



# SK54BLF

## LOW VF SCHOTTKY RECTIFIER

|                |                |                |                 |
|----------------|----------------|----------------|-----------------|
| <b>VOLTAGE</b> | <b>40 Volt</b> | <b>CURRENT</b> | <b>5 Ampere</b> |
|----------------|----------------|----------------|-----------------|

### FEATURES

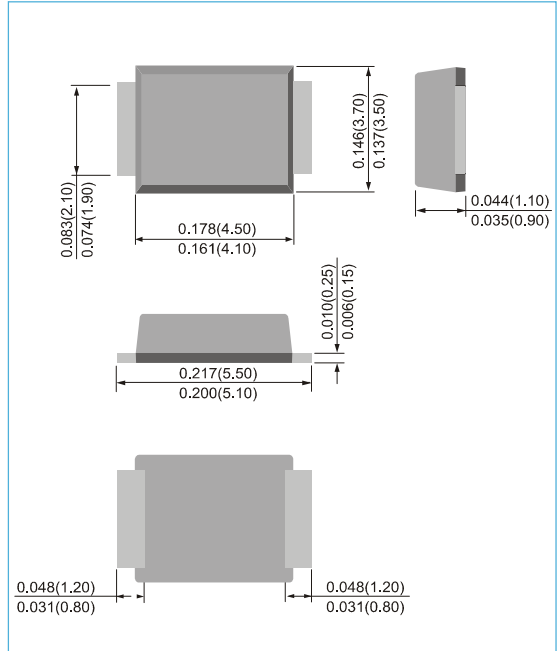
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Ultra Thin Profile Package for Space Constrained Utilization
- Package suitable for Automated Handling
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case : SMBF, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0018 ounces, 0.05 grams



**SMBF** Unit : inch(mm)



### MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| PARAMETER  | SYMBOL                               | VALUE       | UNITS |
|--|--------------------------------------|-------------|-------|
| Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                     | 40          | V     |
| RMS Voltage  | V <sub>RMS</sub>                     | 28          | V     |
| DC Blocking Voltage  | V <sub>R</sub>                       | 40          | V     |
| Average Forward Rectified Current  | I <sub>F(AV)</sub>                   | 5           | A     |
| Peak Forward Surge Current:8.3ms single half sine-wave superimposed on rated load      | I <sub>FSM</sub>                     | 100         | A     |
| Typical Thermal Resistance , Junction to Ambient (Note 2)<br>Junction to Lead (Note 1) | R <sub>θJA</sub><br>R <sub>θJL</sub> | 135<br>19   | °C/W  |
| Typical Junction Capacitance at VR=4V, f=1MHz  | C <sub>J</sub>                       | 430         | pF    |
| Operating Junction Temperature and Storage Temperature Range                           | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150 | °C    |

**NOTES:**

1. Mounted on FR-4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.
2. Mounted on FR-4 PCB single-sided copper, mini pad.



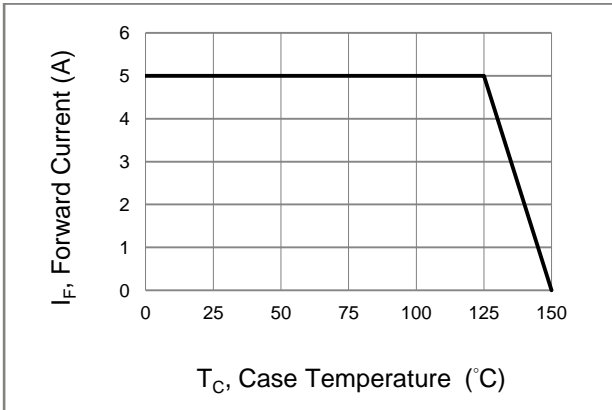
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## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

