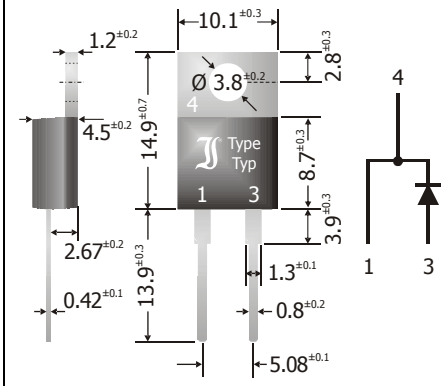
SBT1820 ... SBT1845

Schottky Barrier Rectifiers – Single Diode
Schottky-Barrier-Gleichrichter – Einzeldiode

Version 2013-05-07



Dimensions - Maße [mm]

Nominal current – Nennstrom	18 A
Repetitive peak reverse voltage Periodische Spitzensperrspannung	20...45 V
Plastic case – Kunststoffgehäuse	TO-220AC
Weight approx. – Gewicht ca.	1.8 g
Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert	
Standard packaging in tubes Standard Lieferform in Stangen	

Green Molding
Halogen-Free[1]

Typical Applications

Bypass Diodes – best trade-off between V_F and I_R [2])
Free-Wheeling Diodes
High Frequent Output Rectification

Typische Anwendungen

Bypass-Dioden – optimales V_F und I_R [2])
Freilaufdioden
Hochfrequenz-Ausgangsgleichrichtung

Maximum ratings and Characteristics

Grenz- und Kennwerte

Type Typ	Repetitive / Surge peak reverse voltage Periodische- / Spitzen-Sperrspannung V_{RRM} [V] / V_{RSM} [V]	Forward Voltage Durchlass-Spannung V_F [V] T_j = 125°C	Forward voltage Durchlass-Spannung V_F [V] T_j = 25°C	
		I_F = 5 A	I_F = 5 A	I_F = 18 A
SBT1820	20	typ. 0.33	< 0.50	< 0.58
SBT1830	30	typ. 0.33	< 0.50	< 0.58
SBT1840	40	typ. 0.33	< 0.50	< 0.58
SBT1845	45	typ. 0.33	< 0.50	< 0.58

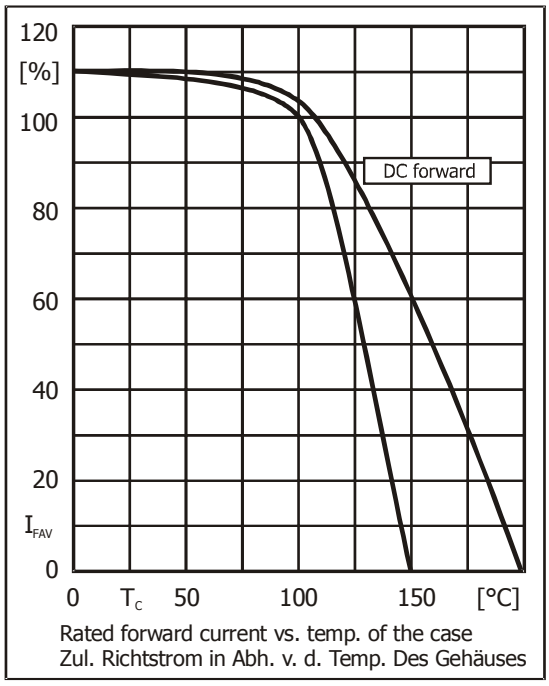
Max. average forward rectified current, R-load Dauergrenzstrom in Einwegschaltung mit R-Last		T_C = 100°C	I_{FAV}	18 A
Repetitive peak forward current Periodischer Spitzenstrom		f > 15 Hz	I_{FRM}	55 A [1])
Peak forward surge current, 50/60 Hz half sine-wave Stoßstrom für eine 50/60 Hz Sinus-Halbwelle	SBT1820... SBT1845	T_A = 25°C	I_{FSM}	280/320 A
Rating for fusing, t < 10 ms Grenzlastintegral, t < 10 ms		T_A = 25°C	i^2t	390 A^2s
Junction temperature – Sperrschichttemperatur in DC forward mode – bei Gleichstrom-Durchlassbetrieb			T_j T_j	-50...+150°C ≤ 200°C

1 From 4Q/2011 – Ab 4Q/2011
2 For more details, ask for the Diotec Application Note "Reliability of Bypass Diodes"
Weitere Infos in der Diotec Applikationsschrift „Reliability of Bypass Diodes"
1 Max. temperature of the case T_C = 100°C – Max. Temperatur des Gehäuses T_C = 100°C

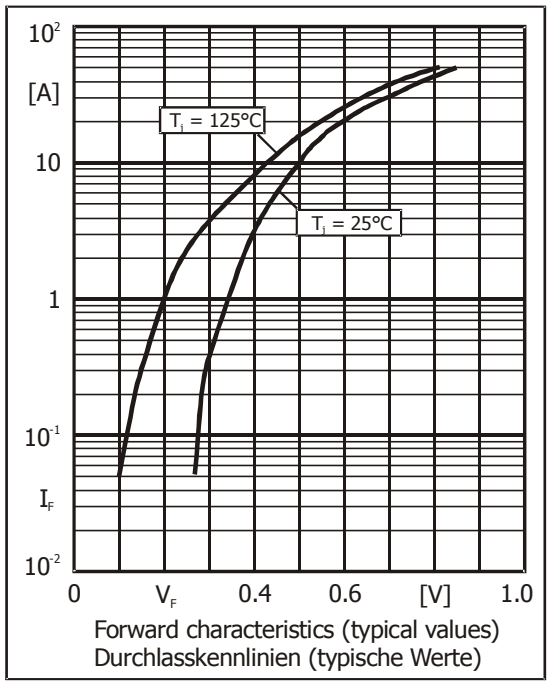
© Diotec Semiconductor AG

Characteristics **Kennwerte**

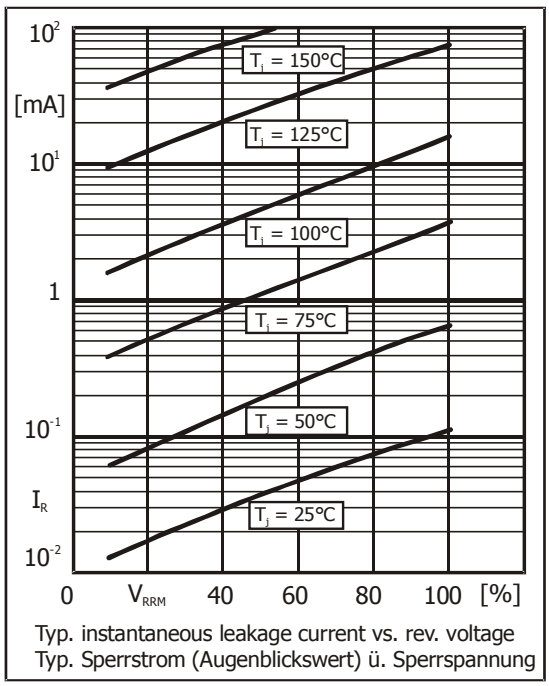
Leakage current Sperrstrom		T_j = 25°C T_j = 100°C	$V_R = V_{RRM}$ $V_R = V_{RRM}$	I_R I_R	< 500 µA < 20 mA
Thermal resistance junction to case Wärmewiderstand Sperrschicht – Gehäuse				R_{thC}	< 1.5 K/W



Rated forward current vs. temp. of the case
Zul. Richtstrom in Abh. v. d. Temp. Des Gehäuses



Forward characteristics (typical values)
Durchlasskennlinien (typische Werte)



Typ. instantaneous leakage current vs. rev. voltage
Typ. Sperrstrom (Augenblickswert) ü. Sperrspannung

 © Diotec Semiconductor AG