

# SBJ1845-3G

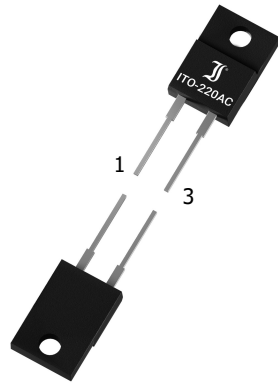
**Schottky Barrier Rectifier Diodes 3<sup>rd</sup> Generation**  
**Schottky-Gleichrichterdioden 3. Generation**

**I<sub>FAV</sub> = 18 A**  
**V<sub>F</sub> < 0.55 V**  
**T<sub>jmax</sub> = 150°C**

**V<sub>RRM</sub> = 45 V**  
**I<sub>FSM</sub> = 280/320 A**  
**V<sub>F@5A125°C</sub> < 0.29 V**

Version 2021-08-25

## ITO-220AC



**SPICE Model & STEP File <sup>1)</sup>**



**Marking**  
Type/Typ

**HS Code** 85411000

## Typical Applications

Output Rectification in DC/DC-Converters and Power Supplies  
Solar Bypass Diodes, Polarity Protection  
Free-wheeling diodes  
Commercial grade  
Suffix -Q: AEC-Q101 compliant <sup>1)</sup>  
Suffix -AQ: in AEC-Q101 qualification <sup>1)</sup>

## Features

Customized device  
Isolated heat flange  
Lower V<sub>F</sub> and I<sub>R</sub> than SBJ1845  
Best trade-off between V<sub>F</sub> and I<sub>R</sub> <sup>2)</sup>  
Low forward voltage drop  
High power dissipation  
Compliant to RoHS (exemp. 7a)  
REACH, Conflict Minerals <sup>1)</sup>

## Mechanical Data <sup>1)</sup>

Packed in tubes/cardboards  
Weight approx.  
Case material  
Solder & assembly conditions

**Typische Anwendungen**  
Ausgangsgleichrichtung in DC/DC-Wandlern und Netzteilen  
Solar-Bypassdioden, Verpölschutz  
Freilaufdioden  
Standardausführung  
Suffix -Q: AEC-Q101 konform <sup>1)</sup>  
Suffix -AQ: in AEC-Q101 Qualifizierung <sup>1)</sup>

## Besonderheiten

Kundenspezifisches Bauteil  
Isolierte Kühlfahne  
Kleineres V<sub>F</sub> und I<sub>R</sub> als SBJ1045  
Optimale Auswahl von V<sub>F</sub> und I<sub>R</sub> <sup>2)</sup>  
Niedrige Fluss-Spannung  
Hohe Leistungsfähigkeit  
Konform zu RoHS (Ausn. 7a)  
REACH, Konfliktmineralien <sup>1)</sup>

## Mechanische Daten <sup>1)</sup>

50/1000  
1.8 g  
UL 94V-0  
260°C/10s  
MSL N/A  
Verpackt in Stangen/Kartons  
Gewicht ca.  
Gehäusematerial  
Löt- und Einbaubedingungen

## Maximum ratings <sup>3)</sup>

| Type<br>Typ | Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung<br>V <sub>RRM</sub> [V] | Surge peak reverse voltage<br>Stoßspitzensperrspannung<br>V <sub>FSM</sub> [V] |
|-------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| SBJ1845-3G  | 45                                                                                          | 45                                                                             |

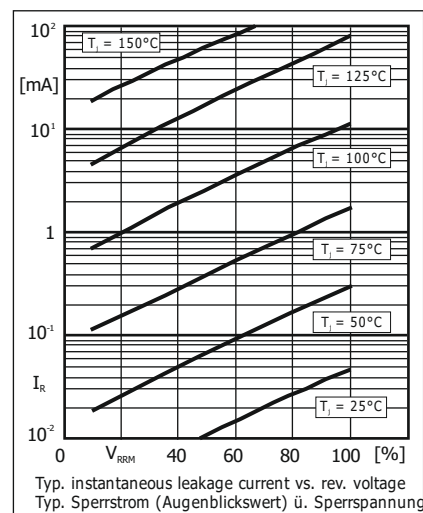
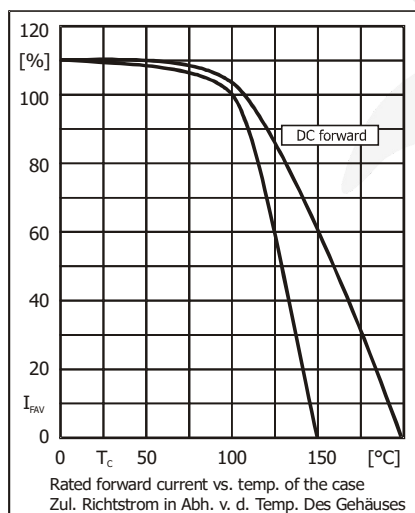
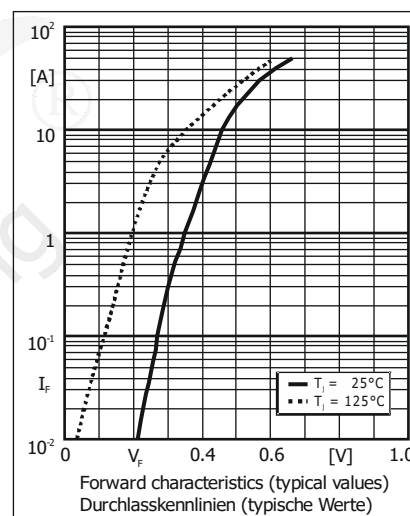
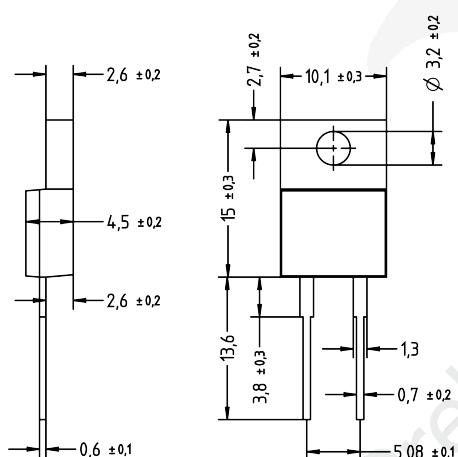
## Grenzwerte <sup>3)</sup>