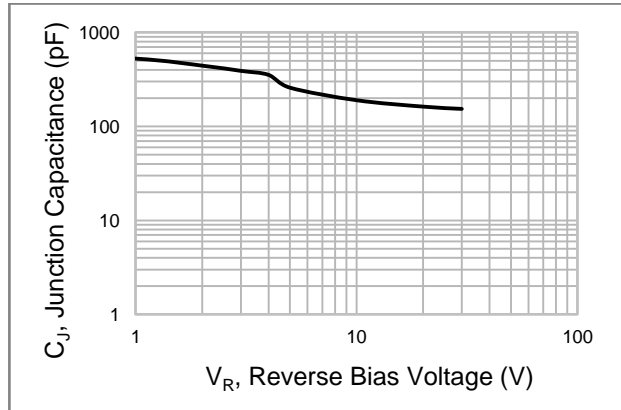
| PARAMETER                     | SYMBOL          | TEST CONDITIONS   | MIN.   | TYP.                 | MAX.           | UNIT     |
|-------------------------------|-----------------|---|--------|----------------------|----------------|----------|
| Break down voltage            | V <sub>BR</sub> | I <sub>R</sub> =1mA<br>T <sub>A</sub> =25°C   | 40     | -                    | -              | V        |
| Instantaneous forward voltage | V <sub>F</sub>  | I <sub>F</sub> =1A<br>I <sub>F</sub> =2.5A<br>I <sub>F</sub> =5A<br>T <sub>A</sub> =25°C  | -      | 0.35<br>0.39<br>0.44 | -<br>-<br>0.46 | V        |
|                               |                 | I <sub>F</sub> =1A<br>I <sub>F</sub> =2.5A<br>I <sub>F</sub> =5A<br>T <sub>A</sub> =125°C | -<br>- | 0.22<br>0.28<br>0.36 | -<br>-<br>-    | V        |
|                               |                 |   |        |                      |                |          |
| Reverse current               | I <sub>R</sub>  | V <sub>R</sub> =32V<br>T <sub>A</sub> =25°C   | -      | 32                   | -              | μA       |
|                               |                 | V <sub>R</sub> =40V<br>T <sub>A</sub> =25°C<br>T <sub>A</sub> =125°C                      | -<br>- | -<br>60              | 100<br>-       | μA<br>mA |



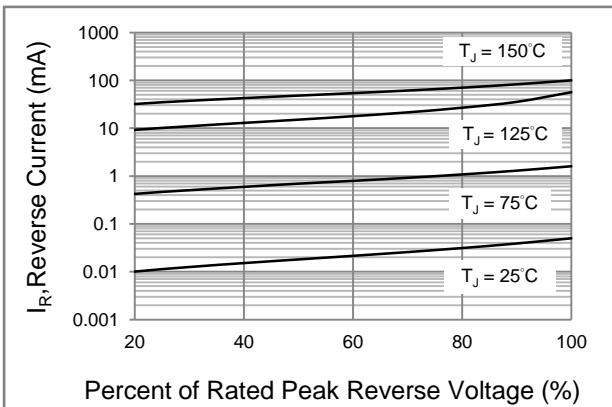
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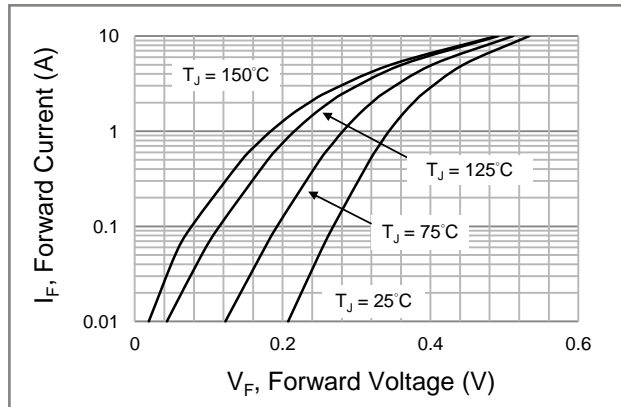
**Fig.1 Forward Current Derating Curve**



