

TRENCH SCHOTTKY RECTIFIER

REVERSE VOLTAGE – 45 Volts
FORWARD CURRENT – 5 Amperes

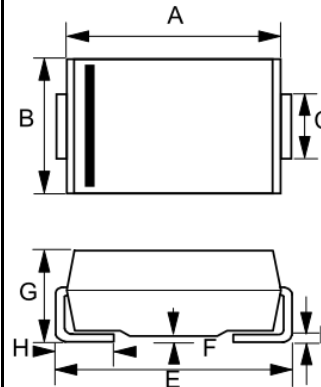
FEATURES

- Rating to 45V PRV
- Ideal for printed circuit board
- Qualified according to AEC-Q101 Rev_C
- Reliable low cost construction utilizing molded plastic technique
- Plastic package has UL flammability classification 94V-0
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

MECHANICAL DATA

- Package Material: "Green" molding compound, UL flammability classification 94V-0,
- Polarity Indicator: As marked on body
- Marking Code: G545C
- Weight: 210mg (Approximate)

SMC



| SMC | | |
|------|------|------|
| DIM. | MIN. | MAX. |
| A | 6.60 | 7.11 |
| B | 5.59 | 6.22 |
| C | 2.92 | 3.18 |
| D | 0.15 | 0.31 |
| E | 7.75 | 8.13 |
| F | 0.05 | 0.20 |
| G | 2.01 | 2.50 |
| H | 0.76 | 1.52 |

All Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATING

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 45 | V |
| Maximum DC Blocking Voltage | V_{DC} | 45 | V |
| Average Rectified Forward Current @ $T_c=125^\circ\text{C}$ | I_{AV} | 5 | A |
| Peak Forward Surge Current @ $t_p=8.3\text{ms}$ | I_{FSM} | 125 | A |
| Operating Temperature Range | T_J | -40 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -40 to +150 | $^\circ\text{C}$ |

STATIC ELECTRICAL CHARACTERISTICS

| Parameter | Test Condition | Symbol | Typ. | Max. | Unit |
|---------------------------------------|--|--------|------|------|------|
| Forward Voltage | $I_F=5\text{A}$ $T_J=25^\circ\text{C}$ | V_F | 0.47 | 0.51 | V |
| | $T_J=125^\circ\text{C}$ | | 0.42 | 0.47 | |
| Reverse Leakage Current | $V_R=45\text{V}$ $T_J=25^\circ\text{C}$ | I_R | 0.06 | 0.3 | mA |
| | $T_J=125^\circ\text{C}$ | | 10 | 35 | |
| Typical Junction Capacitance (Note 4) | | C_j | 685 | - | pF |

THERMAL PERFORMANCE

| Parameter | Symbol | Typ. | Unit |
|-------------------------------------|------------|------|--------------------|
| Typical Thermal Resistance (Note 5) | R_{thJC} | 9 | $^\circ\text{C/W}$ |
| | R_{thJL} | 18 | |
| | R_{thJA} | 70 | |

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. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Thermal resistance test performed in accordance with JESD-51. Unit mounted on glass-epoxy substrate with 1oz/ft² 5mm x 7mm copper pad.

