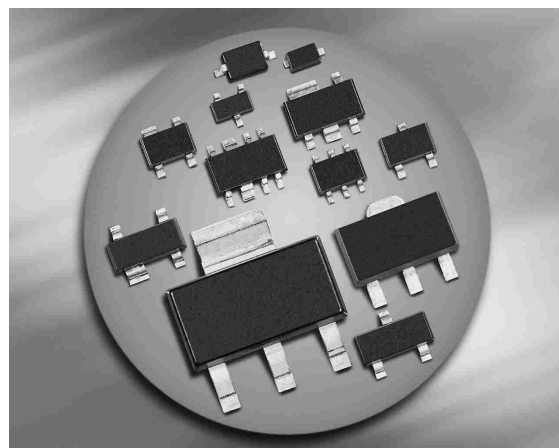
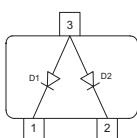


## Silicon Low Leakage Diode

- Low-leakage applications
- Medium speed switching times
- Common anode configuration



## BAW156



| Type   | Package | Configuration | Marking |
|--------|---------|---------------|---------|
| BAW156 | SOT23   | common anode  | JZs     |

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

| Parameter                                              | Symbol    | Value       | Unit             |
|--------------------------------------------------------|-----------|-------------|------------------|
| Diode reverse voltage                                  | $V_R$     | 80          | V                |
| Peak reverse voltage                                   | $V_{RM}$  | 85          |                  |
| Forward current                                        | $I_F$     | 200         | mA               |
| Surge forward current, $t = 1 \mu\text{s}$             | $I_{FS}$  | 4.5         | A                |
| Total power dissipation<br>$T_s \leq 35^\circ\text{C}$ | $P_{tot}$ | 250         | mW               |
| Junction temperature                                   | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                                    | $T_{stg}$ | -65 ... 150 |                  |

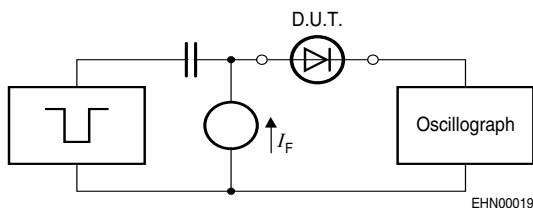
## Thermal Resistance

| Parameter                                          | Symbol     | Value      | Unit |
|----------------------------------------------------|------------|------------|------|
| Junction - soldering point <sup>1)</sup><br>BAW156 | $R_{thJS}$ | $\leq 460$ | K/W  |

<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

| Parameter                                                                                              | Symbol     | Values           |                  |                             | Unit    |
|--------------------------------------------------------------------------------------------------------|------------|------------------|------------------|-----------------------------|---------|
|                                                                                                        |            | min.             | typ.             | max.                        |         |
| DC Characteristics                                                                                     |            |                  |                  |                             |         |
| Breakdown voltage<br>$I_{(BR)} = 100 \mu A$                                                            | $V_{(BR)}$ | 85               | -                | -                           | V       |
| Reverse current<br>$V_R = 75 V$<br>$V_R = 75 V, T_A = 150\text{ }^{\circ}C$                            | $I_R$      | -<br>-           | -<br>-           | 5<br>80                     | nA      |
| Forward voltage<br>$I_F = 1 mA$<br>$I_F = 10 mA$<br>$I_F = 50 mA$<br>$I_F = 150 mA$                    | $V_F$      | -<br>-<br>-<br>- | -<br>-<br>-<br>- | 900<br>1000<br>1100<br>1250 | mV      |
| AC Characteristics                                                                                     |            |                  |                  |                             |         |
| Diode capacitance<br>$V_R = 0 V, f = 1 MHz$                                                            | $C_T$      | -                | 2                | -                           | pF      |
| Reverse recovery time<br>$I_F = 10 mA, I_R = 10 mA$ , measured at $I_R = 1 mA$ ,<br>$R_L = 100 \Omega$ | $t_{rr}$   | -                | 0.6              | 1.5                         | $\mu s$ |

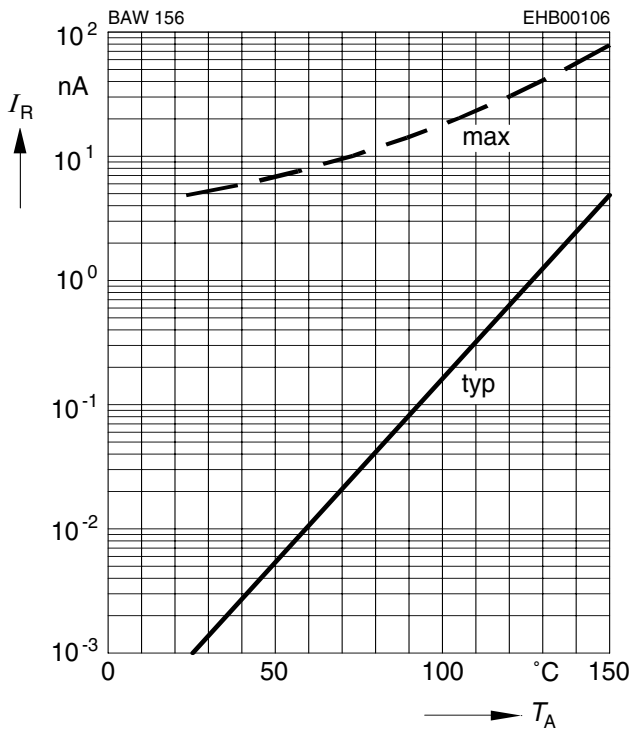
**Test circuit for reverse recovery time**


