

SBT10120VPC

Surface Mount Ultra Low V_F Schottky Barrier Rectifier

Voltage

120 V

Current

10 A

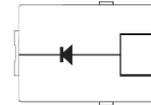
Features

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

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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	uA
		$V_R = 120\text{ V}, T_J = 25^\circ\text{C}$	-	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.

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TYPICAL CHARACTERISTIC CURVES

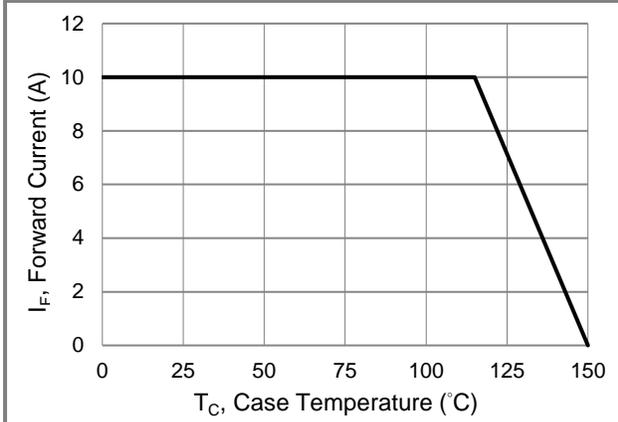


Fig.1 Forward Current Derating Curve

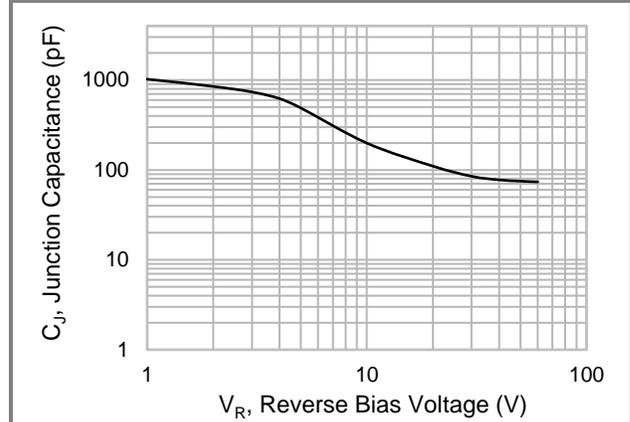


Fig.2 Typical Junction Capacitance

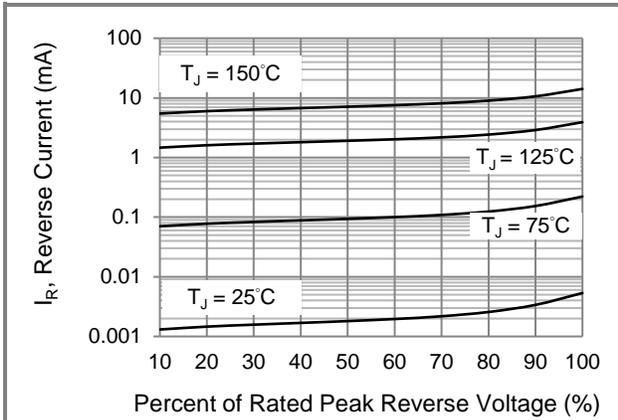


Fig.3 Typical Reverse Characteristics

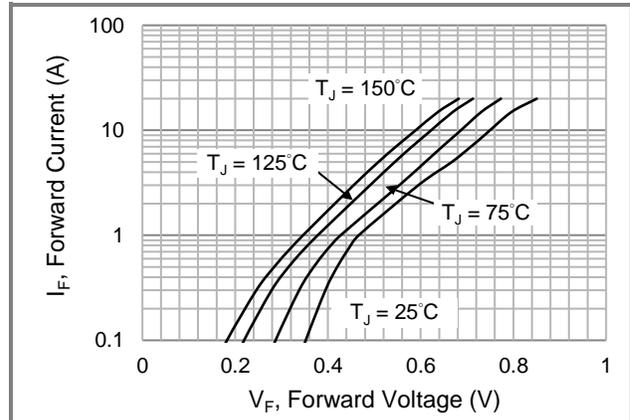


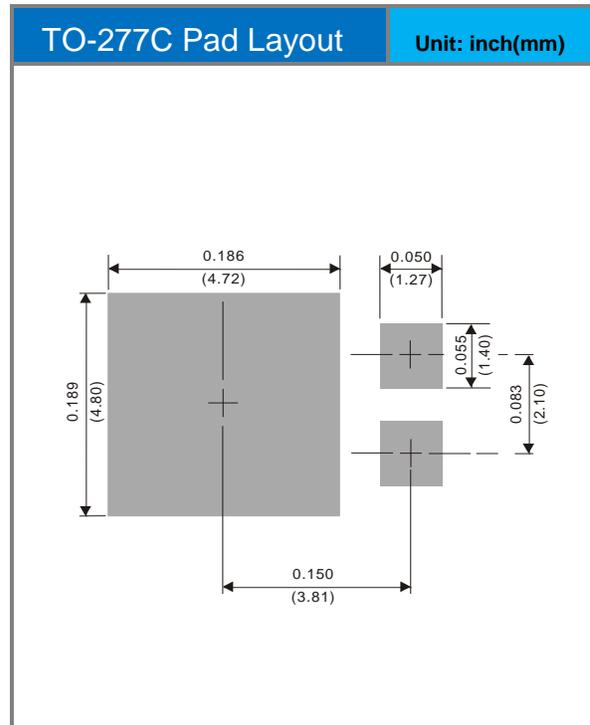
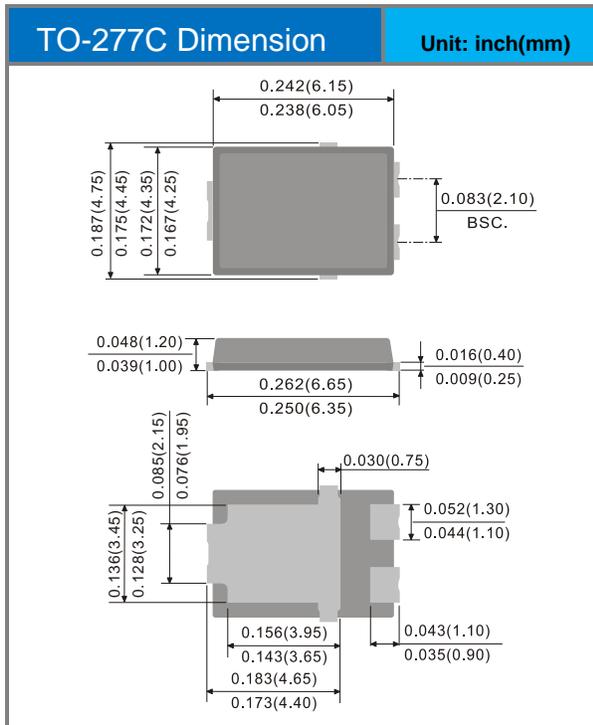
Fig.4 Typical Forward Characteristics

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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

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