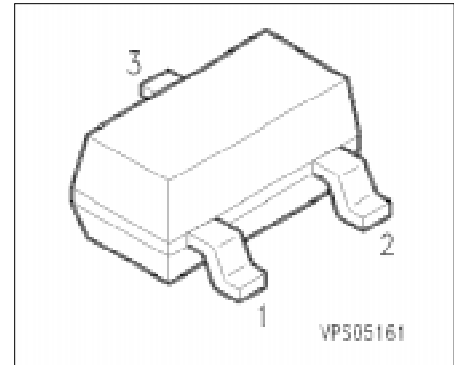


## Silicon Schottky Diode

BAT 17...

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



| Type      | Ordering Code<br>(tape and reel) | Pin Configuration |   |     | Marking | Package |
|-----------|----------------------------------|-------------------|---|-----|---------|---------|
|           |                                  | 1                 | 2 | 3   |         |         |
| BAT 17    | Q62702-A504                      | A                 | – | C   | 53      | SOT-23  |
| BAT 17-04 | Q62702-A775                      | A                 | C | C/A | 54      |         |
| BAT 17-05 | Q62702-A776                      | A                 | A | C/C | 55      |         |
| BAT 17-06 | Q62702-A777                      | C                 | C | A/A | 56      |         |

### Maximum Ratings

| Parameter  | Symbol           | Values         | Unit             |
|--|------------------|----------------|------------------|
| Reverse voltage  | $V_R$            | 4              | V                |
| Forward current  | $I_F$            | 130            | mA               |
| Total power dissipation $T_S \leq 60 \text{ }^\circ\text{C}$ | $P_{\text{tot}}$ | 150            | mW               |
| Junction temperature   | $T_j$            | 150            | $^\circ\text{C}$ |
| Operating temperature range                                  | $T_{\text{op}}$  | – 55 ... + 150 | $^\circ\text{C}$ |
| Storage temperature range                                    | $T_{\text{stg}}$ | – 55 ... + 150 | $^\circ\text{C}$ |

### Thermal Resistance

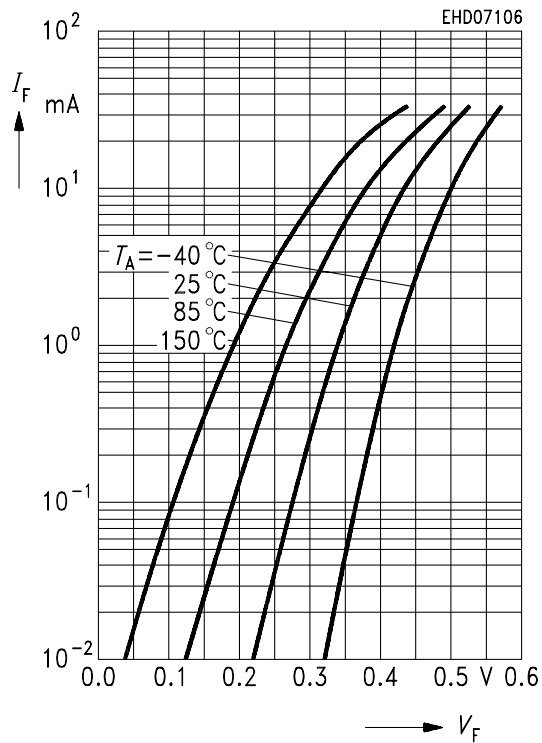
|                                |                    |            |     |
|--------------------------------|--------------------|------------|-----|
| Junction-ambient <sup>1)</sup> | $R_{\text{th JA}}$ | $\leq 750$ | K/W |
| Junction-soldering point       | $R_{\text{th JS}}$ | $\leq 590$ | K/W |

1) Package mounted on an epoxy pcb 40 mm x 40 mm x 1.5 mm/1cm<sup>2</sup> Cu.

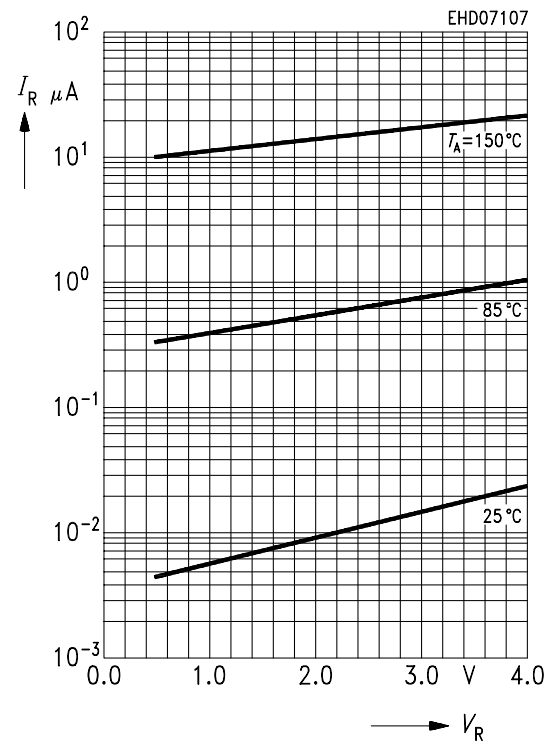
**Electrical Characteristics**at  $T_A = 25\text{ °C}$ , unless otherwise specified.