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

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

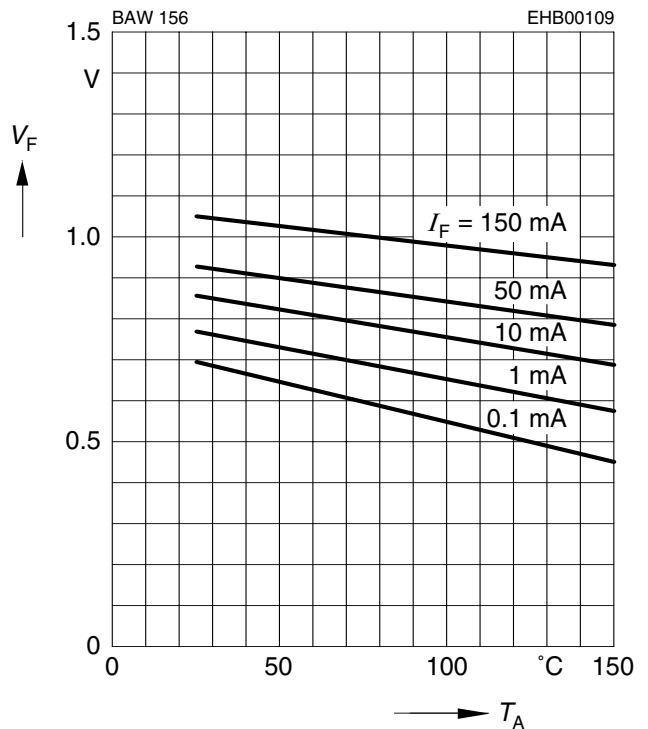
**Reverse current  $I_R = f(T_A)$**

$V_R = 70V$



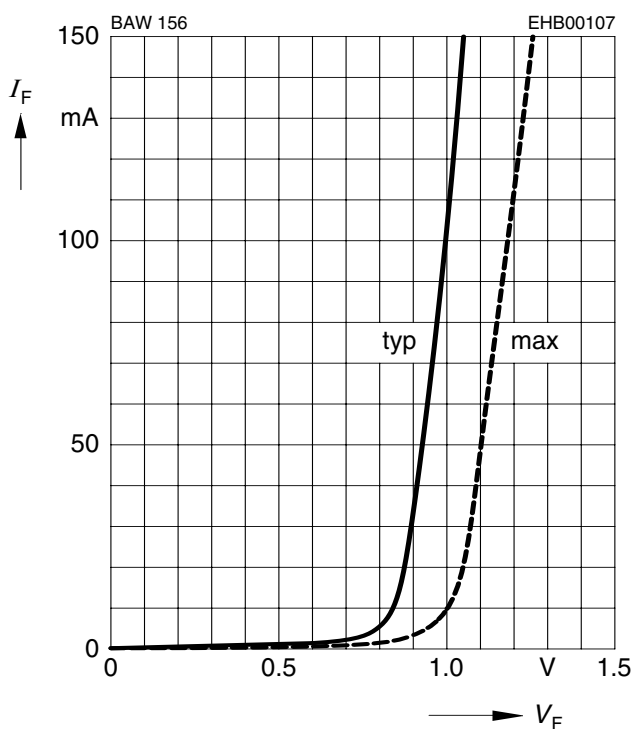
**Forward Voltage  $V_F = f(T_A)$**

$I_F = \text{Parameter}$



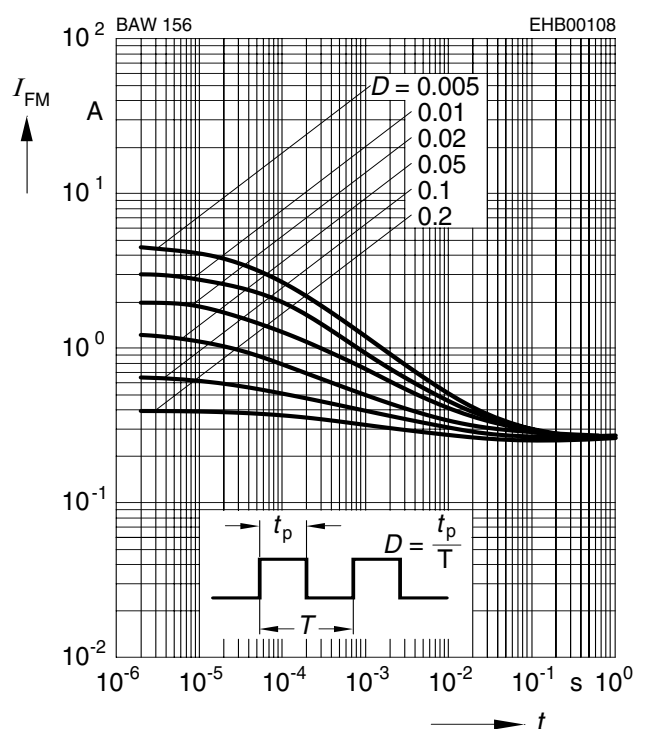
**Forward current  $I_F = f(V_F)$**

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



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

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



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

BAW156

