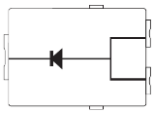
SBT12120UPC

Surface Mount Extreme Low V_F Schottky Barrier Rectifier

Voltage 120 V **Current** 12 A

TO-277C



Features

- Ideal for automated placement
- Extreme 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

Maximum Ratings and Thermal Characteristics (T_A = 25 °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		$I_{F(AV)}$	12	A
Peak Forward Surge Current : 8.3 ms single half sine-wave superimposed on rated load		I_{FSM}	200	A
Typical Junction Capacitance Measured at 1 MHz And Applied V_R = 4 V		C_J	850	pF
Typical Thermal Resistance	(Note 1)	$R_{\theta JA}$	65	°C/W
	(Note 2)	$R_{\theta JC}$	0.94	
	(Note 2)	$R_{\theta JL}$	12.4	
Operating Junction Temperature Range		T_J	-55~150	°C
Storage Temperature Range		T_{STG}	-55~150	°C

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	I_F = 1 A, T_J = 25 °C	-	0.47	0.52	V
		I_F = 5 A, T_J = 25 °C	-	0.64	0.69	
		I_F = 12 A, T_J = 25 °C	-	0.74	0.79	
		I_F = 1 A, T_J = 125 °C	-	0.37	0.42	
		I_F = 5 A, T_J = 125 °C	-	0.52	0.57	
		I_F = 12 A, T_J = 125 °C	-	0.61	0.66	
Reverse current(Note 3)	I_R	V_R = 96 V, T_J = 25 °C	-	3	10	uA
		V_R = 120 V, T_J = 25 °C	-	6	25	
		V_R = 120 V, T_J = 125 °C	-	5	20	mA

NOTES :

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

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TYPICAL CHARACTERISTIC CURVES

