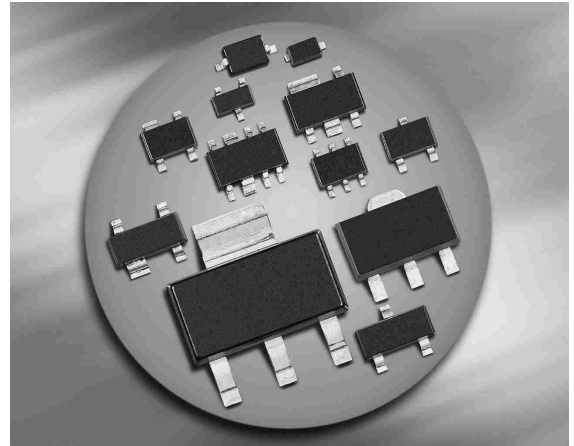
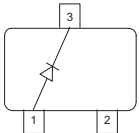
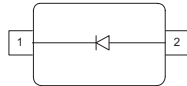
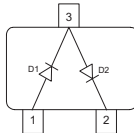
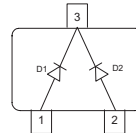
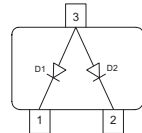
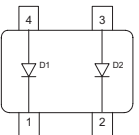
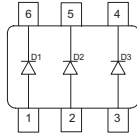
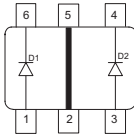


## Silicon Schottky Diodes

- For mixer applications in the VHF / UHF range
- For high-speed switching applications


**BAT68**

**BAT68-02L**

**BAT68-04  
BAT68-04W**

**BAT68-05  
BAT68-05W**

**BAT68-06  
BAT68-06W**

**BAT68-07  
BAT68-07W**

**BAT68-08S**

**BAT68-09S**


**ESD:** Electrostatic discharge sensitive device, observe handling precaution!

| Type       | Package  | Configuration                 | $L_S$ (nH) | Marking |
|------------|----------|-------------------------------|------------|---------|
| BAT68      | SOT23    | single                        | 1.8        | 83s     |
| BAT68-02L* | TSLP-2-1 | single, leadless              | 0.4        | 83      |
| BAT68-04   | SOT23    | series                        | 1.8        | 84s     |
| BAT68-04W  | SOT323   | series                        | 1.4        | 84s     |
| BAT68-05   | SOT23    | common cathode                | 1.8        | 85s     |
| BAT68-05W  | SOT323   | common cathode                | 1.4        | 85s     |
| BAT68-06   | SOT23    | common anode                  | 1.8        | 86s     |
| BAT68-06W  | SOT323   | common anode                  | 1.4        | 86s     |
| BAT68-07   | SOT143   | parallel pair                 | 2          | 87s     |
| BAT68-07W  | SOT343   | parallel pair                 | 1.6        | 87s     |
| BAT68-08S  | SOT363   | parallel triple               | 1.4        | 83s     |
| BAT68-09S* | SOT363   | parallel pair, high isolation | 1.6        | 89s     |

\* Preliminary Data

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

| Parameter                                                 | Symbol           | Value       | Unit             |
|-----------------------------------------------------------|------------------|-------------|------------------|
| Diode reverse voltage                                     | $V_R$            | 8           | V                |
| Forward current                                           | $I_F$            | 130         | mA               |
| Total power dissipation                                   | $P_{\text{tot}}$ |             | mW               |
| BAT68, $T_S \leq 77^\circ\text{C}$                        |                  | 150         |                  |
| BAT68-02L, $T_S \leq 114^\circ\text{C}$                   |                  | 150         |                  |
| BAT68-04, BAT68-06, BAT68-07, $T_S \leq 61^\circ\text{C}$ |                  | 150         |                  |
| BAT68-04W/-06W/-08S/-09S, $T_S \leq 92^\circ\text{C}$     |                  | 150         |                  |
| BAT68-05, $T_S \leq 46^\circ\text{C}$                     |                  | 150         |                  |
| BAT68-07W, $T_S \leq 89^\circ\text{C}$                    |                  | 150         |                  |
| Junction temperature                                      | $T_j$            | 150         | $^\circ\text{C}$ |
| Storage temperature                                       | $T_{\text{stg}}$ | -55 ... 150 |                  |

