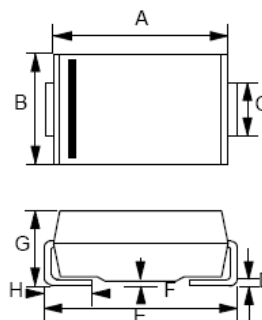


**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIERS**
**REVERSE VOLTAGE – 20 to 40 Volts**  
**FORWARD CURRENT – 5.0 Amperes**
**FEATURES**

- For surface mounted applications
- Metal-Semiconductor junction with guard ring
- Epitaxial construction
- Very Low forward voltage drop
- High current capability
- Plastic material has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection application

**MECHANICAL DATA**

- Case: Molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.007 ounces, 0.21 grams

**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 | 2.62 |
| H    | 0.76 | 1.52 |

All Dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| CHARACTERISTICS   | SYMBOL          | B520C       | B530C | B540C | UNIT |
|---|-----------------|-------------|-------|-------|------|
| Maximum Repetitive Peak Reverse Voltage                                       | $V_{RRM}$       | 20          | 30    | 40    | V    |
| Maximum RMS Voltage   | $V_{RMS}$       | 14          | 21    | 28    | V    |
| Maximum DC Blocking Voltage   | VDC             | 20          | 30    | 40    | A    |
| Maximum Average Forward Rectified Current<br>@TL=85°C                         | $I_{AV}$        | 5.0         |       |       | A    |
| Peak Forward Surge 8.3ms single half sine-wave superimposed on rated load     | $I_{FSM}$       | 125         |       |       | A    |
| Maximum Forward Voltage at 5.0A DC  | $V_F$           | 0.55        |       |       | V    |
| Maximum DC Reverse Current @Tj=25°C<br>at Rated DC Blocking Voltage @Tj=100°C | $I_R$           | 0.5<br>20   |       |       | mA   |
| Typical Junction Capacitance (Note 1)   | $C_j$           | 300         |       |       | pF   |
| Typical Thermal Resistance (Note 2, 4)  | $R_{\theta JL}$ | 14          |       |       | °C/W |
| Typical Thermal Resistance (Note 3, 4)  | $R_{\theta JA}$ | 50          |       |       | °C/W |
| Operating Junction Temperature Range  | Tj              | -55 to +125 |       |       | °C   |
| Storage Temperature Range   | TSTG            | -55 to +150 |       |       | °C   |

Note: (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC...

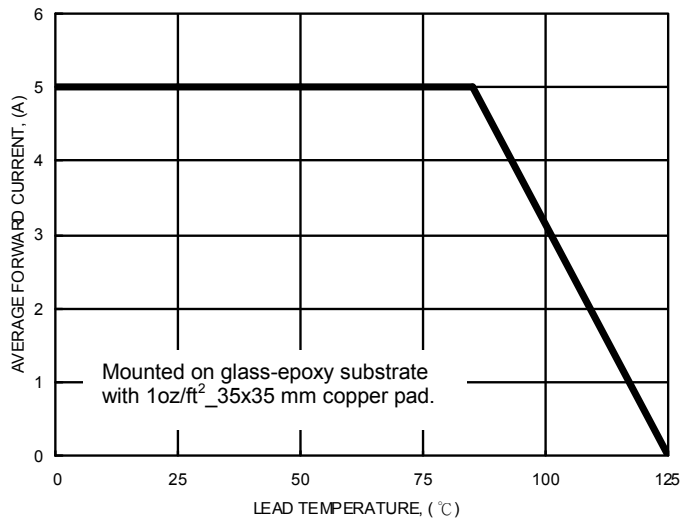
(2) Thermal Resistance Junction to Lead

(3) Thermal Resistance Junction to Ambient

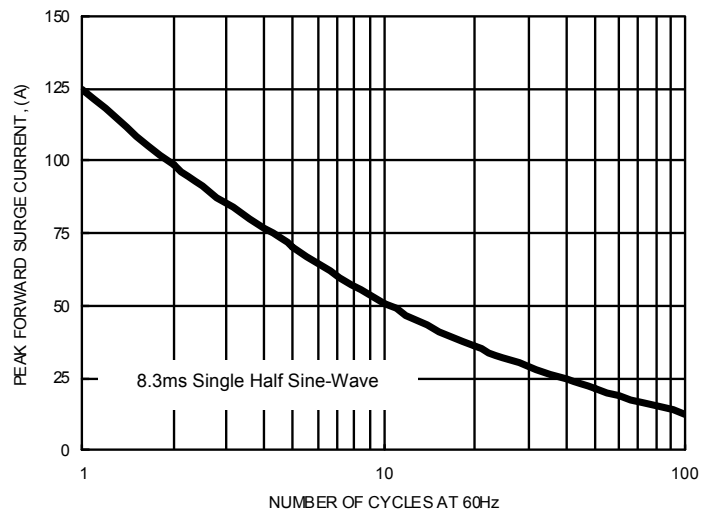
(4) Unit mounted on glass epoxy substrate 1oz/ft<sup>2</sup> 35x35 mm copper pad.