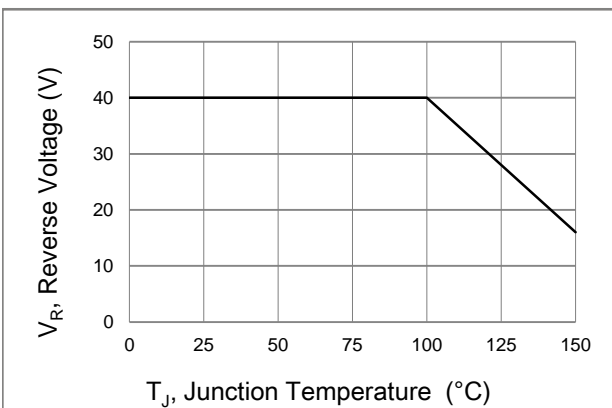
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

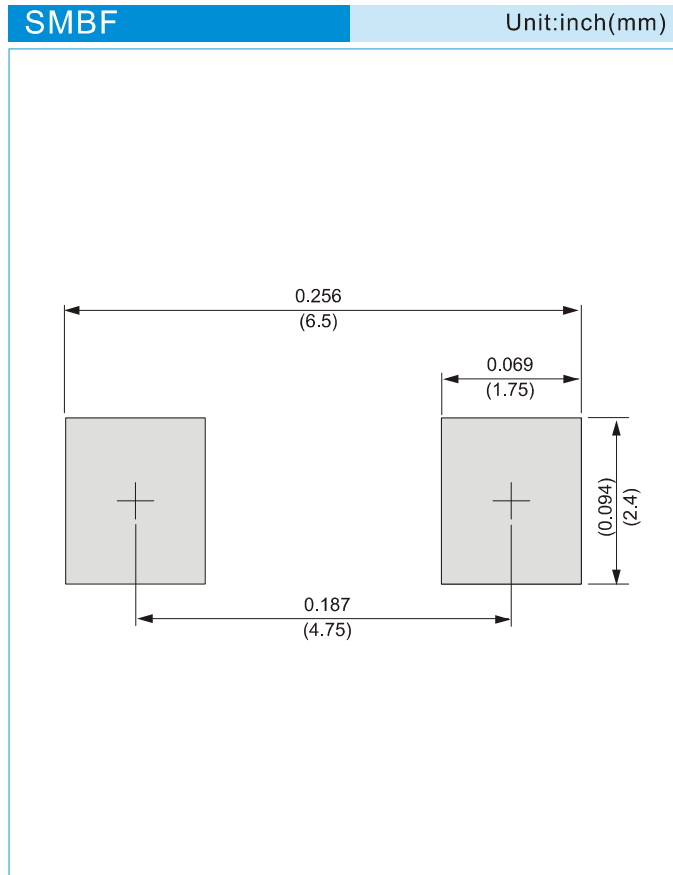


**Fig.5 Operating Temperature Derating Curve**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 5K per 13" plastic Reel



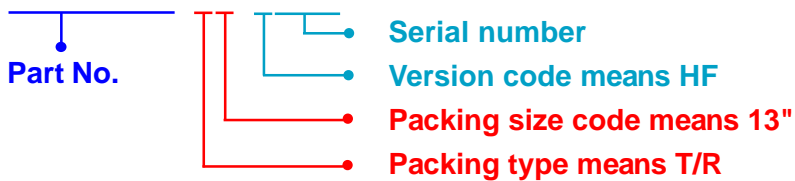
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**Part No\_packing code\_Version**

SK54BLF\_R2\_00001

**For example :**

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | A                    | N/A                              | 0                    | HF                        | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                    | 7"                               | 1                    | RoHS                      | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                    | 13"                              | 2                    |                           |                      |                                       |
| Tube Packing (T/P)                   | T                    | 26mm                             | X                    |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                    | 52mm                             | Y                    |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP (PBCU)   | U                    |                           |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                           |                      |                                       |



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