RATING AND CHARACTERISTIC CURVES

G545C

FIG.1- FORWARD CURRENT DERATING CURVE

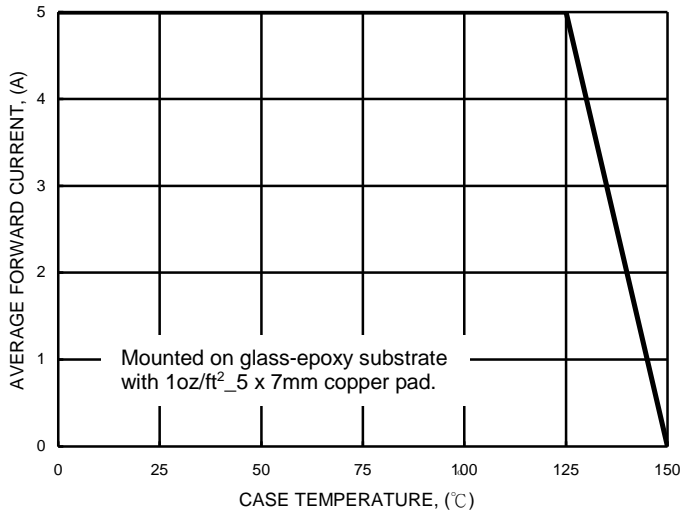


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

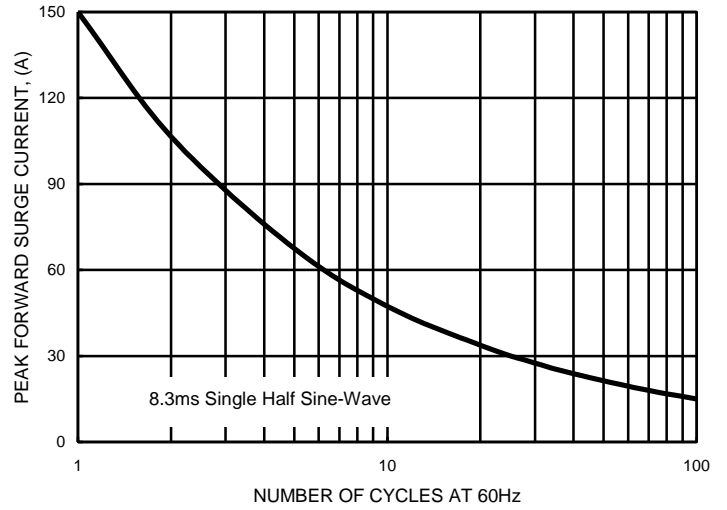


FIG.3- TYPICAL FORWARD CHARACTERISTICS

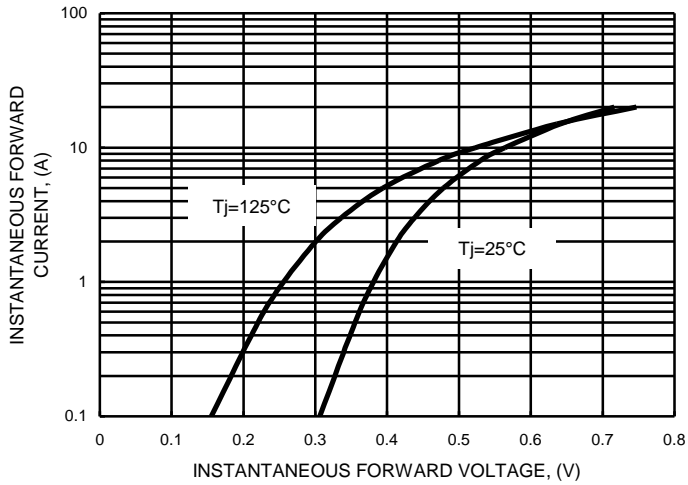


FIG.4- TYPICAL JUNCTION CAPACITANCE

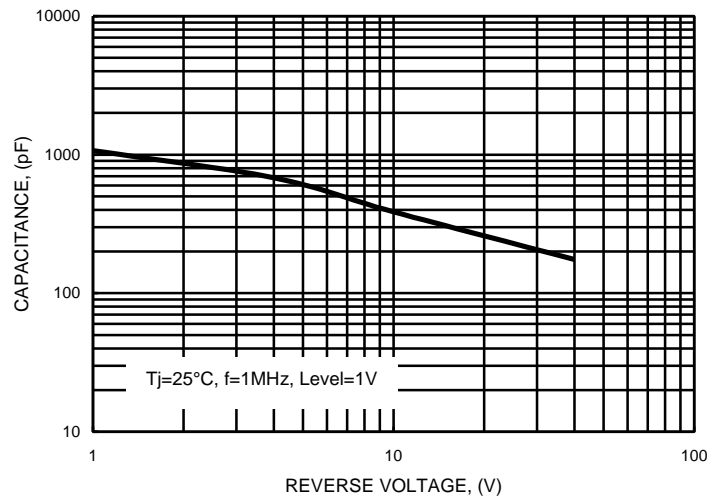