#### Thermal Resistance

| Parameter                                | Symbol            | Value             | Unit |
|------------------------------------------|-------------------|-------------------|------|
| Junction - soldering point <sup>1)</sup> | $R_{\text{thJS}}$ |                   | K/W  |
| BAT68                                    |                   | $\leq 490$        |      |
| BAT68-02L                                |                   | $\leq 240$        |      |
| BAT68-04, BAT68-06, BAT68-07             |                   | $\leq 590$        |      |
| BAT68-04W-BAT68-06W, BAT68-08S           |                   | $\leq 390$        |      |
| BAT68-05                                 |                   | $\leq 690$        |      |
| BAT68-07W                                |                   | $\leq 410$        |      |
| BAT68-09S                                |                   | $\leq \text{tdb}$ |      |

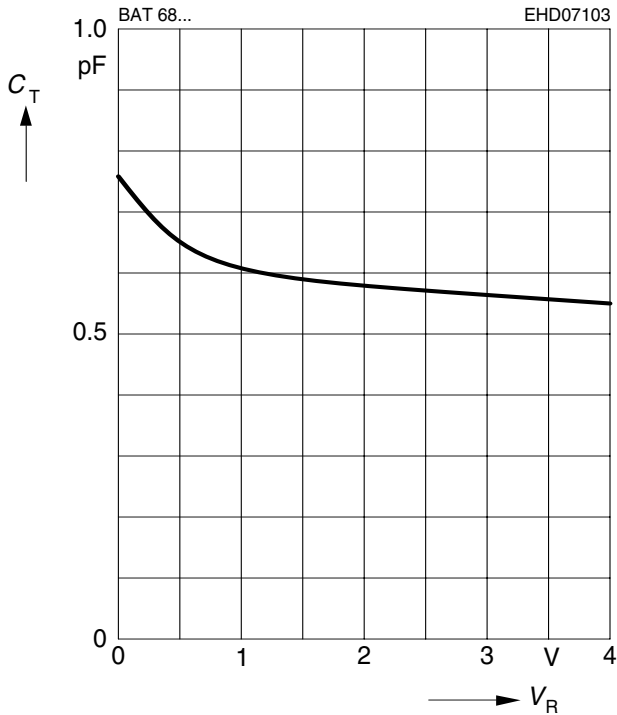
<sup>1)</sup>For calculation of  $R_{\text{thJA}}$  please refer to Application Note Thermal Resistance

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

| Parameter                                                                               | Symbol     | Values   |            |            | Unit          |
|-----------------------------------------------------------------------------------------|------------|----------|------------|------------|---------------|
|                                                                                         |            | min.     | typ.       | max.       |               |
| DC Characteristics                                                                      |            |          |            |            |               |
| Breakdown voltage<br>$I_{(BR)} = 10\ \mu\text{A}$                                       | $V_{(BR)}$ | 8        | -          | -          | V             |
| Reverse current<br>$V_R = 1\ \text{V}$<br>$V_R = 1\ \text{V}, T_A = 60\ ^\circ\text{C}$ | $I_R$      | -<br>-   | -<br>-     | 0.1<br>1.2 | $\mu\text{A}$ |
| Forward voltage<br>$I_F = 1\ \text{mA}$<br>$I_F = 10\ \text{mA}$                        | $V_F$      | -<br>340 | 318<br>390 | 340<br>500 | mV            |
| AC Characteristics                                                                      |            |          |            |            |               |
| Diode capacitance<br>$V_R = 0, f = 1\ \text{MHz}$                                       | $C_T$      | -        | -          | 1          | pF            |
| Differential forward resistance<br>$I_F = 5\ \text{mA}, f = 10\ \text{kHz}$             | $R_F$      | -        | -          | 10         | $\Omega$      |

