

# SBM1545LPC

## Surface Mount Extreme Low $V_f$ Schottky Barrier Rectifier

**Voltage**

**45 V**

**Current**

**15 A**

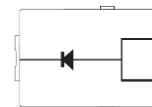
### Features

- 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		$I_{F(AV)}$	15	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 $V_R = 4\text{ V}$		$C_J$	1000	pF
Typical Thermal Resistance	(Note 1)	$R_{\theta JA}$	65	$^{\circ}\text{C/W}$
	(Note 2)	$R_{\theta JC}$	0.53	
	(Note 2)	$R_{\theta JL}$	11	
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
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	0.35	0.4	
		$I_F = 15\text{ A}, T_J = 25^\circ\text{C}$	-	0.43	0.49	
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.17	0.22	
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.27	0.32	
		$I_F = 15\text{ A}, T_J = 125^\circ\text{C}$	-	0.38	0.43	
Reverse current <sup>(Note 3)</sup>	$I_R$	$V_R = 36\text{ V}, T_J = 25^\circ\text{C}$	-	55	200	uA
		$V_R = 45\text{ V}, T_J = 25^\circ\text{C}$	-	118	320	
		$V_R = 45\text{ V}, T_J = 125^\circ\text{C}$	-	20	100	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<sup>2</sup> copper pad area.
3. Short duration pulse test used to minimize self-heating effect.

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## TYPICAL CHARACTERISTIC CURVES

