

SBT10120VPC

Surface Mount Ultra Low V_F Schottky Barrier Rectifier

Voltage

120 V

Current

10 A

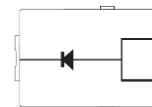
Features

- Ideal for automated placement
- Ultra low forward voltage drop, low power loss
- High efficiency operation
- Low thermal resistance
- Ultra thin profile package for space constrained utilization
- Easy pick and place package suitable for automated handling
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : TO-277C package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.11 grams

TO-277C



Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	120	V
Maximum RMS Voltage		V_{RMS}	84	V
Maximum DC Blocking Voltage		V_{DC}	120	V
Maximum Average Forward Rectified Current		$I_{F(AV)}$	10	A
Peak Forward Surge Current : 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	150	A
Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4\text{ V}$		C_J	630	pF
Typical Thermal Resistance	(Note 1)	$R_{\theta JA}$	65	$^{\circ}\text{C/W}$
	(Note 2)	$R_{\theta JC}$	1.35	
	(Note 2)	$R_{\theta JL}$	13	
Operating Junction Temperature Range		T_J	-55~150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55~150	$^{\circ}\text{C}$

SBT10120VPC

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.47	0.52	V
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	0.69	0.74	
		$I_F = 10\text{ A}, T_J = 25^\circ\text{C}$	-	0.75	0.8	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.38	0.43	
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.54	0.59	
		$I_F = 10\text{ A}, T_J = 125^\circ\text{C}$	-	0.62	0.67	
Reverse current ^(Note 3)	I_R	$V_R = 96\text{ V}, T_J = 25^\circ\text{C}$	-	3	15	μA
		$V_R = 120\text{ V}, T_J = 25^\circ\text{C}$	-	5	25	
		$V_R = 120\text{ V}, T_J = 125^\circ\text{C}$	-	5	30	mA

NOTES :

1. Mounted on an FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area.
3. Short duration pulse test used to minimize self-heating effect.

