

**TRENCH SCHOTTKY RECTIFIER**

**REVERSE VOLTAGE – 45 Volts**  
**FORWARD CURRENT – 5 Amperes**

**FEATURES**

- Rating to 45V PRV
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- Qualification is according to AEC-Q101 Rev\_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

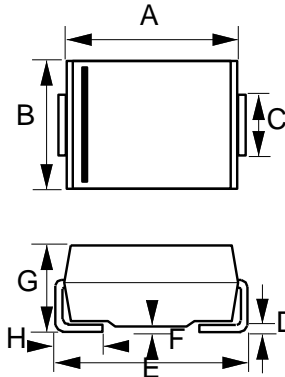
**APPLICATION**

- Switching power supplies
- DC to DC converters
- Reverse battery protections

**MECHANICAL DATA**

- Package: JEDEC DO-214AA
- Package Material: "Green" molding compound, UL flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.102 grams (Approximate)
- Marking code: G545B

**SMB**



SMB		
DIM	MIN	MAX
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All dimension in millimeter		

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	45	V
Maximum DC blocking voltage	$V_{DC}$	45	V
Maximum Average rectified output current	$I_{(AV)}$	5	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.	$I_{FSM}$	125	A
Operating junction and Storage Temperature range	$T_J, T_{STG}$	-55 to +150	°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=5A$ $T_J=25^\circ C$ $T_J=125^\circ C$	$V_F$	-- 0.38	0.510 0.470	V
Reverse Leakage current	$V_R=45V$ $T_J=25^\circ C$ $T_J=125^\circ C$	$I_R$	-- 7.23	0.3 35	mA
Typical junction capacitance (Note 5)		$C_J$	685		pF

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	$R_{thJ_C}$	16	°C/W
	$R_{thJ_L}$	30	
	$R_{thJ_A}$	65	

**Notes:**

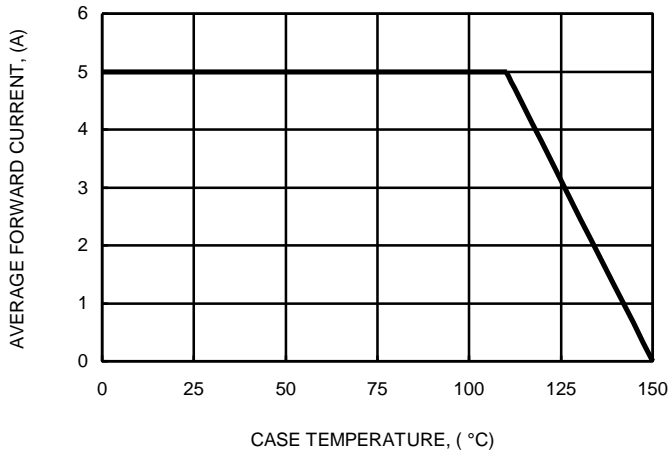
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The device mounted on glass epoxy substrate 1oz/ft<sup>2</sup> \_10mm x 10mm copper pad.

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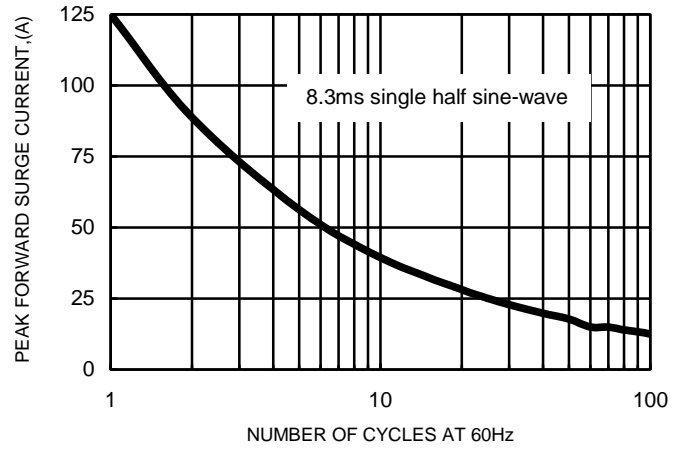
**RATING AND CHARACTERISTIC CURVES**

**G545B**

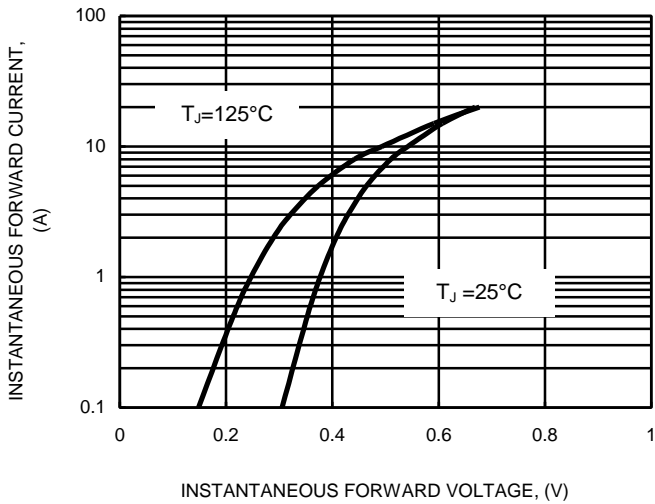
**FIG.1 FORWARD CURRENT DERATING CURVE**



