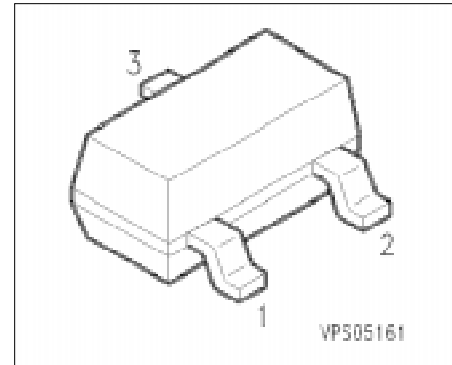


## Silicon Schottky Diode

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 $T_S \leq 60 \text{ }^\circ\text{C}$ | $P_{tot}$ | 150            | mW               |
| Junction temperature                                         | $T_j$     | 150            | $^\circ\text{C}$ |
| Operating temperature range                                  | $T_{op}$  | – 55 ... + 150 | $^\circ\text{C}$ |
| Storage temperature range                                    | $T_{stg}$ | – 55 ... + 150 | $^\circ\text{C}$ |

### Thermal Resistance

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

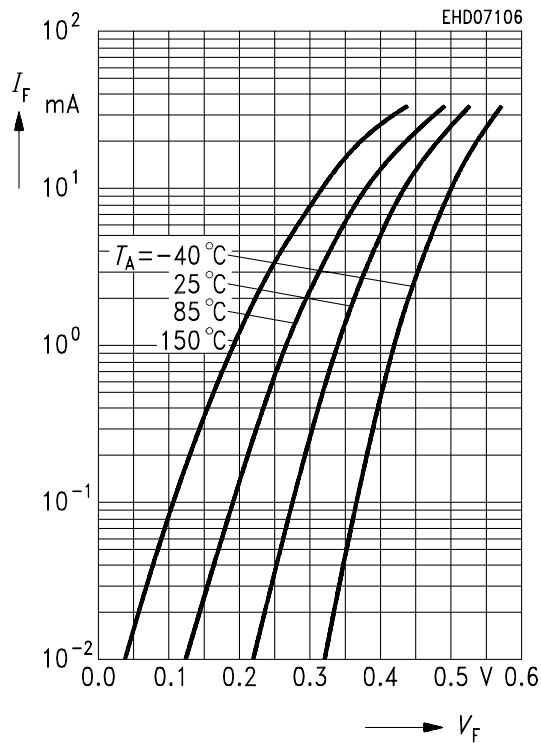
1) Package mounted on an epoxy pcb 40 mm x 40 mm x 1.5 mm/1cm<sup>2</sup> Cu.

## Electrical Characteristics

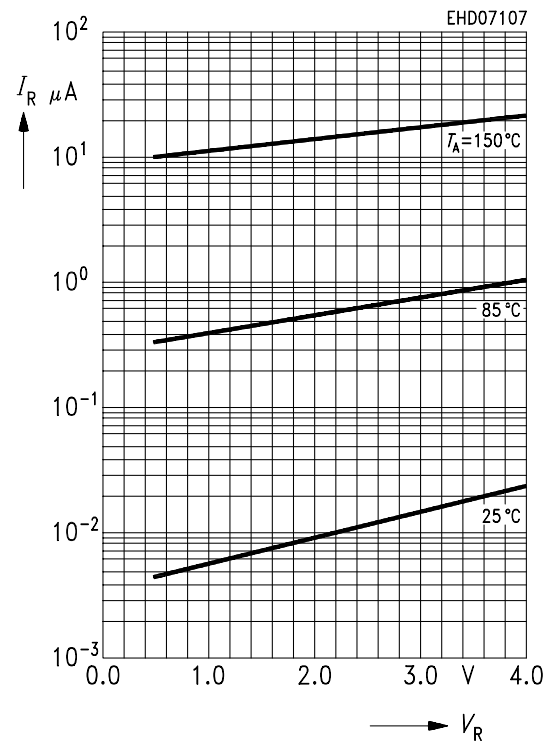
at  $T_A = 25\text{ °C}$ , unless otherwise specified.

| Parameter                                                                                             | Symbol     | Value             |                   |                    | Unit          |
|-------------------------------------------------------------------------------------------------------|------------|-------------------|-------------------|--------------------|---------------|
|                                                                                                       |            | min.              | typ.              | max.               |               |
| <b>DC Characteristics</b>                                                                             |            |                   |                   |                    |               |
| Breakdown voltage<br>$I_R = 10\text{ }\mu\text{A}$                                                    | $V_{(BR)}$ | 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  $I_F = f(V_F)$**

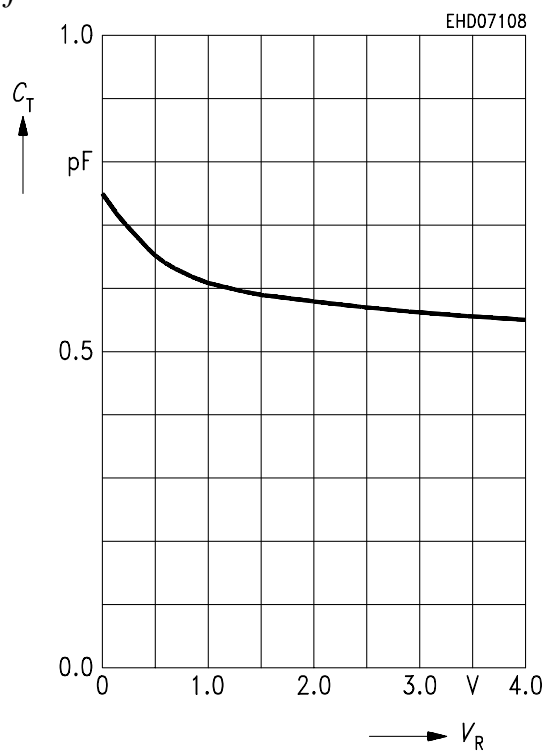


**Reverse current  $I_R = f(V_R)$**



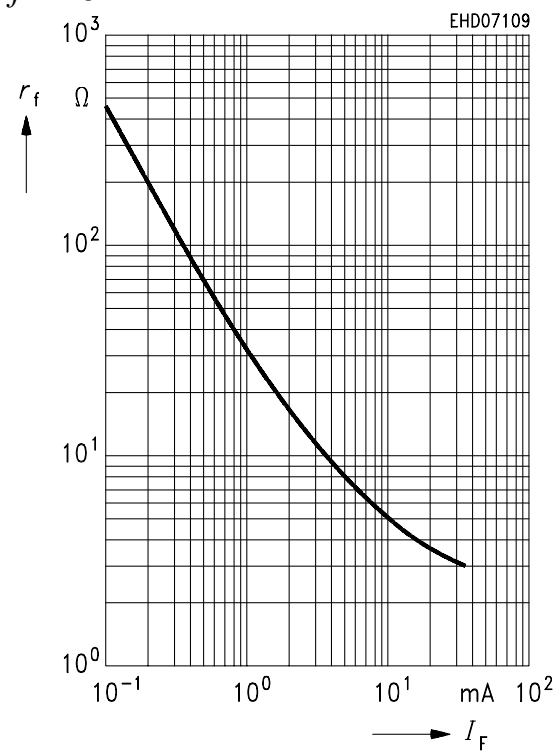
**Diode capacitance  $C_T = f(V_R)$**

$f = 1 \text{ MHz}$



**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