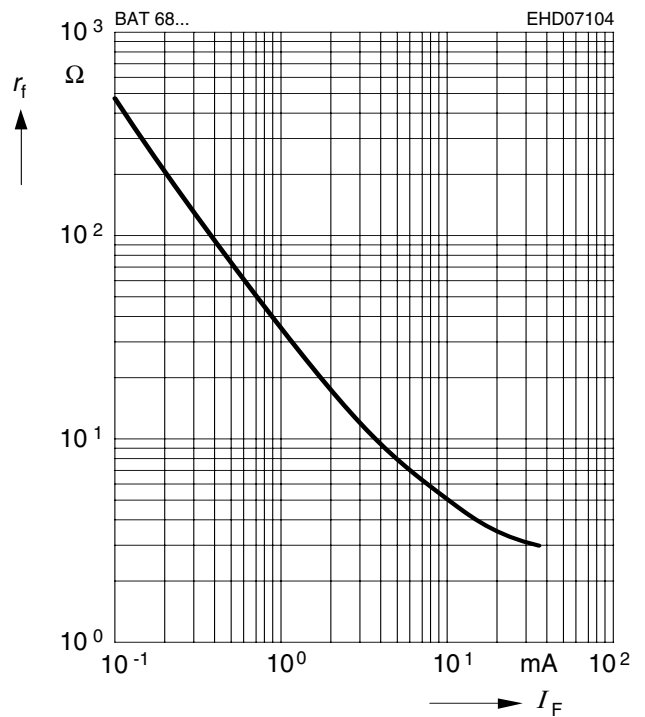
**Diode capacitance**  $C_T = f(V_R)$

$f = 1\text{MHz}$



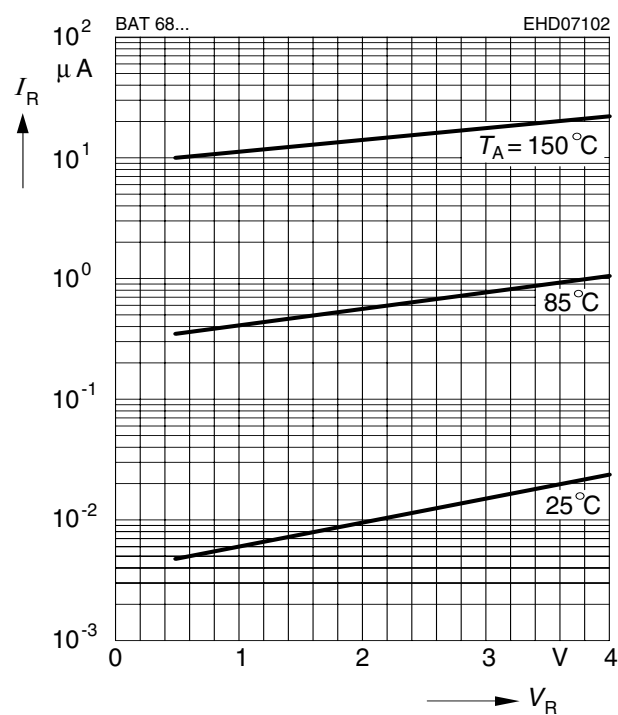
**Differential forward resistance**  $r_f = f(I_F)$

