

# ER3AA~ER3JA

## SUPER FAST RECOVERY RECTIFIER

**VOLTAGE** 50 to 600 Volt **CURRENT** 3 Ampere

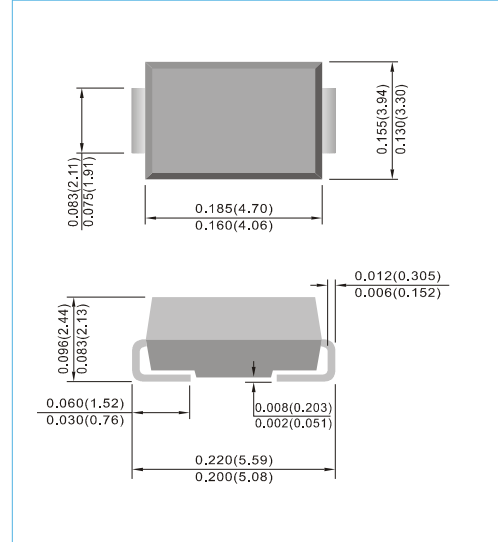
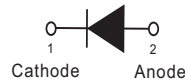
**SMB / DO-214AA** Unit : inch(mm)

### FEATURES

- For surface mounted applications
- High temperature metallurgically bonded-no compression contacts as found in other diode-constructed rectifiers
- Glass passivated junction
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case : JEDEC DO-214AA molded plastic
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Standard packaging : 12mm tape (EIA-481)
- Weight : 0.0032 ounces, 0.092 grams



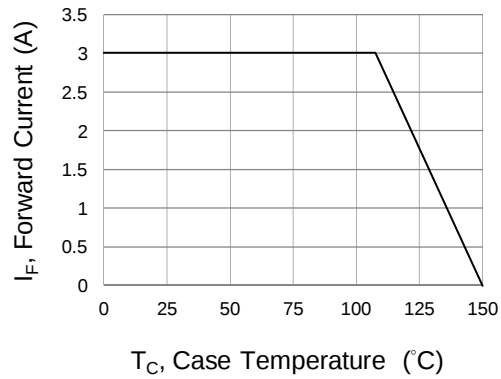
### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

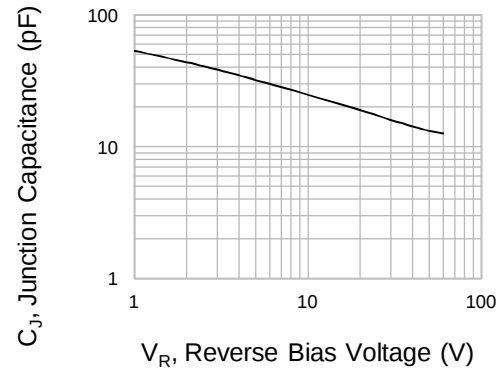
| PARAMETER                                                                           | SYMBOL                               | ER3AA       | ER3BA | ER3CA | ER3DA | ER3EA | ER3GA | ER3JA | UNITS  |
|-------------------------------------------------------------------------------------|--------------------------------------|-------------|-------|-------|-------|-------|-------|-------|--------|
| Maximum Recurrent Peak Reverse Voltage                                              | V <sub>RRM</sub>                     | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V      |
| Maximum RMS Voltage                                                                 | V <sub>RMS</sub>                     | 35          | 70    | 105   | 140   | 210   | 280   | 420   | V      |
| Maximum DC Blocking Voltage                                                         | V <sub>DC</sub>                      | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V      |
| Maximum Average Forward Current                                                     | I <sub>F(AV)</sub>                   | 3           |       |       |       |       |       |       | A      |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                     | 80          |       |       |       |       |       |       | A      |
| Maximum Forward Voltage at 3A                                                       | V <sub>F</sub>                       | 0.95        |       |       |       | 1.25  |       | 1.7   | V      |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                             | I <sub>R</sub>                       | 1           |       |       |       |       |       |       | μA     |
| Maximum Reverse Recovery Time (Notes 3)                                             | t <sub>rr</sub>                      | 35          |       |       |       |       |       |       | ns     |
| Typical Junction Capacitance Measured at 1MHz and applied V <sub>R</sub> =4V        | C <sub>J</sub>                       | 45          |       |       |       |       |       |       | pF     |
| Typical Thermal Resistance (Notes 2) (Notes 1)                                      | R <sub>θJA</sub><br>R <sub>θJC</sub> | 135<br>20   |       |       |       |       |       |       | °C / W |
| Operating and Storage Temperature Range                                             | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150 |       |       |       |       |       |       | °C     |

