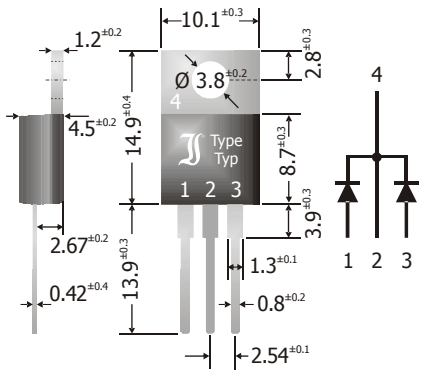
Diotec Semiconductor

# SBCT1020 ... SBCT10100

## Schottky Barrier Rectifiers – Common Cathode
## Schottky-Barrier-Gleichrichter – Gemeinsame Kathode

Version 2010-03-31




Dimensions - Maße [mm]

| | |
|---|---|
| Nominal Current<br>Nennstrom | 10 A |
| Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung | 20...100 V |
| Plastic case<br>Kunststoffgehäuse | TO-220AB |
| Weight approx.<br>Gewicht ca. | 2.2g |

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziert

Standard packaging in tubes
Standard Lieferform in Stangen

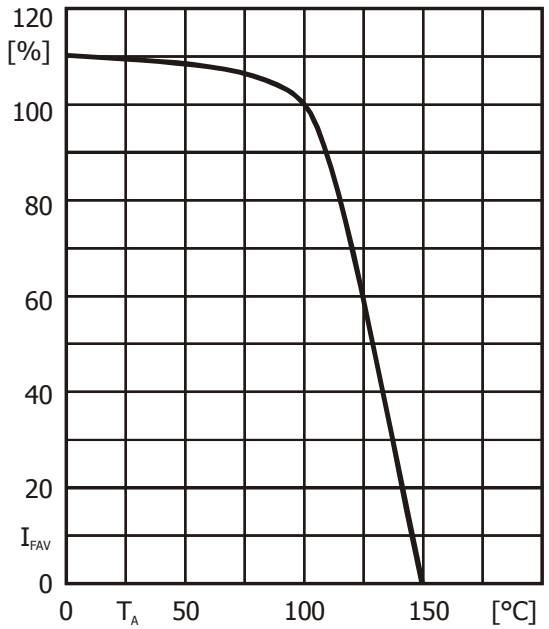
**Maximum ratings and Characteristics** **Grenz- und Kennwerte**

| Type<br>Typ | Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung<br>$V_{RRM}$ [V] | Surge peak reverse voltage<br>Stoßspitzensperrspannung<br>$V_{RSM}$ [V] | Forward Voltage<br>Durchlass-Spannung<br>$V_F$ [V] 1) 2) | |
|---|---|---|---|---|
| | | | $I_F$ = 5 A | $I_F$ = 10 A |
| SBCT1020 | 20 | 20 | < 0.55 | < 0.63 |
| SBCT1030 | 30 | 30 | < 0.55 | < 0.63 |
| SBCT1040 | 40 | 40 | < 0.55 | < 0.63 |
| SBCT1045 | 45 | 45 | < 0.55 | < 0.63 |
| SBCT1050 | 50 | 50 | < 0.70 | < 0.79 |
| SBCT1060 | 60 | 60 | < 0.70 | < 0.79 |
| SBCT1090 | 90 | 90 | < 0.85 | < 0.92 |
| SBCT10100 | 100 | 100 | < 0.85 | < 0.92 |

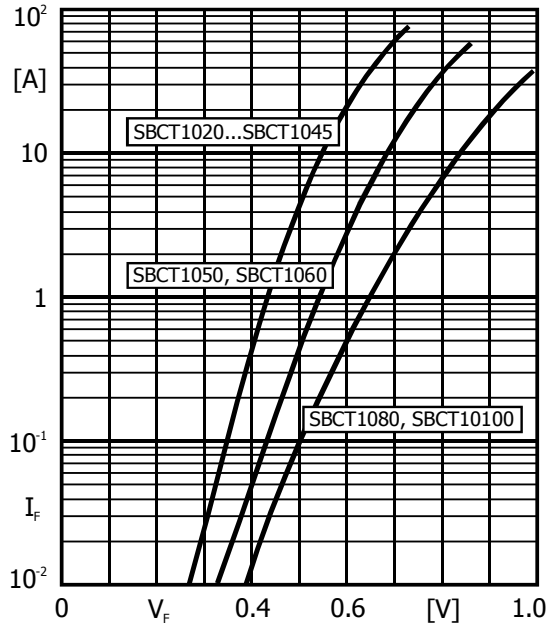
| | | | | |
|---|---|---|---|---|
| Max. average forward rectified current, R-load<br>Dauergrenzstrom in Einwegschaltung mit R-Last | | $T_C$ = 100°C | $I_{FAV}$<br>$I_{FAV}$ | 5 A 2)<br>10 A 3) |
| Repetitive peak forward current<br>Periodischer Spitzenstrom | | f > 15 Hz | $I_{FRM}$ | 20 A 2) |
| Peak forward surge current, 50/60 Hz half sine-wave<br>Stoßstrom für eine 50/60 Hz Sinus-Halbwelle | SBCT1020...<br>SBCT1060 | $T_A$ = 25°C | $I_{FSM}$ | 100/120 A 2) |
| Peak forward surge current, 50/60 Hz half sine-wave<br>Stoßstrom für eine 50/60 Hz Sinus-Halbwelle | SBCT1080...<br>SBCT10100 | $T_A$ = 25°C | $I_{FSM}$ | 100/120 A 2) |
| Rating for fusing, t < 10 ms<br>Grenzlastintegral, t < 10 ms | | $T_A$ = 25°C | $i^2t$ | 50 $A^2s$ 2) |
| Junction temperature – Sperrschichttemperatur<br>Storage temperature – Lagerungstemperatur | | $T_j$<br>$T_S$ | | -50...+150°C<br>-50...+175°C |

1 $T_j$ = 25°C
2 Per diode – Pro Diode
3 Per device (parallel operation) – Pro Bauteil (Parallelbetrieb)

| **Characteristics** | | | | **Kennwerte** |
|---|---|---|---|---|
| Leakage current<br>Sperrstrom | $T_j$ = 25°C<br>$T_j$ = 100°C | $V_R = V_{RRM}$ | $I_R$ | < 300 µA<br>< 7 mA |
| Thermal resistance junction to case<br>Wärmewiderstand Sperrschicht - Gehäuse | | | $R_{thC}$ | < 3.0 K/W [1]) |




Rated forward current versus ambient temperature[1])
Zul. Richtstrom in Abh. von der Umgebungstemp.[1])




Forward characteristics (typical values)
Durchlasskennlinien (typische Werte)

1 Per device (parallel operation) – Pro Bauteil (Parallelbetrieb)