$f = 10\text{kHz}$



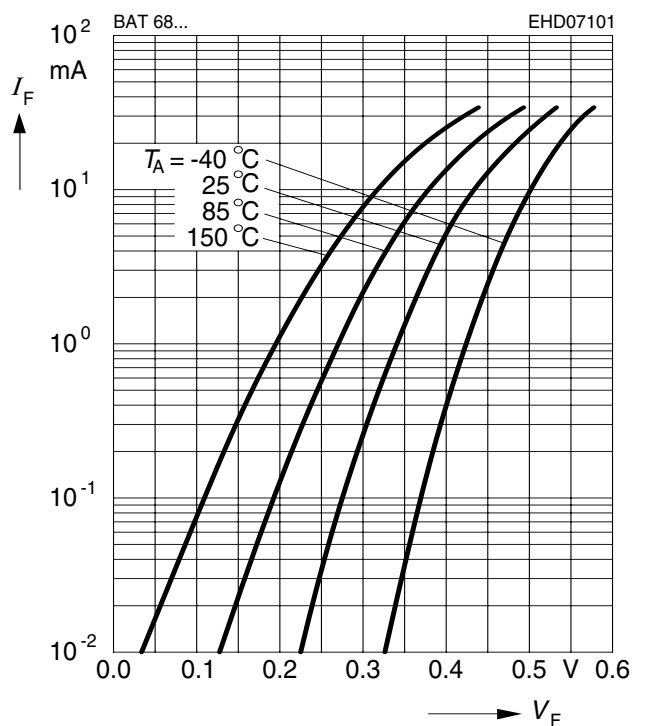
**Reverse current**  $I_R = f(V_R)$

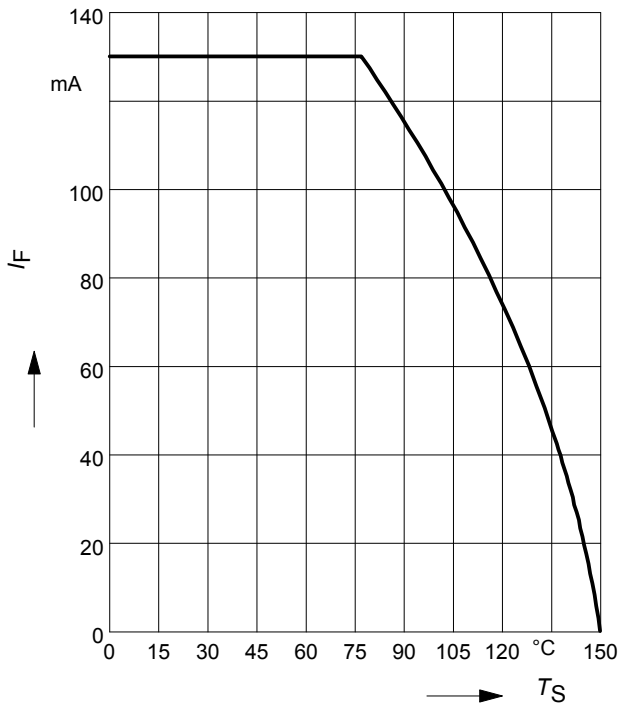