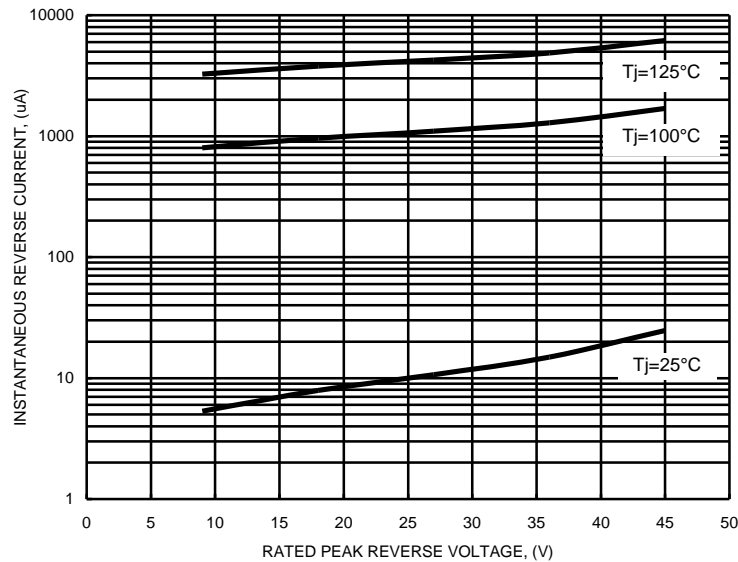


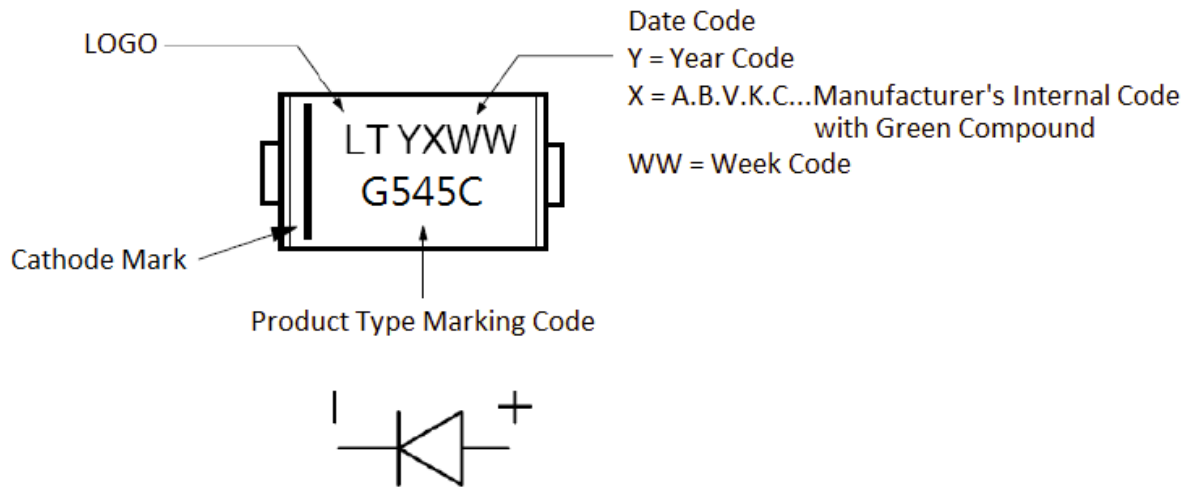
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information:

| Part Number | Package | Packing | |
|-------------|---------|---------|-------------|
| | | Qty. | Carrier |
| G545C | SMC | 3000 | Tape & Reel |

Marking Information:



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