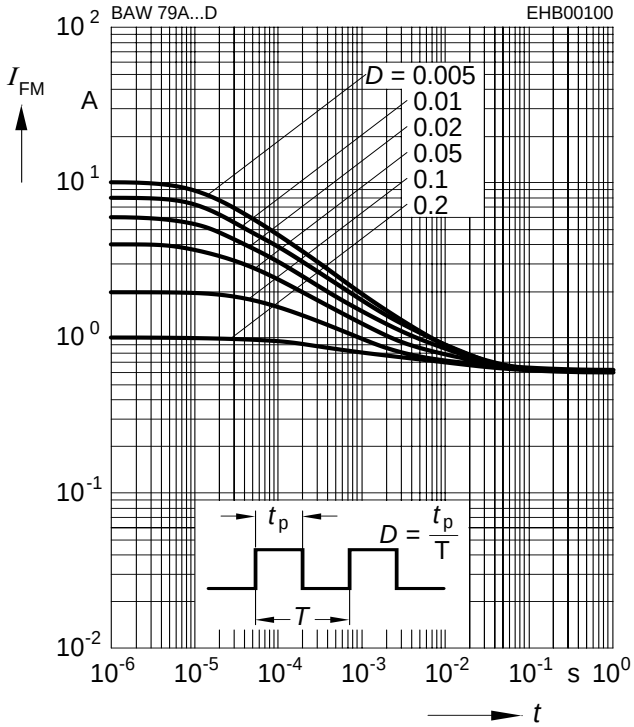



**Forward current $I_F = f(V_F)$**

$T_A$ = 25°C

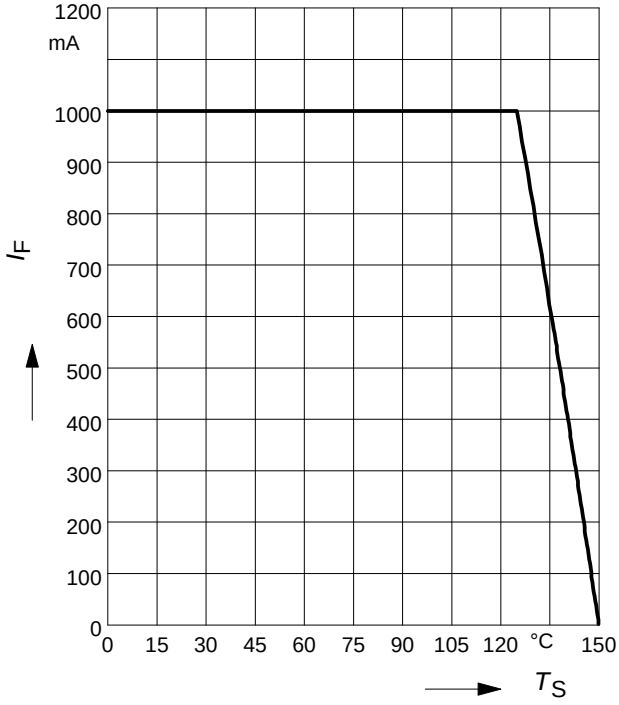



**Peak forward current $I_{FM} = f(t_p)$**



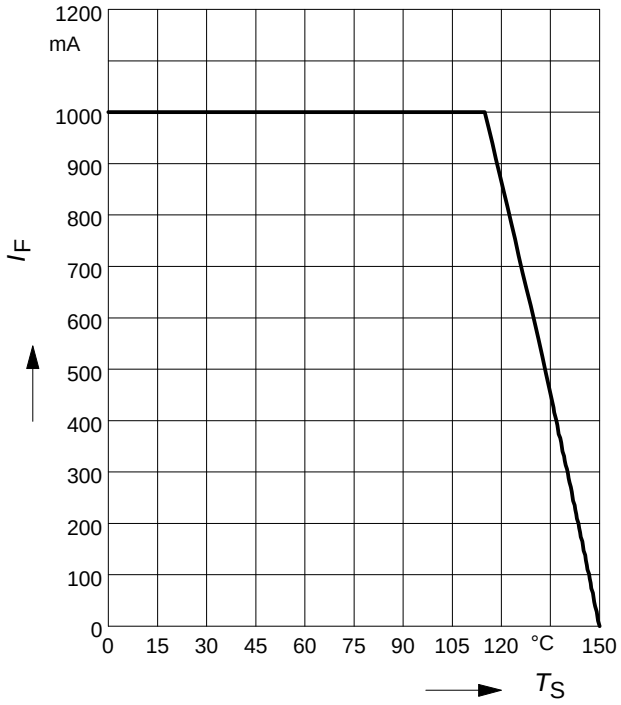

**Forward current $I_F = f(T_S)$**

BAW78D

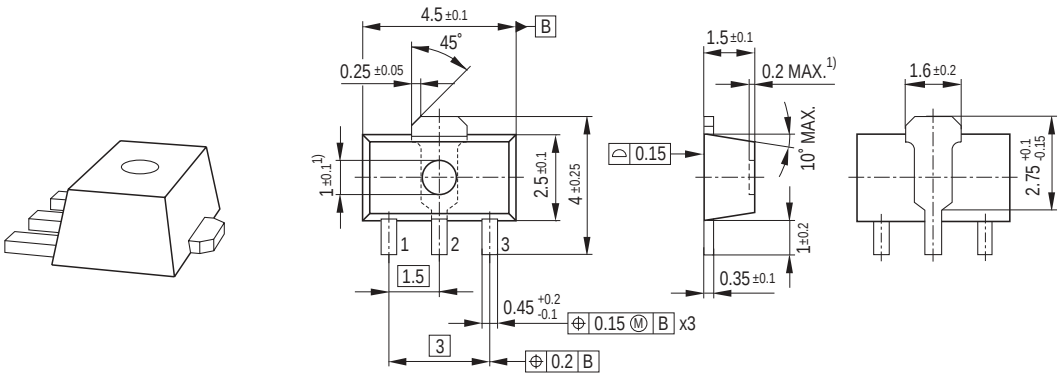


**Forward current $I_F = f(T_S)$**

BAW79D