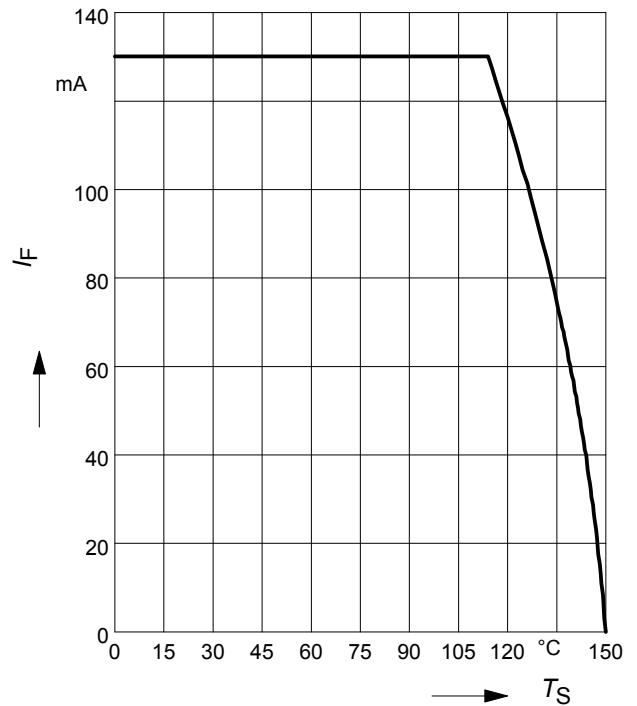
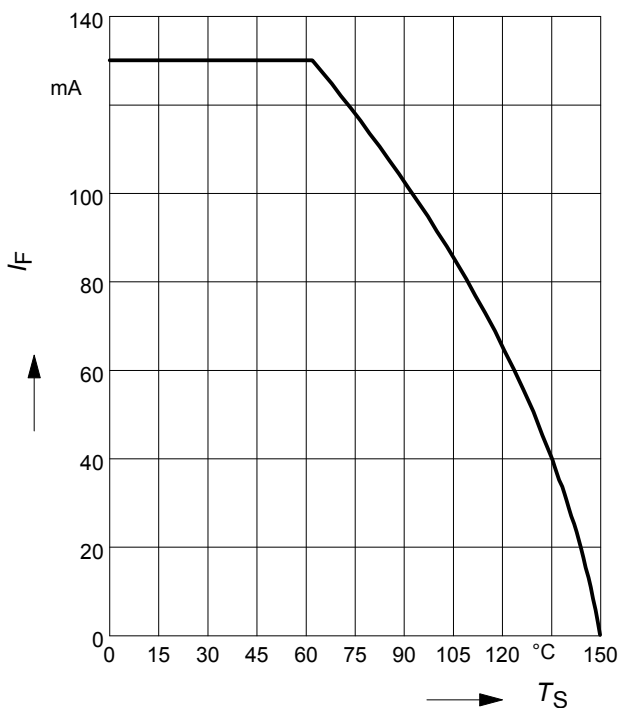
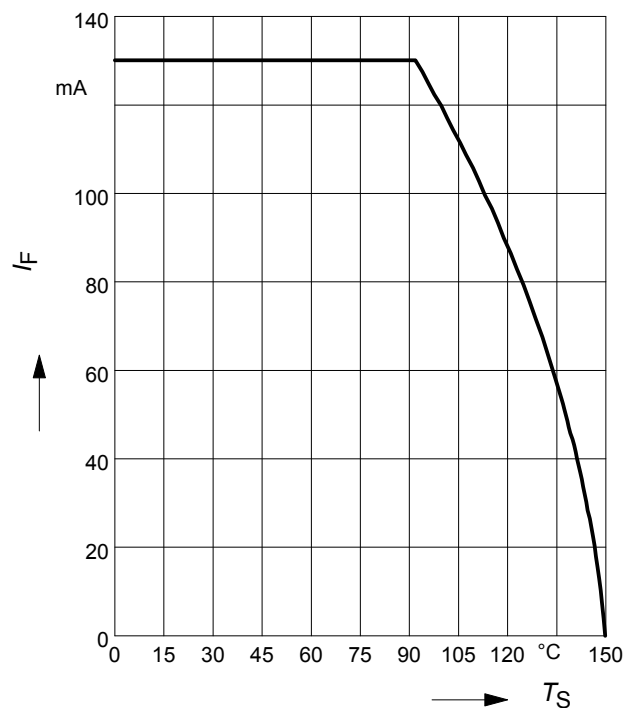
$T_A = \text{Parameter}$



