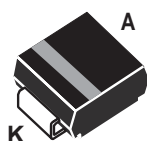


## Trench MOS Barrier Schottky Rectifier

**SU545B**

**SMB**



**Cathode**  **Anode**

### Features

- Advanced trench technology
- Low forward voltage drop
- Low power losses
- High efficiency operation
- Lead Free Finish, RoHS Compliant

### Applications

- DC/DC Converters
- AC/DC Adaptors
- Switching Power Supplies
- Freewheeling Diodes

### Maximum ratings and electrical characteristics (TJ = 25°C unless otherwise noted)

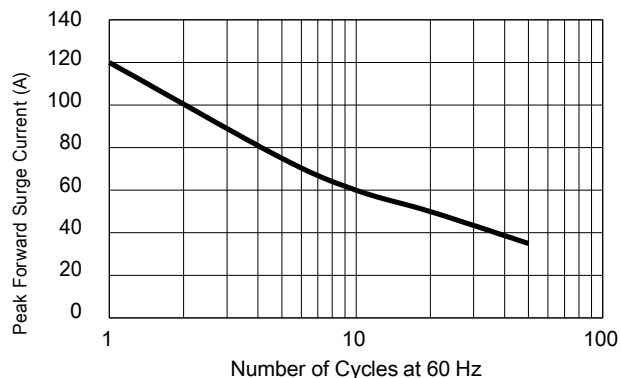
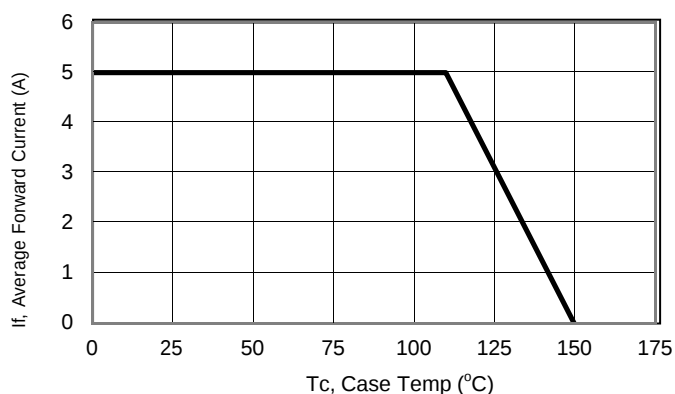
| Parameter                                                                                     |       |          | Symbol   | Limit       |      | Unit |
|-----------------------------------------------------------------------------------------------|-------|----------|----------|-------------|------|------|
| Maximum repetitive peak reverse voltage                                                       |       |          | VRRM     | 45          |      | V    |
| Maximum average forward rectified current                                                     |       |          | IF(AV)   | 5           |      | A    |
| Peak forward surge current 8.3 ms single half sine- wave superimposed on rated load per diode |       |          | IFSM     | 120         |      | A    |
| Operating junction and storage temperature range                                              |       |          | TJ, TSTG | -50 to +150 |      | °C   |
| Typical thermal resistance per diode(Mounted on FR-4 PCB)                                     |       |          | RθJC     | 22          |      | °C/W |
| Instantaneous forward voltage per diode                                                       |       |          | VF(1)    | TYP.        | MAX. | V    |
|                                                                                               | IF=1A | TJ=25°C  |          | 0.32        | 0.37 |      |
|                                                                                               | IF=1A | TJ=125°C |          | 0.26        | -    |      |
|                                                                                               | IF=5A | TJ=25°C  |          | 0.43        | 0.48 |      |
|                                                                                               | IF=5A | TJ=125°C |          | 0.38        | -    |      |
| Instantaneous reverse current per diode at rated reverse voltage                              |       | TJ=25°C  | IR(2)    | 10          | 100  | uA   |
|                                                                                               |       | TJ=125°C |          | 10          | -    | mA   |

Notes:

