



# SB540L

## ULTRA LOW VF SCHOTTKY RECTIFIER

**VOLTAGE** 40 Volt **CURRENT** 5 Ampere

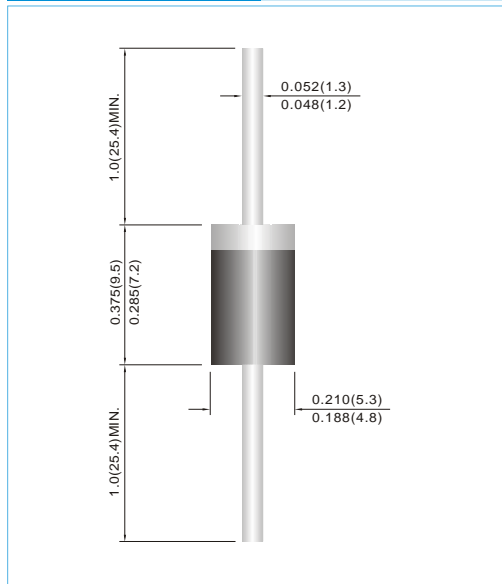
### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ESD Passed devices : Air mode 15KV, human body mode 8KV
- Lead free in compliance with EU RoHS 2011/65/EU directive

### MECHANICAL DATA

- Case: DO-201AD Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0403 ounces, 1.142 grams

**DO-201AD** Unit : inch(mm)



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

| PARAMETER   | SYMBOL             | VALUE        | UNIT |
|---|--------------------|--------------|------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 40           | V    |
| Maximum 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>   | 150          | A    |
| Typical thermal resistance (Notes 1)  | R <sub>θJA</sub>   | 60           | °C/W |
| (Notes 2)   | R <sub>θJL</sub>   | 25           |      |
| Operating junction temperature range  | T <sub>J</sub>     | -55 to + 150 | °C   |
| Storage temperature range   | T <sub>STG</sub>   | -55 to + 150 | °C   |

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

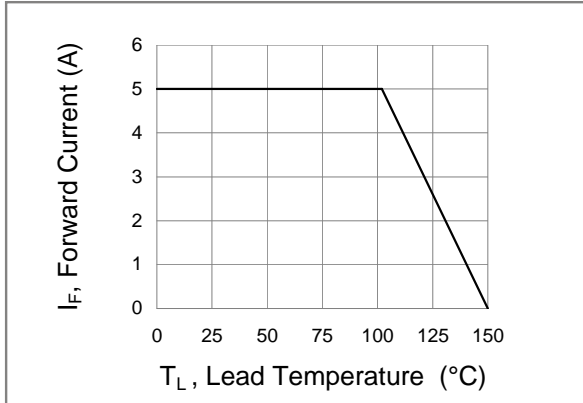
| PARAMETER                     | SYMBOL          | TEST CONDITIONS                          | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|-----------------|--|------|------|------|------|
| Breakdown voltage             | V <sub>BR</sub> | I <sub>R</sub> =1mA T <sub>J</sub> =25°C | 40   | -    | -    | V    |
| Instantaneous forward voltage | V <sub>F</sub>  | I <sub>F</sub> =1A T <sub>J</sub> =25°C  | -    | 0.35 | -    | V    |
|                               |                 | I <sub>F</sub> =3A T <sub>J</sub> =25°C  | -    | 0.40 | -    |      |
|                               |                 | I <sub>F</sub> =5A T <sub>J</sub> =25°C  | -    | 0.44 | 0.49 |      |
|                               |                 | I <sub>F</sub> =1A T <sub>J</sub> =125°C | -    | 0.21 | -    | V    |
| Reverse current               | I <sub>R</sub>  | I <sub>F</sub> =3A T <sub>J</sub> =125°C | -    | 0.29 | -    |      |
|                               |                 | I <sub>F</sub> =5A T <sub>J</sub> =125°C | -    | 0.35 | -    |      |
|                               |                 | V <sub>R</sub> =32V T <sub>J</sub> =25°C | -    | 30   | -    | μA   |
|                               |                 | V <sub>R</sub> =40V T <sub>J</sub> =25°C | -    | -    | 200  | μA   |
|                               |                 | T <sub>J</sub> =100°C                    | -    | -    | 35   | mA   |
|                               |                 | T <sub>J</sub> =125°C                    | -    | 27   | -    | mA   |