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

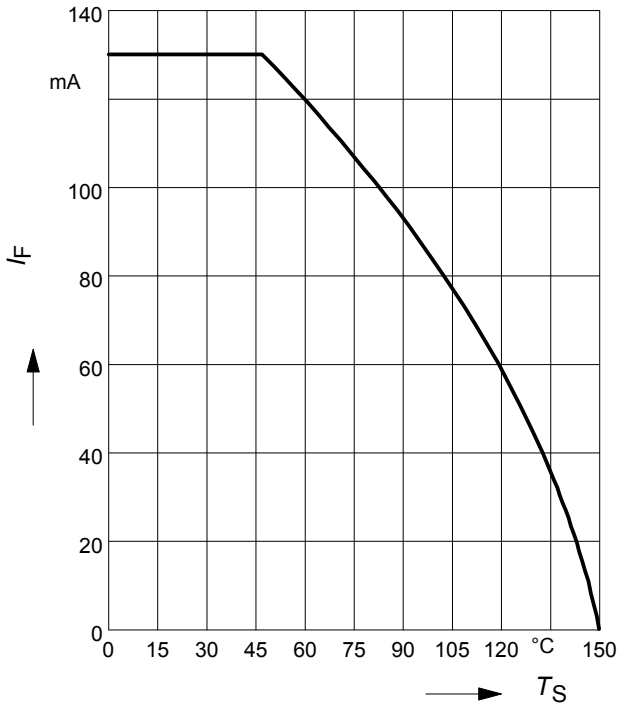
$T_A = \text{Parameter}$



**Forward current  $I_F = f(T_S)$** 
**BAT68**

**Forward current  $I_F = f(T_S)$** 
**BAT68-02L**

**Forward current  $I_F = f(T_S)$** 
**BAT68-04, BAT68-06, BAT68-07**

**Forward current  $I_F = f(T_S)$** 
**BAT68-04W-BAT68-06W, BAT68-08S**
**BAT68-09S**


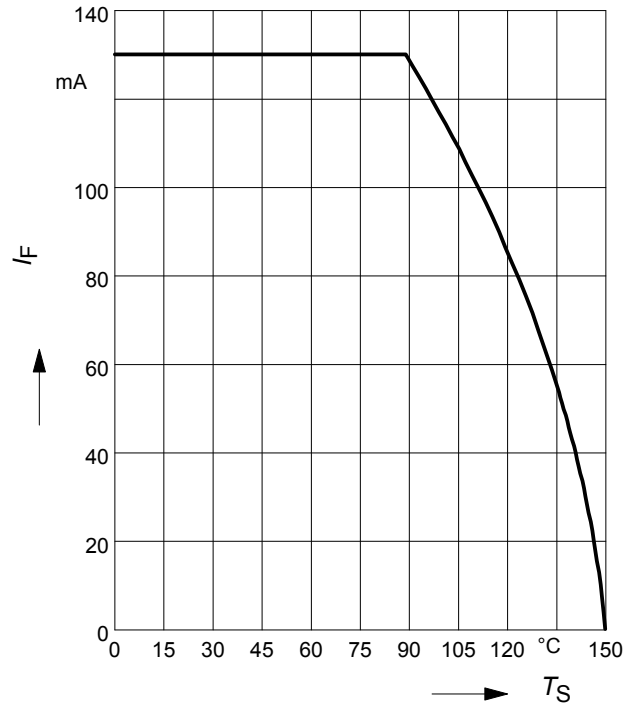
**Forward current  $I_F = f(T_S)$**

BAT68-05