REV.1, Nov-2008, KSHC10

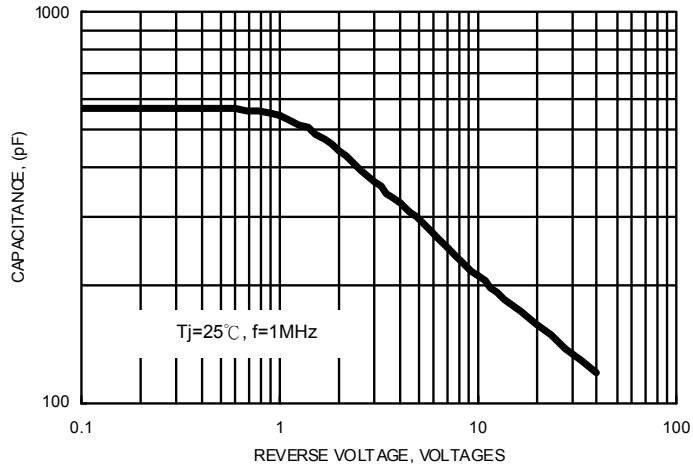
**FIG.1- FORWARD CURRENT DERATING CURVE**



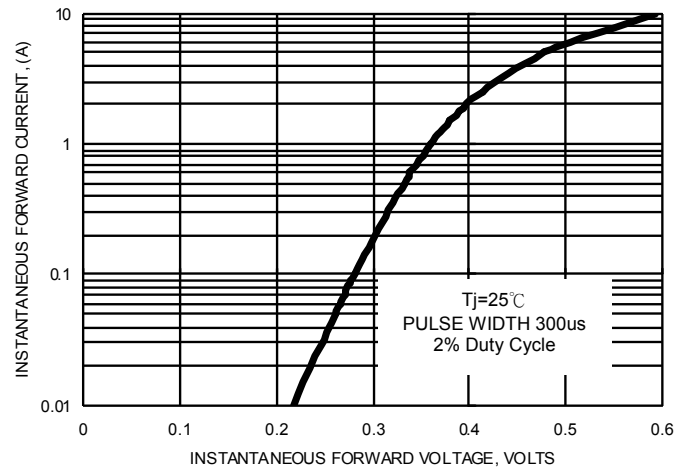
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



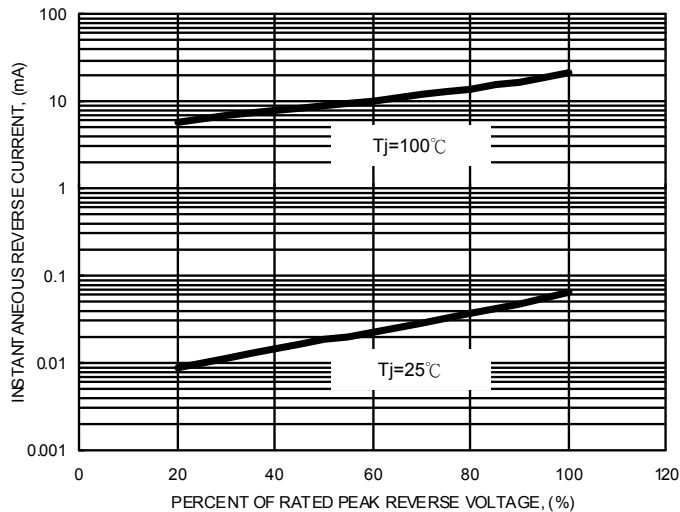
**FIG.3- TYPICAL JUNCTION CAPACITANCE**



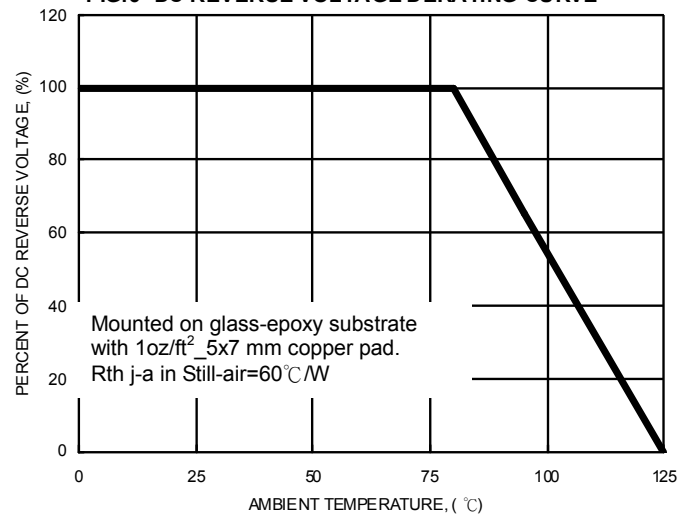
**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



**FIG.6- DC REVERSE VOLTAGE DERATING CURVE**



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