SBT10120VPC

TYPICAL CHARACTERISTIC CURVES

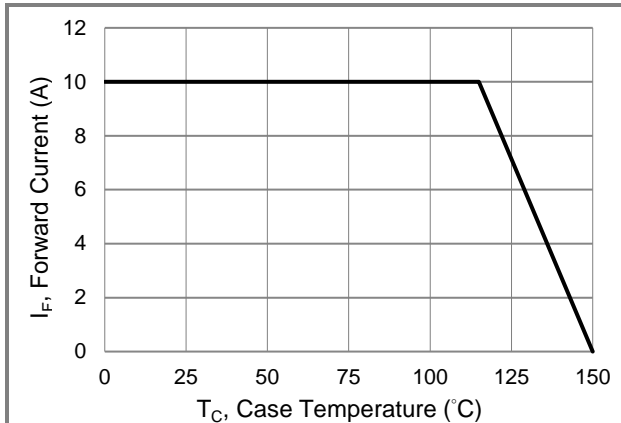


Fig.1 Forward Current Derating Curve

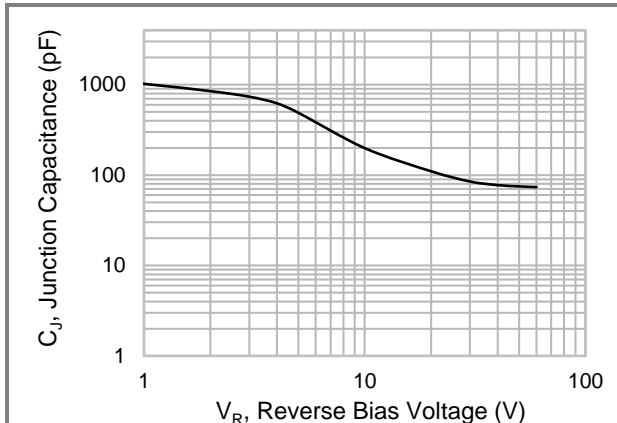


Fig.2 Typical Junction Capacitance

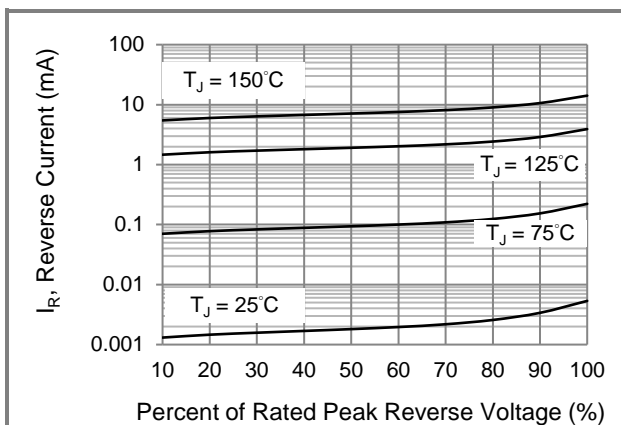


Fig.3 Typical Reverse Characteristics

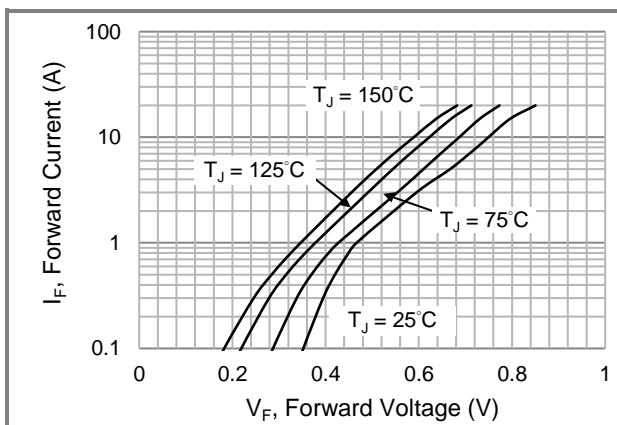


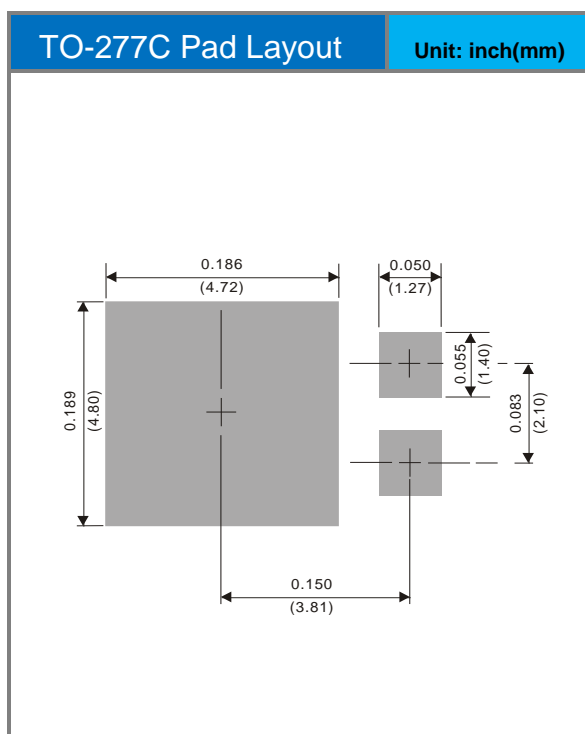
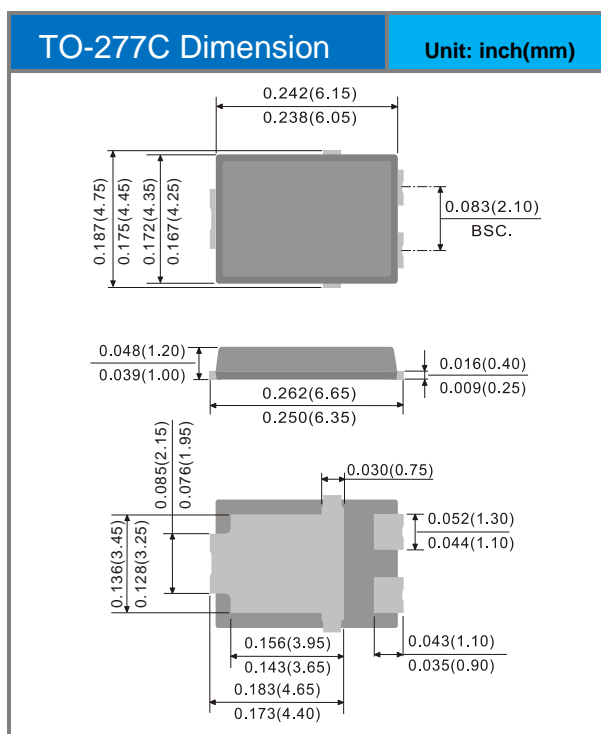
Fig.4 Typical Forward Characteristics

SBT10120VPC

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBT10120VPC	TO-277C	5K pcs / 13" reel	SBT10120VPC

Packaging Information & Mounting Pad Layout



SBT10120VPC

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.