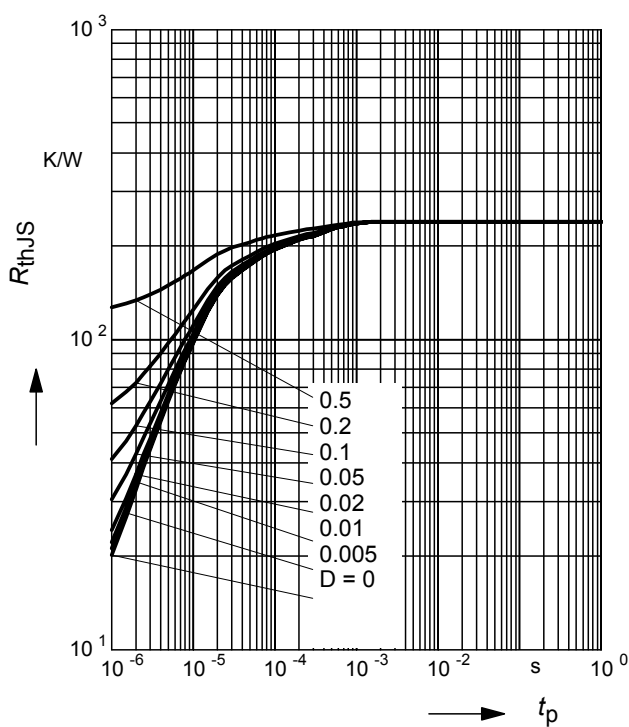
**Forward current  $I_F = f(T_S)$**

BAT68-07W



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

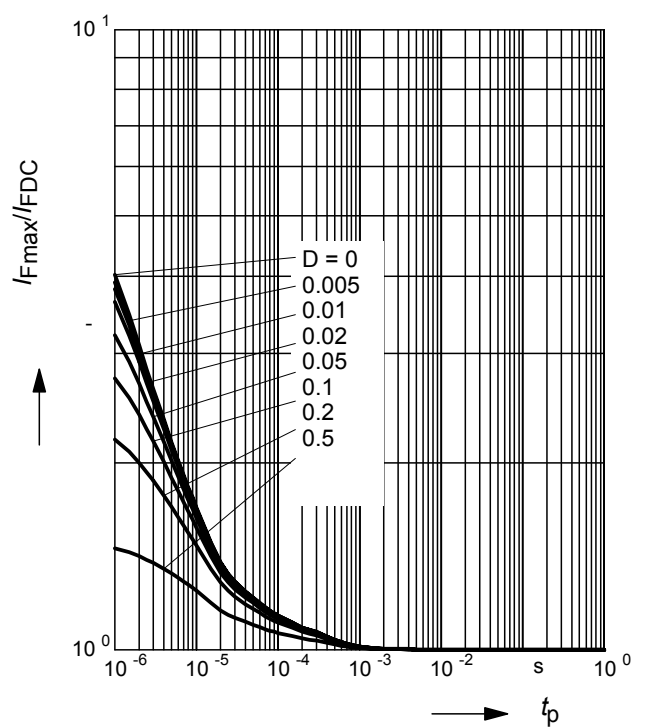
BAT68-02L



**Permissible Pulse Load**

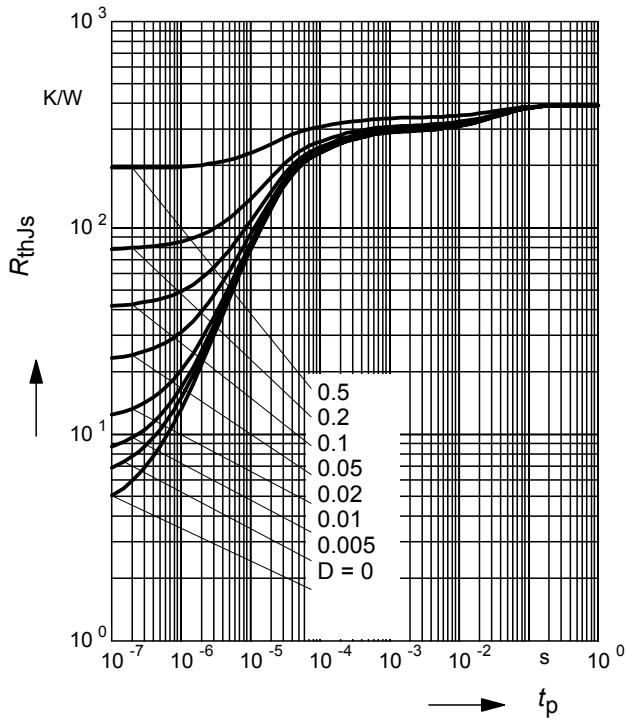
$I_{Fmax}/I_{FDC} = f(t_p)$

BAT68-02L



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

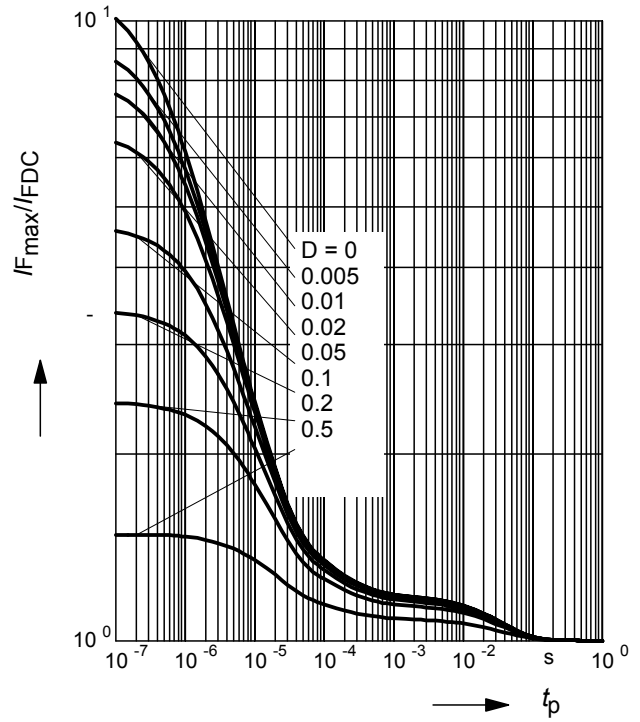
BAT68-04W-BAT68-06W



