

# SBT40100UDC

## EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage**

**100 V**

**Current**

**40 A**

### Features

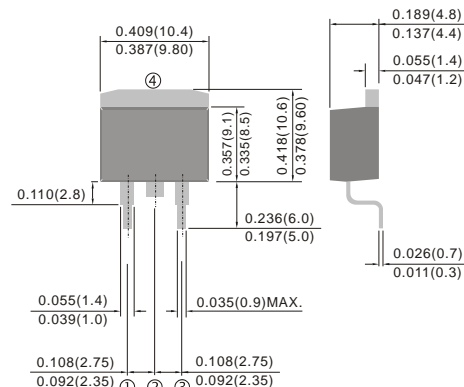
- Ideal for automated placement
- Extreme low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### Mechanical Data

- Case: Molded plastic, TO-263
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.049 ounces, 1.38 grams.
- Marking: Part number

TO-263

Unit: inch(mm)



### Maximum Ratings And Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNIT
Maximum repetitive peak reverse voltage		$V_{RRM}$	100	V
Maximum rms voltage		$V_{RMS}$	70	V
Maximum dc blocking voltage		$V_R$	100	V
Maximum average forward rectified current	per diode	$I_{F(AV)}$	20	A
	per device		40	
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load per diode		$I_{FSM}$	250	A
Typical thermal resistance per diode	(Note 1)	$R_{\theta JC}$	2	$^{\circ}\text{C/W}$
Operating junction temperature range		$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage temperature range		$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

Note : 1. Device mounted on a infinite heatsink , then measured the center of the marking side.

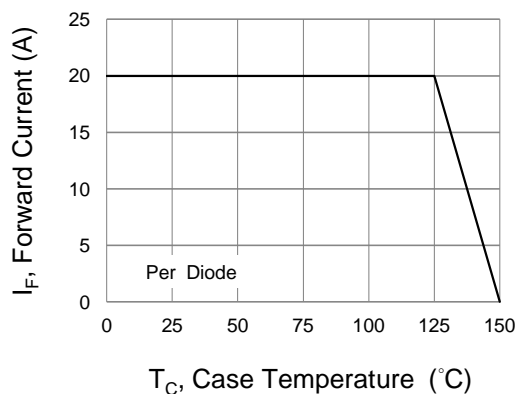


## SBT40100UDC

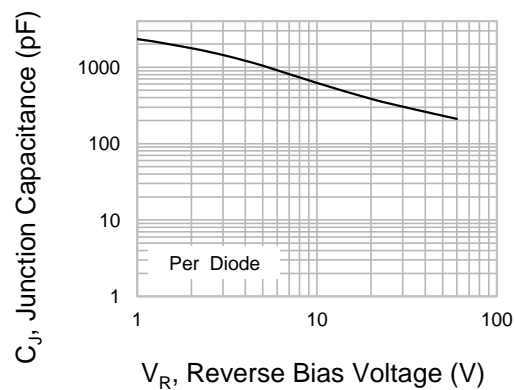
Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage per diode	$V_{BR}$	$I_R=0.5\text{mA}$	$T_J=25^{\circ}\text{C}$	100	-	-	V
Instantaneous forward voltage per diode	$V_F$	$I_F=5\text{A}$	$T_J=25^{\circ}\text{C}$	-	0.45	-	V
		$I_F=10\text{A}$		-	0.52	-	
		$I_F=20\text{A}$		-	0.65	0.7	
		$I_F=5\text{A}$	$T_J=125^{\circ}\text{C}$	-	0.37	-	V
		$I_F=10\text{A}$		-	0.48	-	
Reverse current per diode	$I_R$	$V_R=70\text{V}$	$T_J=25^{\circ}\text{C}$	-	12	-	$\mu\text{A}$
			$T_J=125^{\circ}\text{C}$	-	7.7	-	mA
		$V_R=100\text{V}$	$T_J=25^{\circ}\text{C}$	-	-	120	$\mu\text{A}$
			$T_J=125^{\circ}\text{C}$	-	15	-	mA

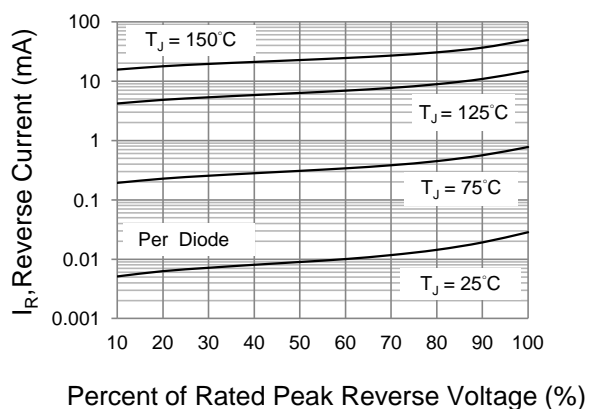
## SBT40100UDC



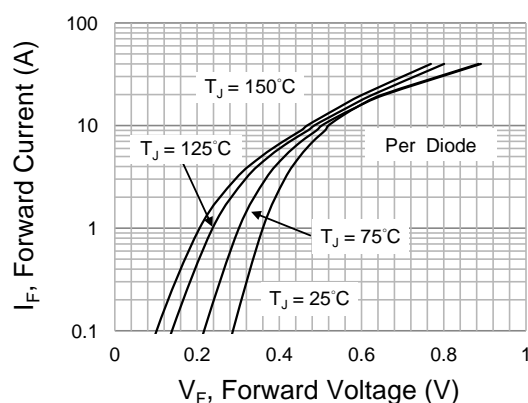
**Fig.1 Forward Current Derating Curve**



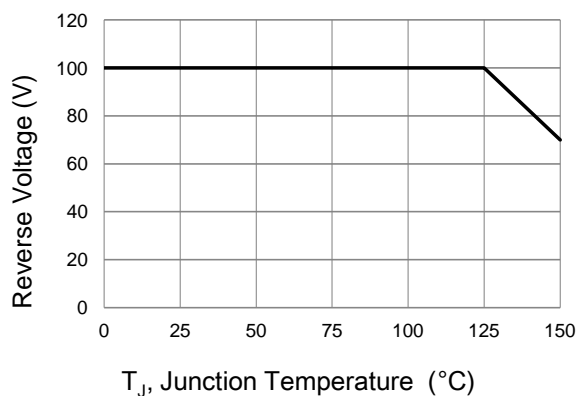
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**Fig.5 Operating Temperature Derating Curve**



# SBT40100UDC

## Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBT40100UDC_R2_00001	TO-263	800 pcs / 13" reel	SBT40100UDC	Halogen free

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