

SBM1045VPC

Surface Mount Extreme Low V_F Schottky Barrier Rectifier

Voltage

45 V

Current

10 A

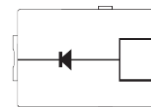
Features

- Extreme low forward voltage drop
- Low power loss, high efficiency
- 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}	45	V
Maximum RMS Voltage		V_{RMS}	32	V
Maximum DC Blocking Voltage		V_{DC}	45	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}	275	A
Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4\text{ V}$		C_J	800	pF
Typical Thermal Resistance	(Note 1)	$R_{\theta JA}$	65	$^{\circ}\text{C/W}$
	(Note 2)	$R_{\theta JC}$	0.58	
	(Note 2)	$R_{\theta JL}$	11.5	
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	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.28	0.33	V
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	0.36	0.41	
		$I_F = 10\text{ A}, T_J = 25^\circ\text{C}$	-	0.41	0.44	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.18	0.23	
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.28	0.33	
		$I_F = 10\text{ A}, T_J = 125^\circ\text{C}$	-	0.36	0.41	
Reverse current ^(Note 3)	I_R	$V_R = 36\text{ V}, T_J = 25^\circ\text{C}$	-	70	500	uA
		$V_R = 45\text{ V}, T_J = 25^\circ\text{C}$	-	80	220	
		$V_R = 45\text{ V}, T_J = 125^\circ\text{C}$	-	35	100	mA

NOTES :