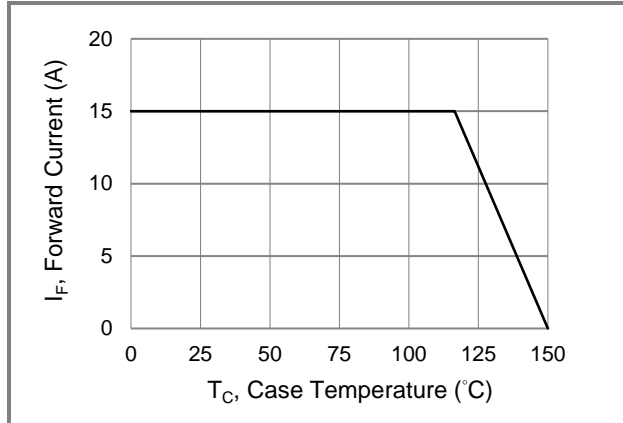


Fig.1 Forward Current Derating Curve

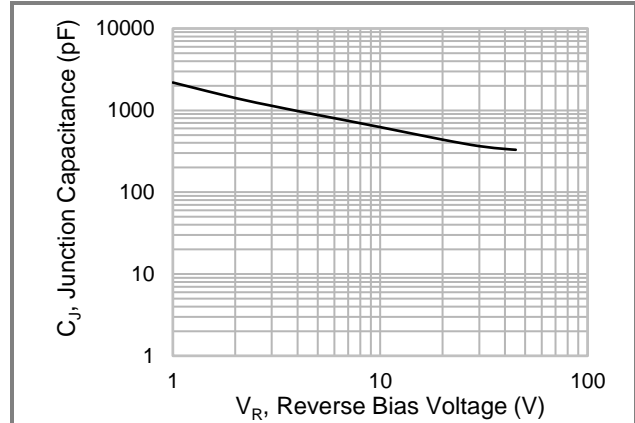


Fig.2 Typical Junction Capacitance

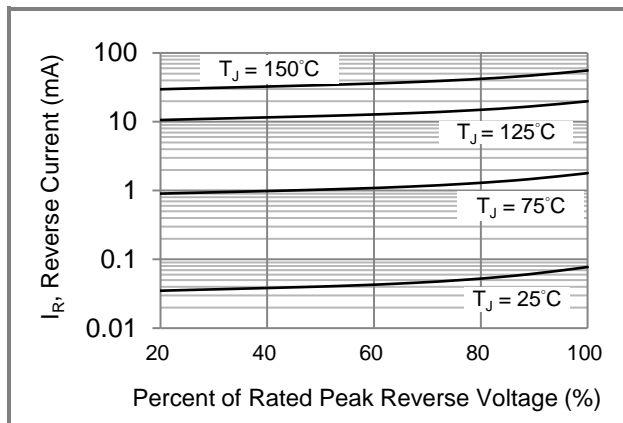


Fig.3 Typical Reverse Characteristics

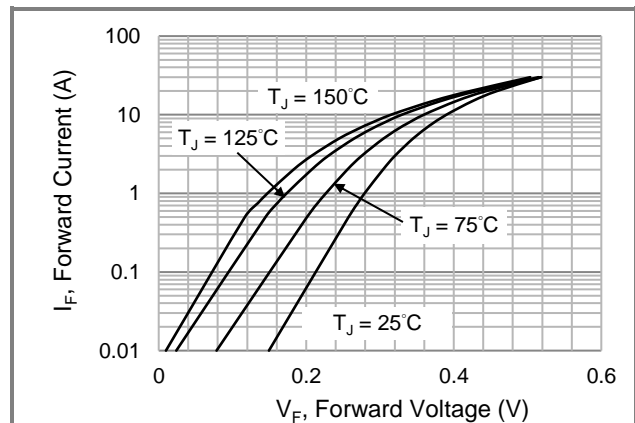


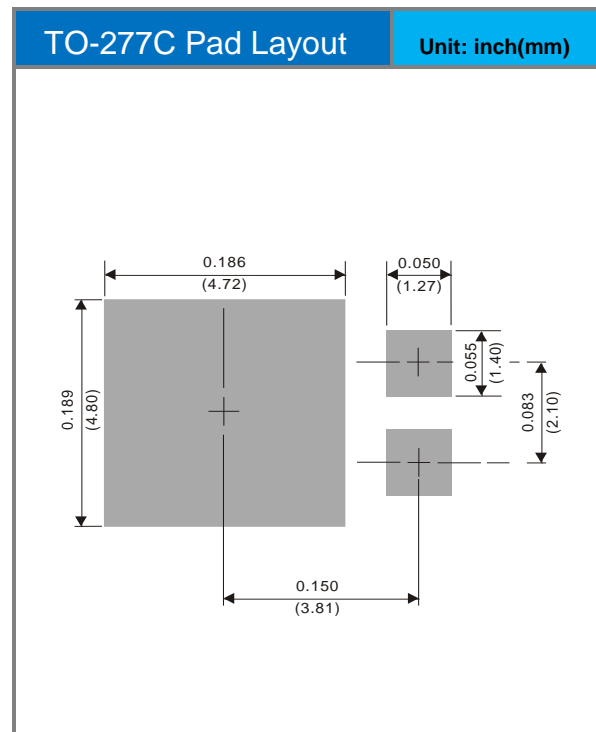
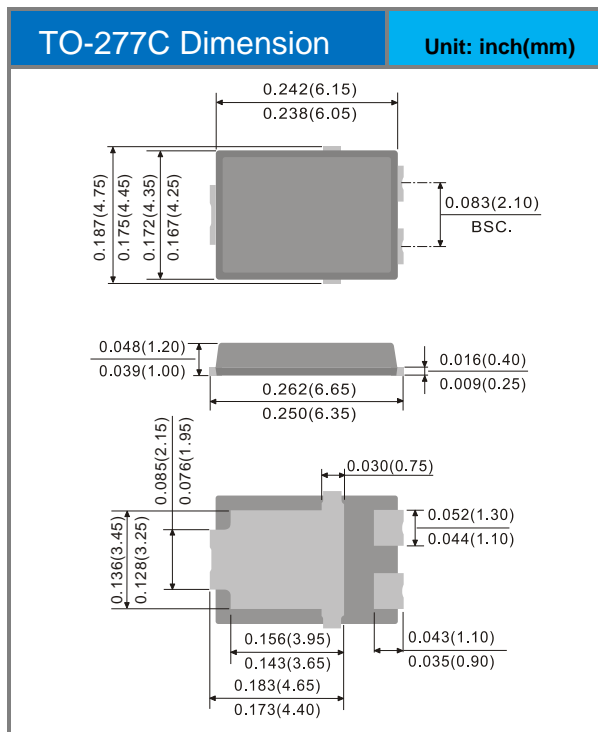
Fig.4 Typical Forward Characteristics

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## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
SBM1545LPC	TO-277C	5K pcs / 13" reel	SBM1545LPC

## Packaging Information & Mounting Pad Layout



## **SBM1545LPC**

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