**Permissible Pulse Load**

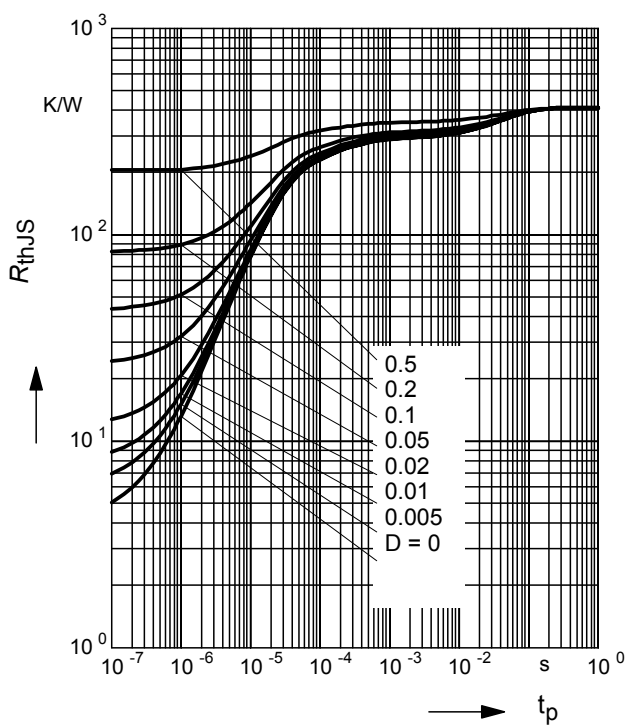
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT68-04W-BAT68-06W



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

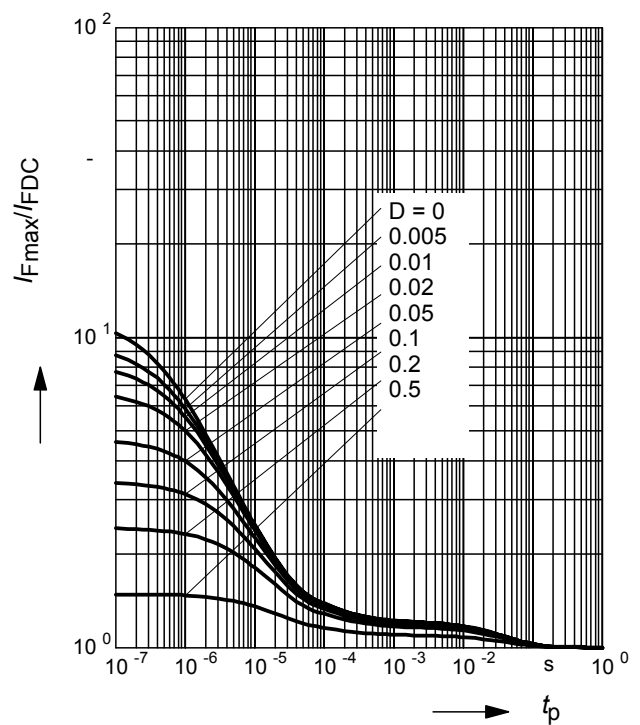
BAT68-07W



**Permissible Pulse Load**

$$I_{Fmax}/I_{FDC} = f(t_p)$$

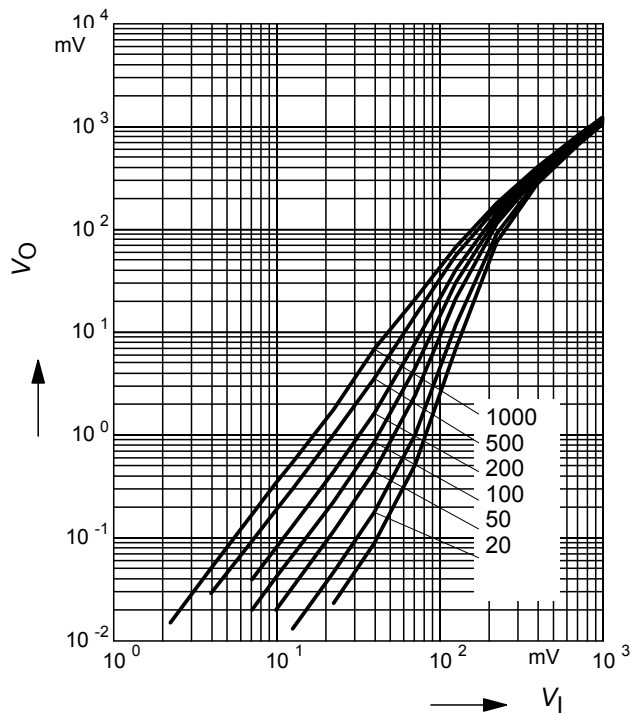
BAT68-07W



**Rectifier voltage**  $V_{\text{out}} = f(V_{\text{in}})$

$f = 900\text{MHz}$

$R_L$  = Parameter in  $\text{k}\Omega$



Testcircuit

