



# SBT40100UCT

## EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage** 100 V **Current** 40 A

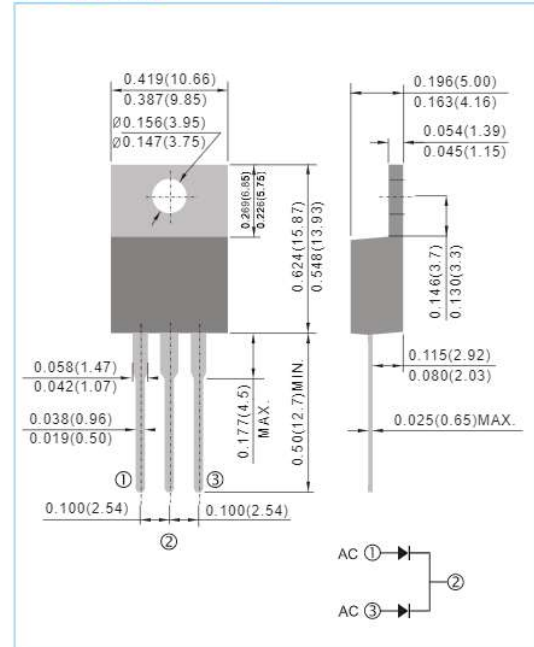
**TO-220AB** Unit : inch(mm)

### 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 RoHS 2011/65/EU directive

### Mechanical Data

- Case: Molded plastic, TO-220AB
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.067 ounces, 1.89 grams.
- Marking: Part number



### 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	$^{\circ}\text{C}$

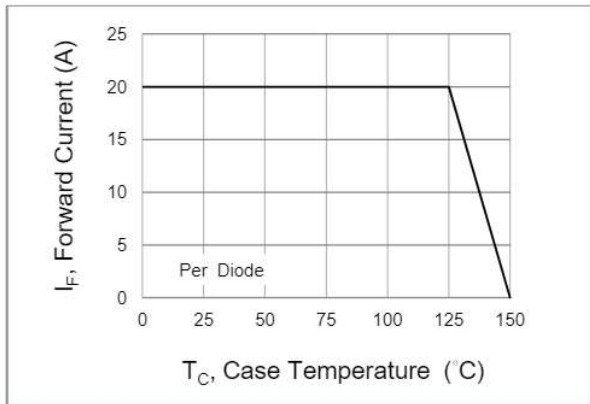
Note : 1. Device mounted on a infinite heatsink , then measured the center of the marking side.



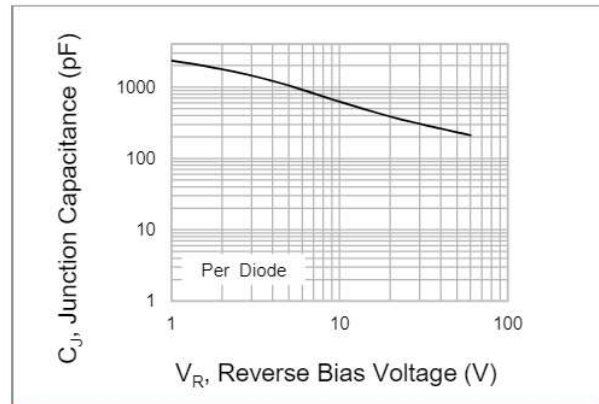
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Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

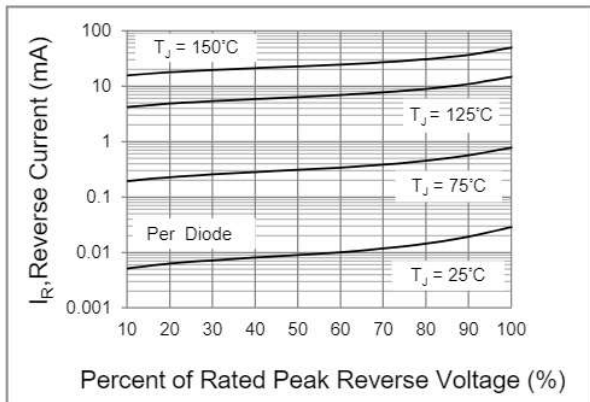
PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage per diode	$V_{BR}$	$I_R=0.5\text{mA}$	$T_J=25^\circ\text{C}$	100	-	-	V
Instantaneous forward voltage per diode	$V_F$	$I_F=5\text{A}$	$T_J=25^\circ\text{C}$	-	0.45	-	V
		$I_F=10\text{A}$		-	0.52	-	
		$I_F=20\text{A}$		-	0.65	0.7	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



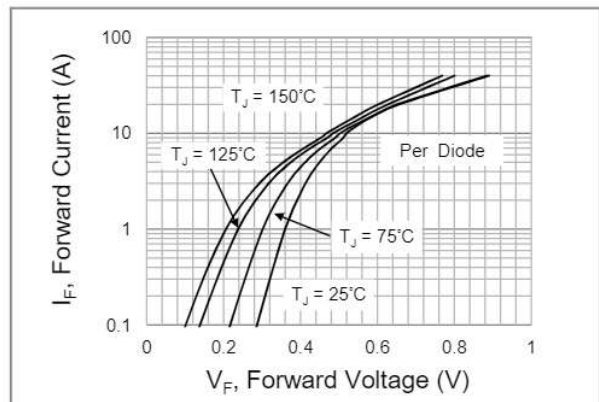
**Fig.1 Forward Current Derating Curve**



**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



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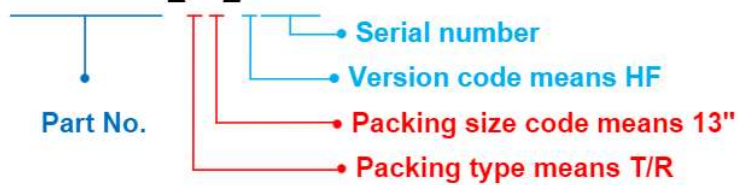
## Part No\_packing code\_Version

SBT40100UCT\_T0\_00001

SBT40100UCT\_T0\_10001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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