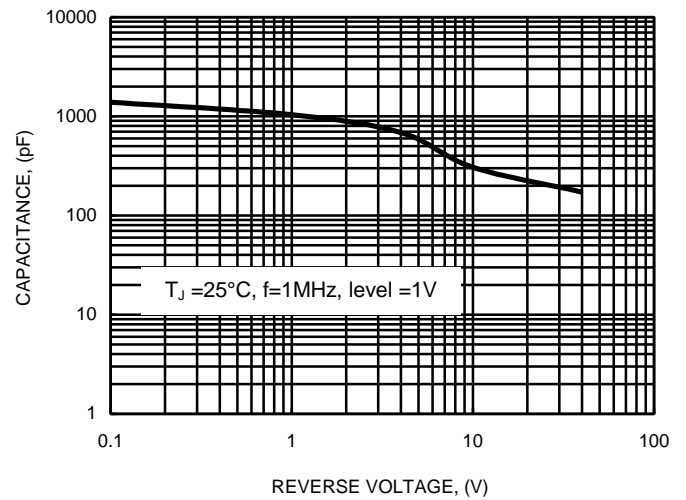
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



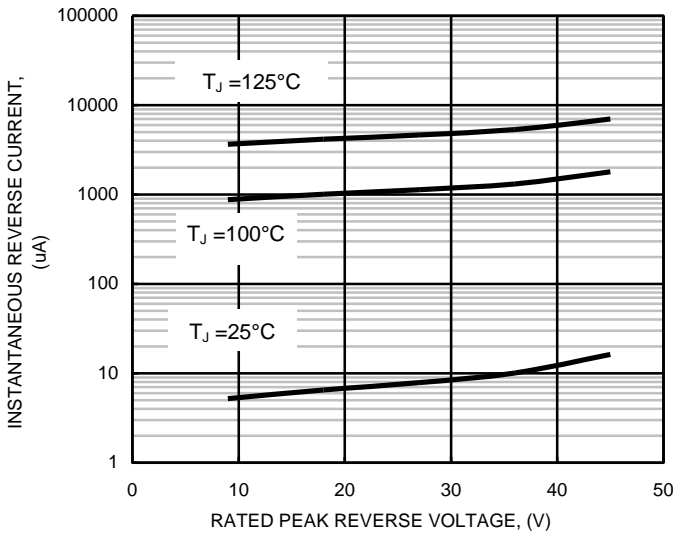
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 TYPICAL JUNCTION CAPACITANCE**



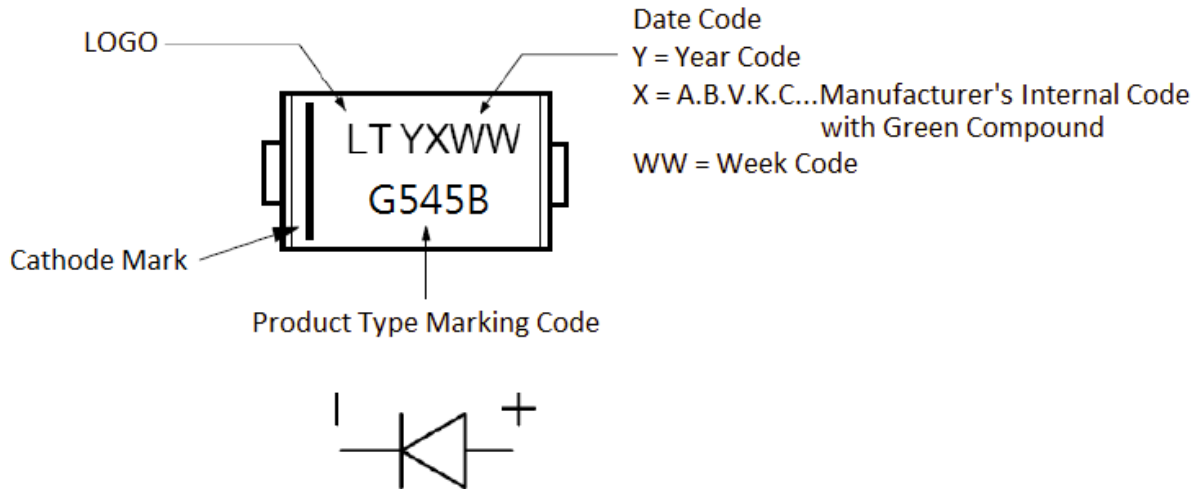
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



## Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G545B	SMB	3000	Tape & Reel

## Marking Information:



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