| Parameter  | Symbol     | Value             |                   |                    | Unit          |
|--|------------|-------------------|-------------------|--------------------|---------------|
|  |            | min.              | typ.              | max.               |               |
| <b>DC Characteristics</b>  |            |                   |                   |                    |               |
| Breakdown voltage<br>$I_R = 10\ \mu\text{A}$   | $V_{(BR)}$ | 4                 | –                 | –                  | V             |
| Reverse current<br>$V_R = 3\ \text{V}$<br>$V_R = 3\ \text{V}, T_A = 60\text{ °C}$<br>$V_R = 4\ \text{V}$ | $I_R$      | –                 | –                 | 0.25<br>1.25<br>10 | $\mu\text{A}$ |
| Forward voltage<br>$I_F = 0.1\ \text{mA}$<br>$I_F = 1\ \text{mA}$<br>$I_F = 10\ \text{mA}$               | $V_F$      | 200<br>250<br>350 | 275<br>340<br>425 | 350<br>450<br>600  | mV            |
| Diode capacitance<br>$V_R = 0\ \text{V}, f = 1\ \text{MHz}$  | $C_T$      | 0.4               | 0.55              | 0.75               | pF            |
| Differential forward resistance<br>$I_F = 5\ \text{mA}, f = 10\ \text{kHz}$                              | $r_S$      | –                 | 8                 | 15                 | $\Omega$      |

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

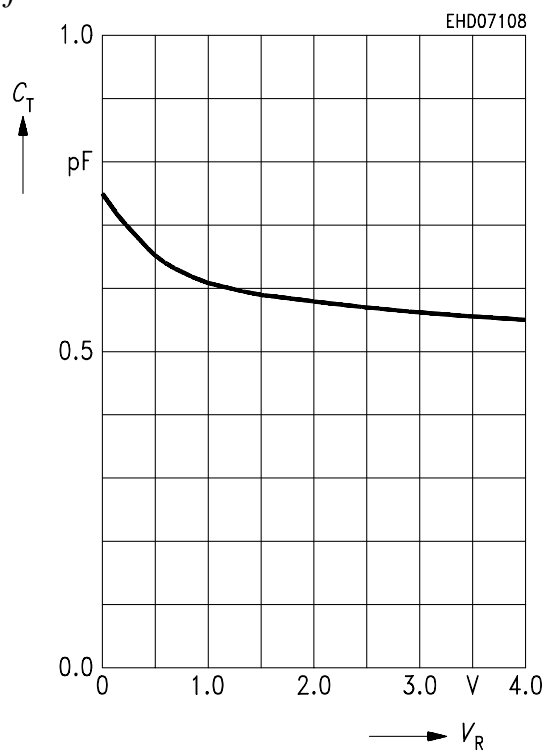


**Reverse current  $I_R = f(V_R)$**



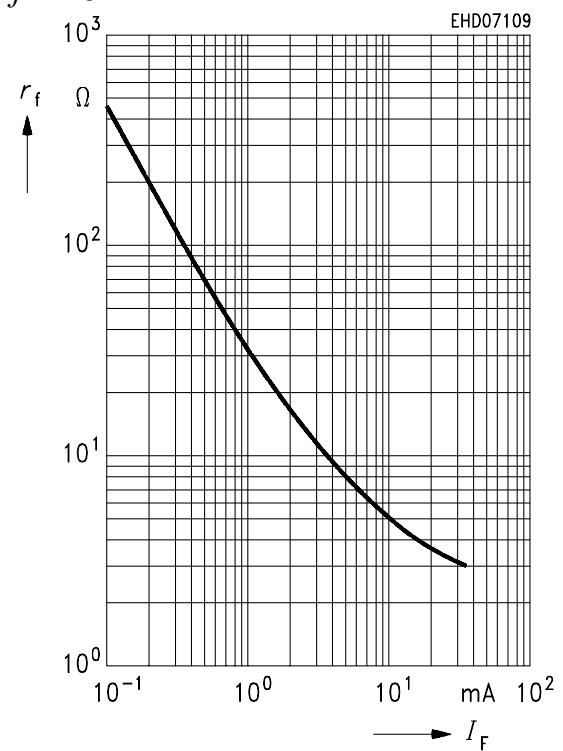
**Diode capacitance  $C_T = f(V_R)$**

$f = 1 \text{ MHz}$



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

$f = 10 \text{ kHz}$



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

\*Package mounted on aluminum