Notes :

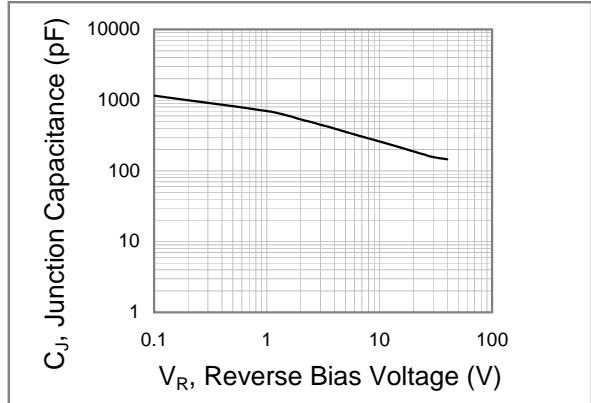
1. Thermal resistance from junction to ambient 10 mm lead length mounted on PCB with min. pad layout.
2. Thermal resistance from junction to lead at 10 mm lead length with both leads attached to infinite heatsinks.



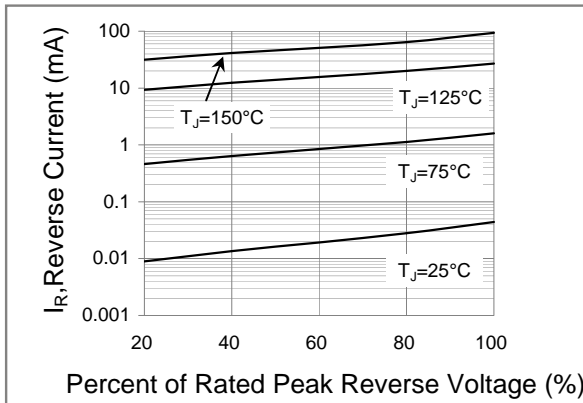
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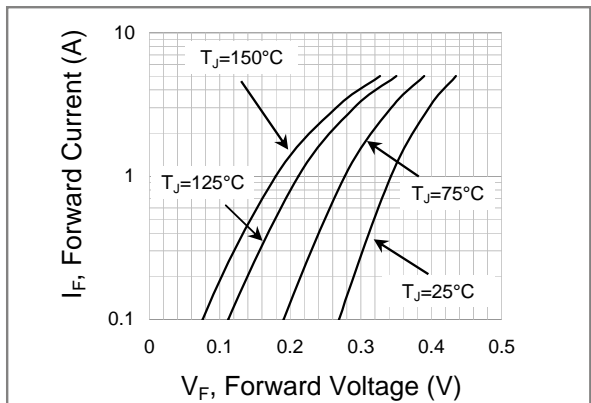
**Fig.1 Forward Current Derating Curve**



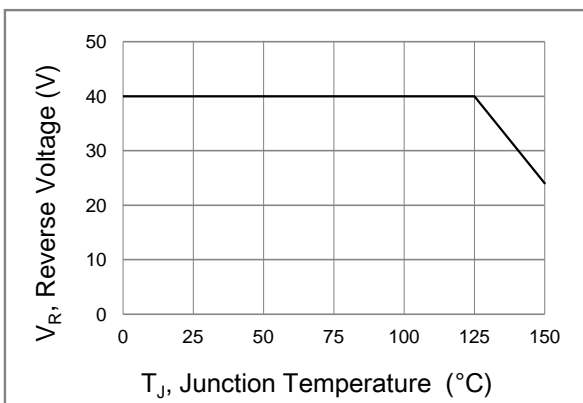
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



**Fig.5 Operating Temperature Derating**



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## Part No\_packing code\_Version

SB540L\_AY\_00001  
 SB540L\_AY\_10001  
 SB540L\_B0\_00001  
 SB540L\_B0\_10001  
 SB540L\_R2\_00001  
 SB540L\_R2\_10001

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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