



# SBM3045VDC

## ULTRA LOW VF SCHOTTKY RECTIFIER

**VOLTAGE** 45 Volts **CURRENT** 30 Amperes

### FEATURES

- Ultra Low forward voltage drop, low power losses
- High efficiency operation
- Lead free in comply with EU RoHS 2011/65/EU directives

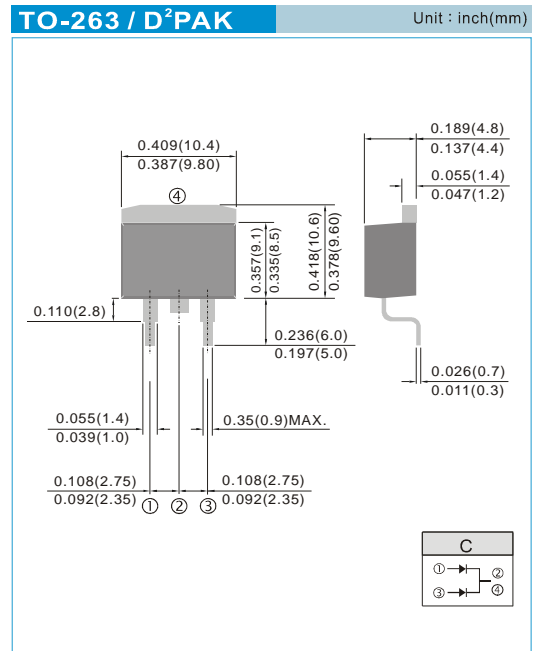
### MECHANICAL DATA

Case : D<sup>2</sup>PAK Molded Plastic

Terminals : Solderable per MIL-STD-750, Method 2026

Polarity : As marked

Weight: 0.0514 ounces, 1.46 grams.



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

| PARAMETER   | SYMBOL             | VALUE        | UNIT |
|---|--------------------|--------------|------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>   | 45           | V    |
| Maximum average forward rectified current   | I <sub>F(AV)</sub> | 30<br>15     | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>   | 300          | A    |
| Typical junction capacitance (V <sub>R</sub> =4V, f=1MHz)                         | C <sub>J</sub>     | 1100         | pF   |
| Typical thermal resistance per diode (Note 1)                                     | R <sub>θJC</sub>   | 3.5          | °C/W |
| Operating junction temperature range  | T <sub>J</sub>     | -55 to + 150 | °C   |
| Storage temperature range   | T <sub>STG</sub>   | -55 to + 150 | °C   |

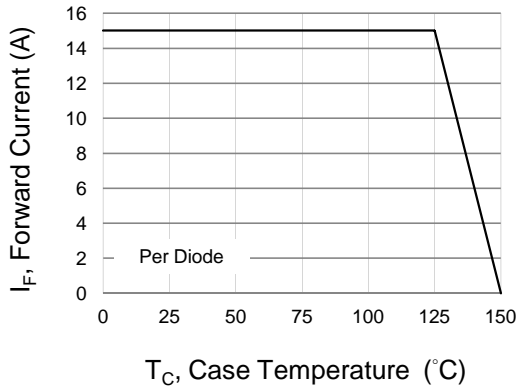
Note : 1. Mounted on infinite heatsink.

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

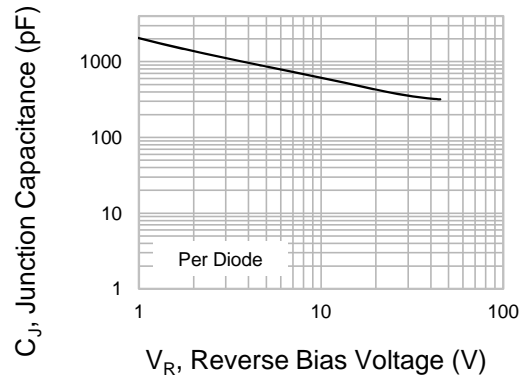
| PARAMETER                               | SYMBOL          | TEST CONDITIONS  | MIN.           | TYP.   | MAX.     | UNIT     |
|---|-----------------|--|----------------|--|----------|----------|
| Breakdown voltage per diode             | V <sub>BR</sub> | I <sub>R</sub> =0.5mA  | 45             | -  | -        | V        |
| Instantaneous forward voltage per diode | V <sub>F</sub>  | I <sub>F</sub> =1A<br>I <sub>F</sub> =5A<br>I <sub>F</sub> =15A<br>T <sub>J</sub> =25°C  | -              | 0.28<br>0.35<br>0.44   | -        | V        |
|   |                 | I <sub>F</sub> =1A<br>I <sub>F</sub> =5A<br>I <sub>F</sub> =15A<br>T <sub>J</sub> =125°C | -              | 0.17<br>0.27<br>0.4  | -        | V        |
|   |                 | Reverse current per diode  | I <sub>R</sub> | V <sub>R</sub> =36V<br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C | -        | 86<br>20 |
|   |                 | V <sub>R</sub> =45V<br>T <sub>J</sub> =25°C<br>T <sub>J</sub> =125°C                     | -              | -<br>28  | 320<br>- | μA<br>mA |



