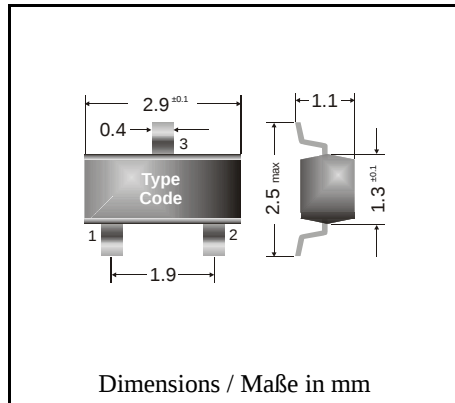


**Surface mount Schottky-Barrier Single-/ Double-Diodes**  
**Schottky-Barrier Einzel-/ Doppel-Dioden für die Oberflächenmontage**

Version 2004-03-10



|                                        |          |
|----------------------------------------|----------|
| Power dissipation – Verlustleistung    | 310 mW   |
| Repetitive peak reverse voltage        | 30 V     |
| Periodische Spitzensperrspannung       |          |
| Plastic case                           | SOT-23   |
| Kunststoffgehäuse                      | (TO-236) |
| Weight approx. – Gewicht ca.           | 0.01 g   |
| Standard packaging taped and reeled    |          |
| Standard Lieferform gegurtet auf Rolle |          |

**Maximum ratings ( $T_A = 25^\circ\text{C}$ )****Grenzwerte ( $T_A = 25^\circ\text{C}$ )**

| per diode / pro Diode                                               |                                                                                | <b>BAT54, BAT54A,<br/>BAT54C, BAT54S</b> |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------|
| Max. average forward current (dc)<br>Dauergrenzstrom                | $I_{FAV}$                                                                      | 200 mA <sup>1)</sup>                     |
| Repetitive peak forward current<br>Periodischer Spitzenstrom        | $I_{FRM}$                                                                      | 300 mA <sup>1)</sup>                     |
| Peak forward surge current<br>Stoßstrom-Grenzwert                   | $t_p \leq 10 \text{ ms}$<br>$t_p \leq 5 \mu\text{s}$<br>$I_{FSM}$<br>$I_{FSM}$ | 1 A<br>8 A                               |
| Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung | $V_{RRM}$                                                                      | 30 V                                     |
| Junction temperature – Sperrschichttemperatur                       | $T_j$                                                                          | 125°C                                    |
| Storage temperature – Lagerungstemperatur                           | $T_s$                                                                          | - 55...+ 150°C                           |

**Characteristics ( $T_j = 25^\circ\text{C}$ )****Kennwerte ( $T_j = 25^\circ\text{C}$ )**

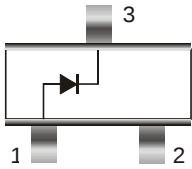
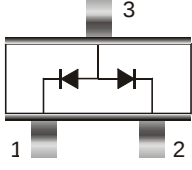
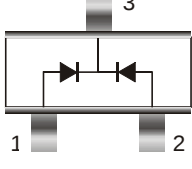
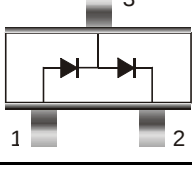
|                                                  |                        |       |                   |
|--------------------------------------------------|------------------------|-------|-------------------|
| Forward voltage - Durchlaßspannung <sup>2)</sup> | $I_F = 0.1 \text{ mA}$ | $V_F$ | < 240 mV          |
|                                                  | $I_F = 1 \text{ mA}$   | $V_F$ | < 320 mV          |
|                                                  | $I_F = 10 \text{ mA}$  | $V_F$ | < 400 mV          |
|                                                  | $I_F = 30 \text{ mA}$  | $V_F$ | < 500 mV          |
|                                                  | $I_F = 100 \text{ mA}$ | $V_F$ | < 1000 mV         |
| Leakage current - Sperrstrom <sup>2)</sup>       | $V_R = 25 \text{ V}$   | $I_R$ | < 2 $\mu\text{A}$ |
|                                                  | $V_R = 30 \text{ V}$   | $I_R$ | < 3 $\mu\text{A}$ |

<sup>1)</sup> Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal  
 Montage auf Leiterplatte mit 25 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluß

<sup>2)</sup> Tested with pulses  $t_p = 300 \mu\text{s}$ , duty cycle  $\leq 2\%$  – Gemessen mit Impulsen  $t_p = 300 \mu\text{s}$ , Schaltverhältnis  $\leq 2\%$

**Characteristics ( $T_j = 25^\circ\text{C}$ )****Kennwerte ( $T_j = 25^\circ\text{C}$ )**

|                                                                                                                              |           |                        |
|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------|
| Max. junction Capacitance – Max. Sperrschichtkapazität<br>$V_R = 1\text{ Vdc}$ , $f = 1\text{ MHz}$                          | $C_T$     | 10 pF                  |
| Reverse recovery time - Sperrverzug<br>$I_F = 10\text{ mA}$ über / through $I_R = 10\text{ mA}$ bis / to $I_R = 1\text{ mA}$ | $t_{rr}$  | < 5 ns                 |
| Critical rate of rise of voltage<br>Kritische Spannungsanstiegsgeschwindigkeit                                               | $dv/dt$   | 10000 V/ $\mu\text{s}$ |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft                                  | $R_{thA}$ | 420 K/W <sup>1)</sup>  |

| Outline – Gehäuse                                                                   | Pinning – Anschlußbelegung                                                                     | Marking – Stempelung            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------|
|    | Single diode – Einzeldiode<br><br>1 = A 2 = n.c. 3 = K                                         | BAT54 = L4<br>or / oder = KL1   |
|   | Double diode, common anode<br>Doppeldiode, gemeins. Anode<br><br>1 = K1 2 = K2 3 = A1 / A2     | BAT54A = L42<br>or / oder = KL2 |
|  | Double diode, common cathode<br>Doppeldiode, gemeins. Katode<br><br>1 = A1 2 = A2 3 = K1 / K2  | BAT54C = L43<br>or / oder = KL3 |
|  | Double diode, series connect.<br>Doppeldiode, Reihenschaltung<br><br>1 = A1 2 = K2 3 = K1 / A2 | BAT54S = L44<br>or / oder = KL4 |

<sup>1)</sup> Mounted on P.C. board with 3 mm<sup>2</sup> copper pad at each terminal  
Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluß