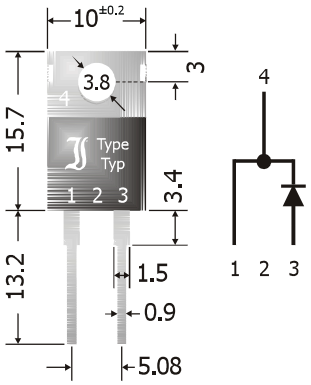
SBT1020 ... SBT10100

Schottky Barrier Rectifiers
Schottky-Barrier-Gleichrichter

Version 2005-12-07



Dimensions - Maße [mm]

Nominal current Nennstrom	10 A
Repetitive peak reverse voltage Periodische Spitzensperrspannung	20...100 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 taped in tubes Standard Lieferform in Stangen	

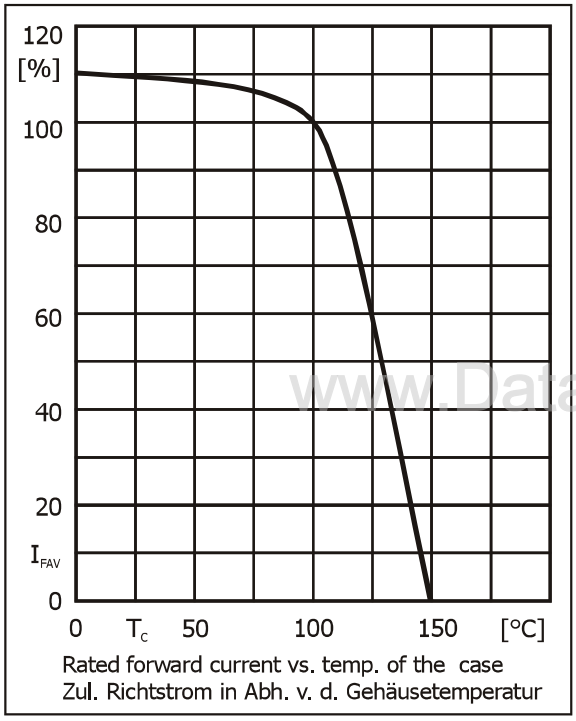
Maximum ratings and Characteristics **Grenz- und Kennwerte**

Type Typ	Repetitive peak reverse voltage Periodische Spitzensperrspannung V_{RRM} [V]	Surge peak reverse voltage Stoßspitzensperrspannung V_{RSM} [V]	Forward voltage Durchlass-Spannung V_F [V] [1]	
			I_F = 5 A	I_F = 10 A
SBT1020	20	20	< 0.47	< 0.54
SBT1030	30	30	< 0.47	< 0.54
SBT1040	40	40	< 0.47	< 0.54
SBT1045	45	45	< 0.47	< 0.54
SBT1050	50	50	< 0.57	< 0.64
SBT1060	60	60	< 0.57	< 0.64
SBT1090	90	90	< 0.72	< 0.79
SBT10100	100	100	< 0.72	< 0.79

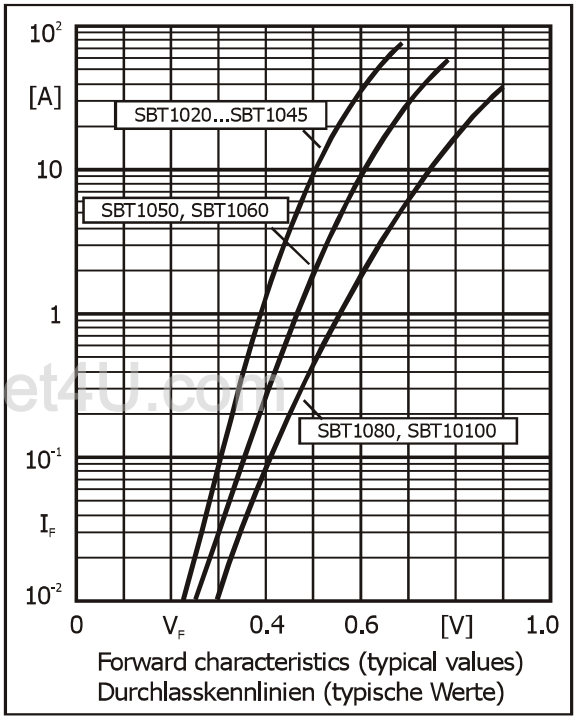
Max. average forward rectified current, R-load Dauergrenzstrom in Einwegschaltung mit R-Last		T_C = 100°C	I_{FAV}	10 A
Repetitive peak forward current Periodischer Spitzenstrom		f > 15 Hz	I_{FRM}	30 A [2]
Peak forward surge current, 50/60 Hz half sine-wave Stoßstrom für eine 50/60 Hz Sinus-Halbwelle	SBT1020... SBT1060	T_A = 25°C	I_{FSM}	135/150 A
Peak forward surge current, 50/60 Hz half sine-wave Stoßstrom für eine 50/60 Hz Sinus-Halbwelle	SBT1090... SBT10100	T_A = 25°C	I_{FSM}	115/125 A
Rating for fusing, t < 10 ms Grenzlastintegral, t < 10 ms		T_A = 25°C	i^2t	80 A^2s
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T_j T_S		-50...+150°C -50...+175°C

1 T_j = 25°C
2 Max. temperature of the case T_C = 100°C – Max. Temperatur des Gehäuses T_C = 100°C

Characteristics					**Kennwerte**
Leakage current Sperrstrom	SBT1020 ... SBT1040	T_j = 25°C T_j = 100°C	$V_R = V_{RRM}$ $V_R = V_{RRM}$	I_R I_R	< 500 µA < 45 mA
Leakage current Sperrstrom	SBT1045 ... SBT10100	T_j = 25°C T_j = 100°C	$V_R = V_{RRM}$ $V_R = V_{RRM}$	I_R I_R	< 300 µA < 25 mA
Thermal resistance junction to case Wärmewiderstand Sperrschicht – Gehäuse				R_{thC}	< 3 K/W



Rated forward current vs. temp. of the case
Zul. Richtstrom in Abh. v. d. Gehäusetemperatur



Forward characteristics (typical values)
Durchlasskennlinien (typische Werte)