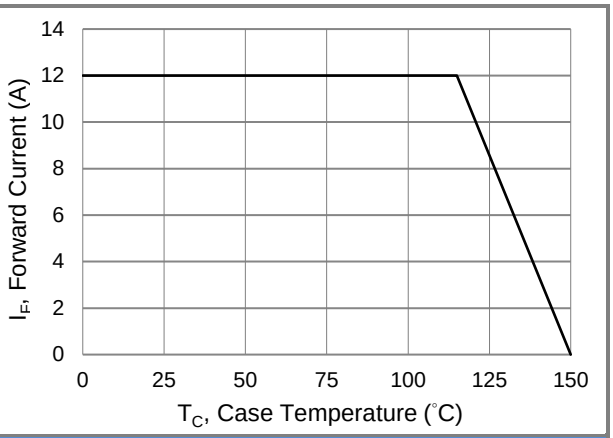

Fig.1 Forward Current Derating Curve

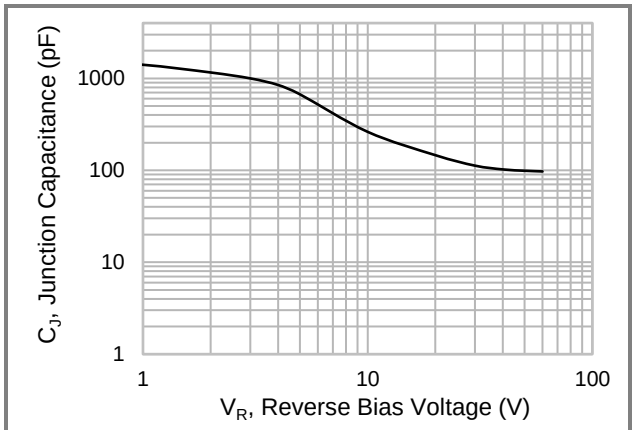

Fig.2 Typical Junction Capacitance

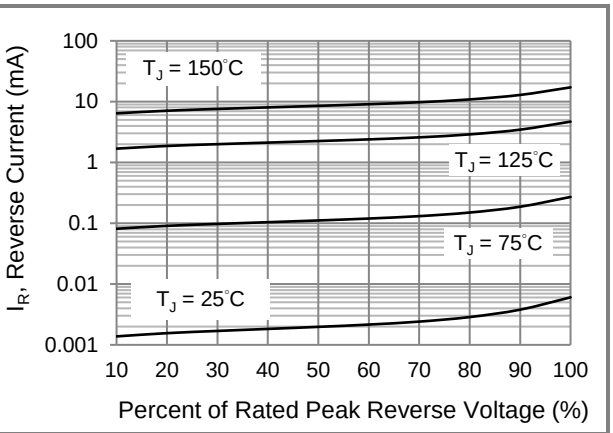

Fig.3 Typical Reverse Characteristics

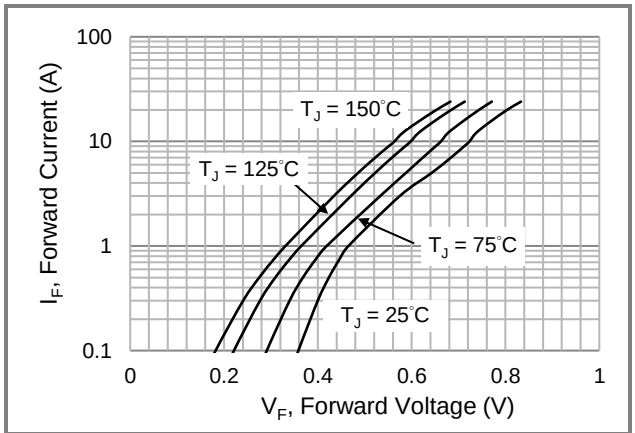

Fig.4 Typical Forward Characteristics

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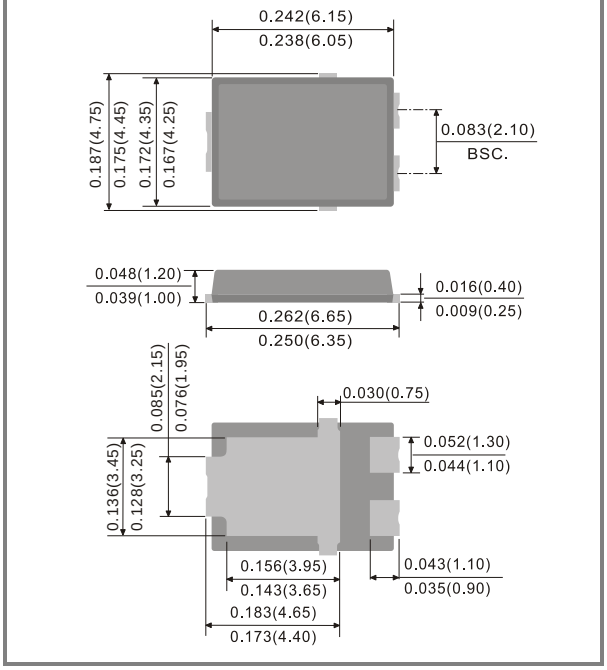
Product and Packing Information

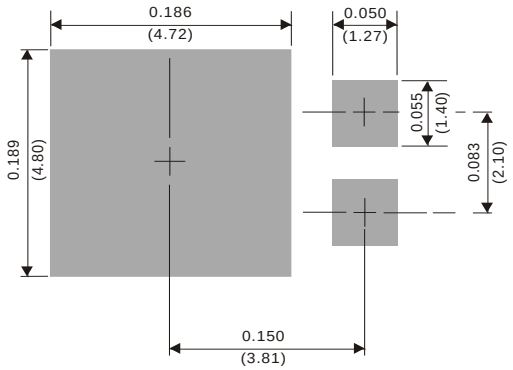
Part No.	Package Type	Packing Type	Marking
SBT12120UPC	TO-277C	5K pcs / 13” reel	SBT12120UPC

Packaging Information & Mounting Pad Layout

TO-277C Dimension — Unit: inch(mm)



TO-277C Pad Layout — Unit: inch(mm)



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