



# SBT10120LCT

## ULTRA LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage**

**120 V**

**Current**

**10 A**

**TO-220AB**

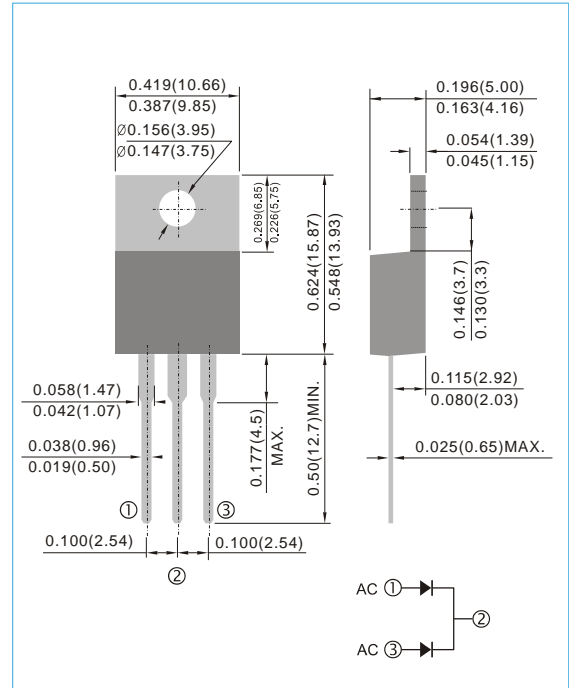
Unit : inch(mm)

### Features

- Ideal for automated placement
- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- 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		$V_{RRM}$	120	V
Maximum rms voltage		$V_{RMS}$	84	V
Maximum dc blocking voltage		$V_R$	120	V
Maximum average forward rectified current	per diode	$I_{F(AV)}$	5	A
	per device		10	
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load per diode		$I_{FSM}$	80	A
Typical thermal resistance per diode	(Note 1)	$R_{\theta JC}$	3	$^{\circ}\text{C/W}$
Operating junction temperature range		$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage temperature range		$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

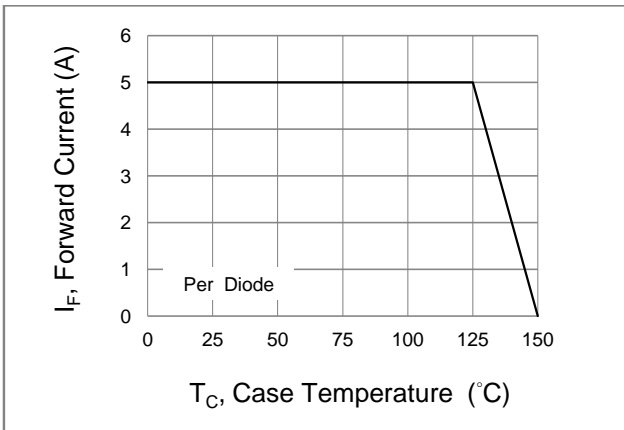
Note : 1. Device mounted on a infinite heatsink , then measured the center of the marking side.



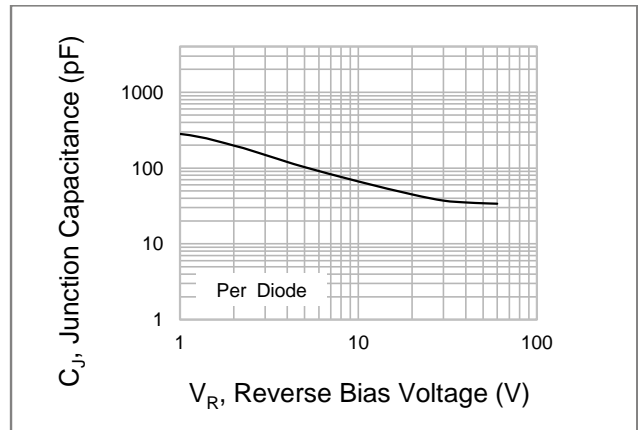
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Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)

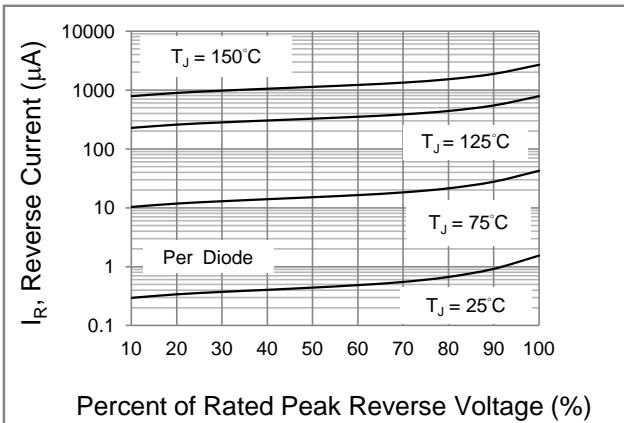
PARAMETER	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNITS
Breakdown voltage per diode	$V_{BR}$	$I_R=0.5\text{mA}$	$T_J=25^\circ\text{C}$	120	-	-	V
Instantaneous forward voltage per diode	$V_F$	$I_F=1\text{A}$	$T_J=25^\circ\text{C}$	-	0.6	-	V
		$I_F=2\text{A}$		-	0.68	-	
		$I_F=5\text{A}$		-	0.78	0.83	
		$I_F=1\text{A}$	$T_J=125^\circ\text{C}$	-	0.49	-	V
$I_F=2\text{A}$	-	0.56		-			
Reverse current per diode	$I_R$	$V_R=96\text{V}$	$T_J=25^\circ\text{C}$	-	0.7	-	$\mu\text{A}$
		$V_R=120\text{V}$	$T_J=25^\circ\text{C}$	-	-	20	$\mu\text{A}$
			$T_J=125^\circ\text{C}$	-	0.7	-	mA



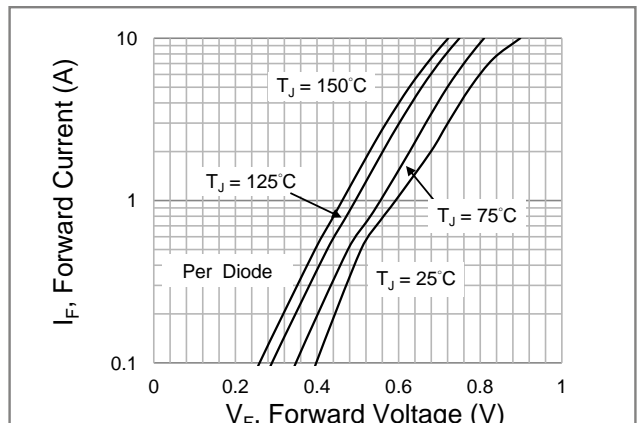
**Fig.1 Forward Current Derating Curve**



**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



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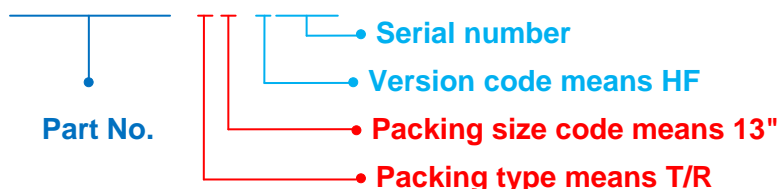
Part No\_packing code\_Version

SBT10120LCT\_T0\_00001

SBT10120LCT\_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)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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