|                                                                                                        |                                                |                                  |                                          |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------|------------------------------------------|
| Max. average forward rectified current<br>Dauergrenzstrom in Einwegschaltung                           | T <sub>C</sub> = 100°C <sup>4)</sup>           | I <sub>FAV</sub>                 | 18 A                                     |
| Repetitive peak forward current – Periodischer Spitzenstrom                                            | f > 15 Hz T <sub>C</sub> = 100°C <sup>4)</sup> | I <sub>FRM</sub>                 | 55 A                                     |
| Peak forward surge current<br>Stoßstrom in Fluss-Richtung                                              | Half sine-wave<br>Sinus-Halbwelle              | 50 Hz (10 ms)<br>60 Hz (8.3 ms)  | I <sub>FSM</sub><br>280 A<br>320 A       |
| Rating for fusing – Grenzlastintegral                                                                  | t < 10 ms                                      | i <sup>2</sup> t                 | 390 A <sup>2</sup> s                     |
| Junction temperature – Sperrschichttemperatur<br>in DC forward mode – bei Gleichstrom-Durchlassbetrieb |                                                | T <sub>j</sub><br>T <sub>j</sub> | -50...+150°C<br>≤ 200°C <sup>2, 5)</sup> |
| Storage temperature – Lagerungstemperatur                                                              |                                                | T <sub>S</sub>                   | -50...+175°C                             |

- Please note the [detailed information on our website](#) or at the beginning of the data book  
Bitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches
- For more details, ask for the Diotec Application Note "Reliability of Bypass Diodes"  
Weitere Infos in der Diotec Applikationsschrift „Reliability of Bypass Diodes“
- T<sub>A</sub> = 25°C unless otherwise specified – T<sub>A</sub> = 25°C wenn nicht anders angegeben
- Measured at heat flange – Gemessen an der Kühlfahne
- Meets the Requirements of IEC 61215 bypass diode thermal test  
Erfüllt die Anforderungen des IEC 61215 Bypass-Diodentests

**Characteristics**
**Kennwerte**

| Type<br>Typ                                                                   | Forward voltage<br>Durchlass-Spannung                 |             |               | Forward voltage<br>Durchlass-Spannung |             |                                              |
|-------------------------------------------------------------------------------|-------------------------------------------------------|-------------|---------------|---------------------------------------|-------------|----------------------------------------------|
|                                                                               | $V_F$ [V]                                             | @ $I_F$ [A] | @ $T_j$       | $V_F$ [V]                             | @ $I_F$ [A] | @ $T_j$                                      |
| SBJ1845-3G                                                                    | < 0.45<br>typ. 0.29                                   | 5           | 25°C<br>125°C | < 0.55                                | 18          | 25°C                                         |
| Leakage current<br>Sperrstrom                                                 | $T_j = 25^\circ\text{C}$<br>$T_j = 100^\circ\text{C}$ |             |               | $V_R = V_{RRM}$                       | $I_R$       | < 100 $\mu\text{A}$<br>typ. 20 $\mu\text{A}$ |
| Typical junction capacitance<br>Typische Sperrschichtkapazität                |                                                       |             |               | $V_R = 4\text{ V}$                    | $C_j$       | 720 pF                                       |
| Thermal resistance junction to case<br>Wärmewiderstand Sperrschicht – Gehäuse |                                                       |             |               |                                       | $R_{thC}$   | < 4 K/W <sup>1)</sup>                        |

**Dimensions – Maße [mm]**


**Disclaimer:** See data book page 2 or [website](#)  
**Haftungsausschluss:** Siehe Datenbuch Seite 2 oder [Internet](#)

1 Measured at heat flange – Gemessen an der Kühlfahne