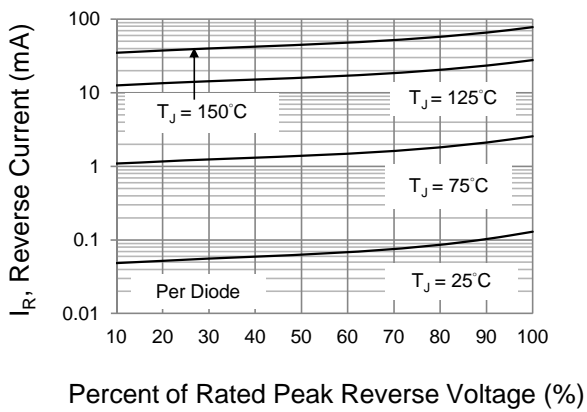
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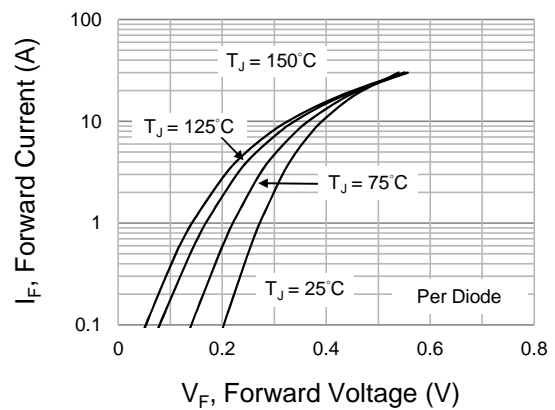
**Fig.1 Forward Current Derating Curve**



**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

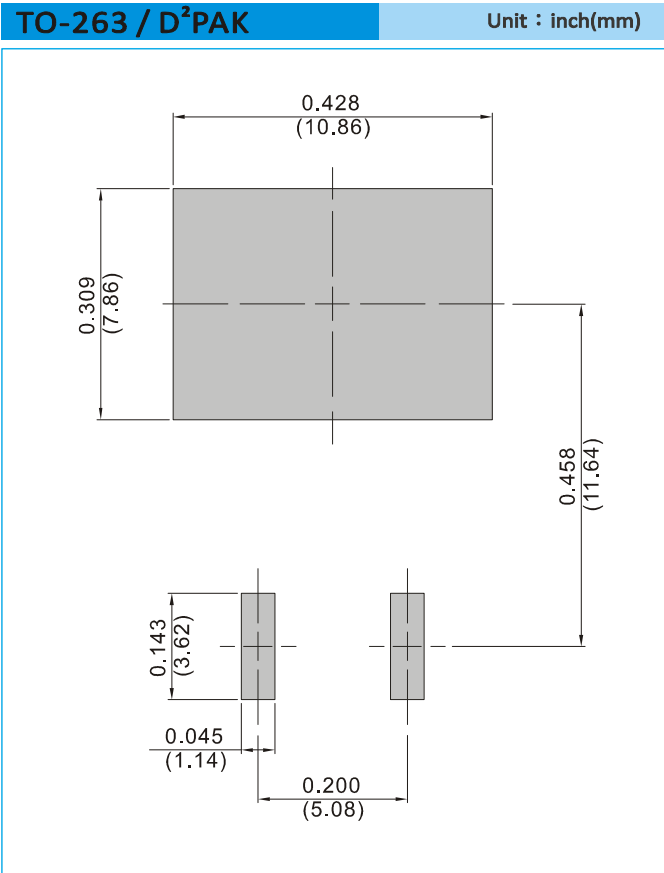


**Fig.4 Typical Forward Characteristics**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 0.8K per 13" plastic Reel



# SBM3045VDC

## Part No\_packing code\_Version

SBM3045VDC\_R2\_00001

SBM3045VDC\_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)        | <b>A</b>             | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |



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