1. Mounted on a 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

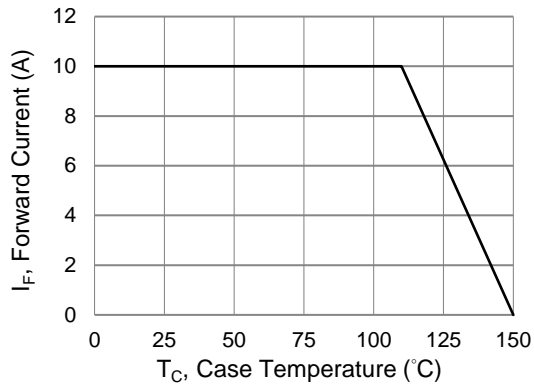


Fig.1 Forward Current Derating Curve

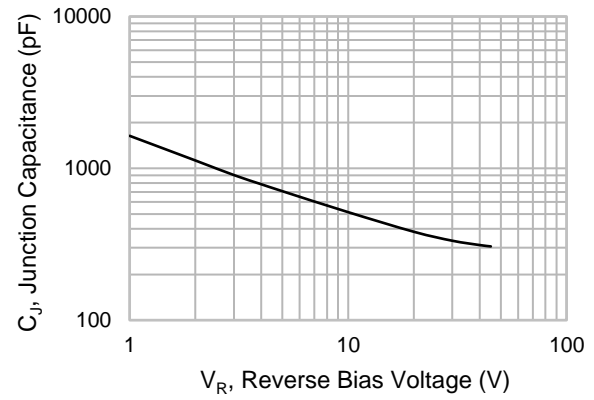


Fig.2 Typical Junction Capacitance

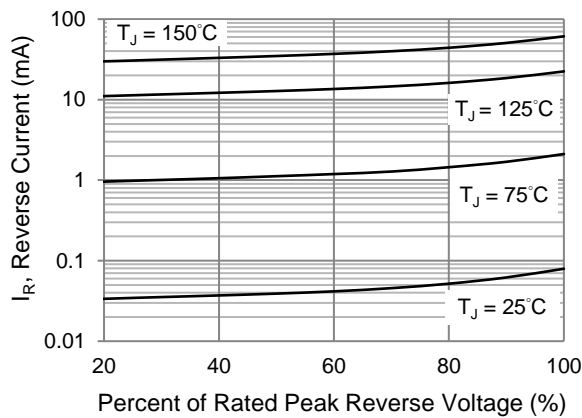


Fig.3 Typical Reverse Characteristics

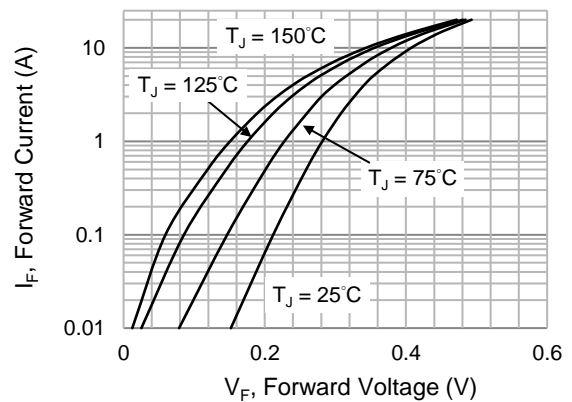


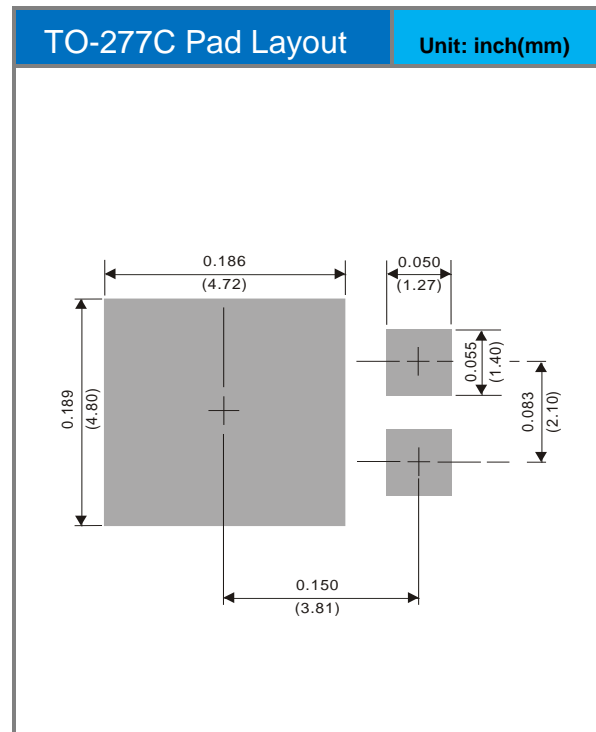
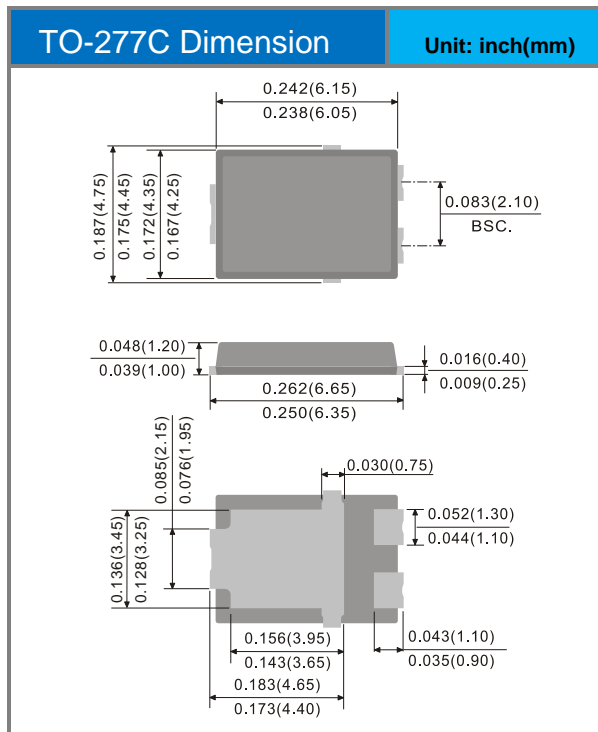
Fig.4 Typical Forward Characteristics

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBM1045VPC	TO-277C	5K pcs / 13" reel	SBM1045VPC

Packaging Information & Mounting Pad Layout



SBM1045VPC

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