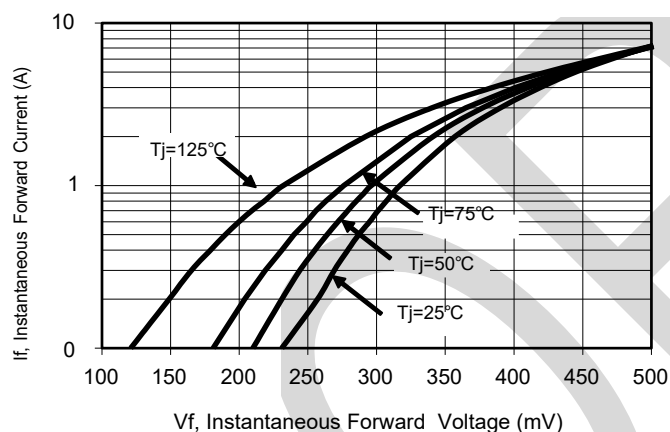
(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

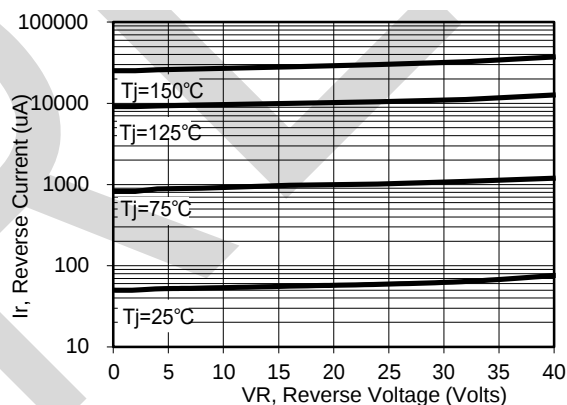
## RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)



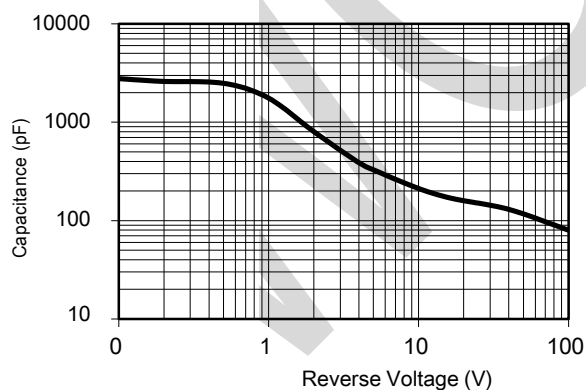
**Current Derating, Case**



**Maximum Repetitive Surge Current**



**Typical Forward Voltage**

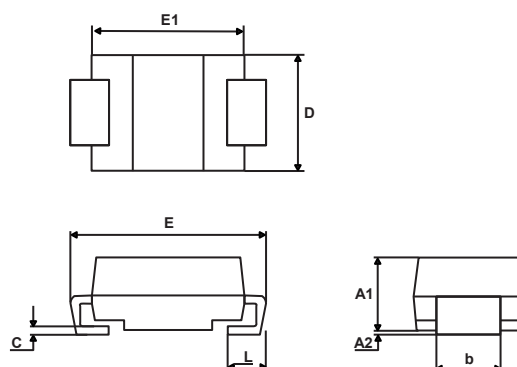


**Typical Reverse Current**

**Typical Junction Capacitance**

## PACKAGE OUTLINE DIMENSIONS

### SMB dimension definitions



### SMB dimension values

| Ref. | Dimensions  |      |        |       |
|------|-------------|------|--------|-------|
|      | Millimeters |      | Inches |       |
|      | Min.        | Max. | Min.   | Max.  |
| A1   | 1.90        | 2.45 | 0.075  | 0.096 |
| A2   | 0.05        | 0.20 | 0.002  | 0.008 |
| b    | 1.95        | 2.20 | 0.077  | 0.087 |
| c    | 0.15        | 0.40 | 0.006  | 0.016 |
| D    | 3.30        | 3.95 | 0.130  | 0.156 |
| E    | 5.10        | 5.60 | 0.201  | 0.220 |
| E1   | 4.05        | 4.60 | 0.159  | 0.181 |
| L    | 0.75        | 1.50 | 0.030  | 0.059 |