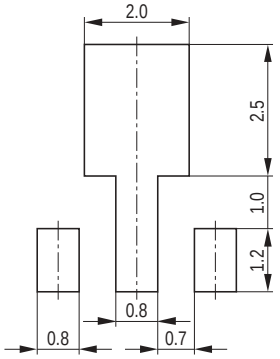


## Package Outline

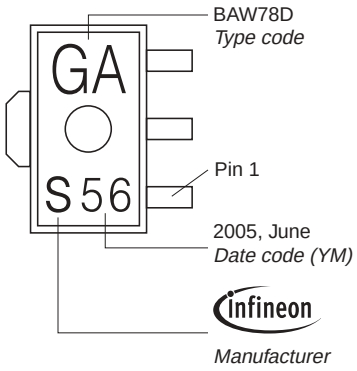



1) Ejector pin markings possible

## Foot Print

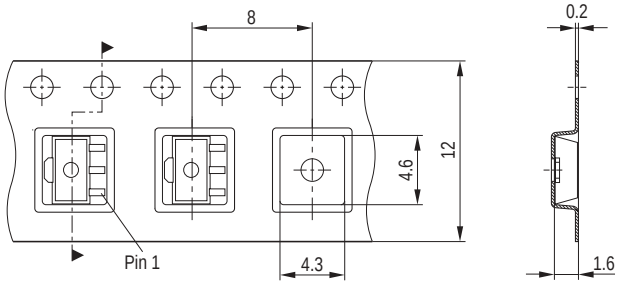



## Marking Layout (Example)




## Standard Packing

Reel ø180 mm = 1.000 Pieces/Reel
Reel ø330 mm = 4.000 Pieces/Reel



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