NOTES:1. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area  
2. Mounted on a FR4 PCB, single-sided copper, mini pad.  
3. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=-1A$   $I_{rr}=-0.25A$

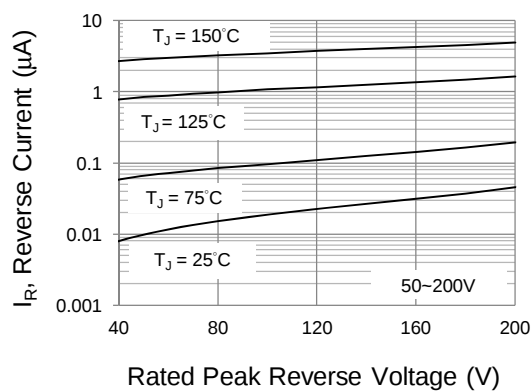
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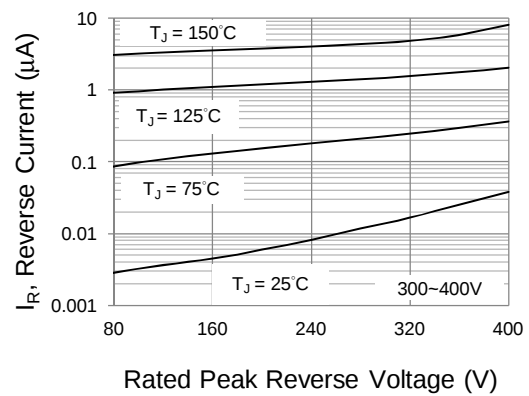
**Fig.1 Forward Current Derating Curve**



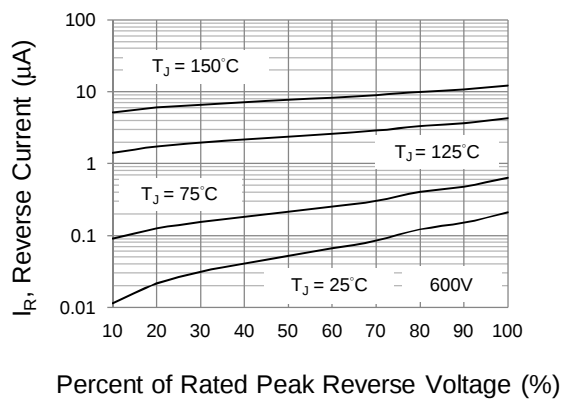
**Fig.2 Typical Junction Capacitance**



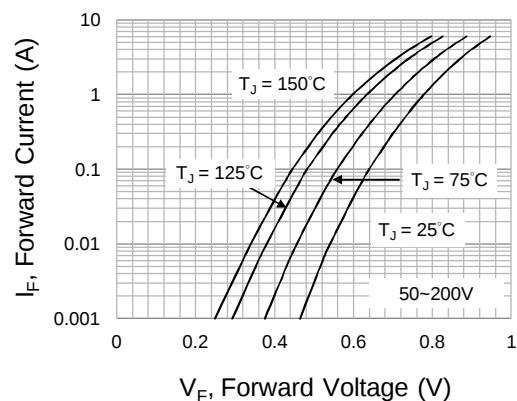
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Reverse Characteristics**



**Fig.6 Typical Forward Characteristics**

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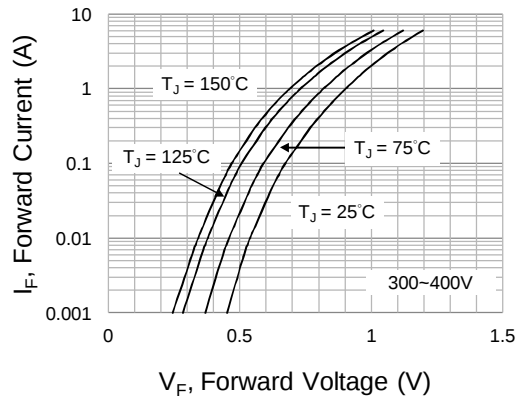


Fig.7 Typical Forward Characteristics

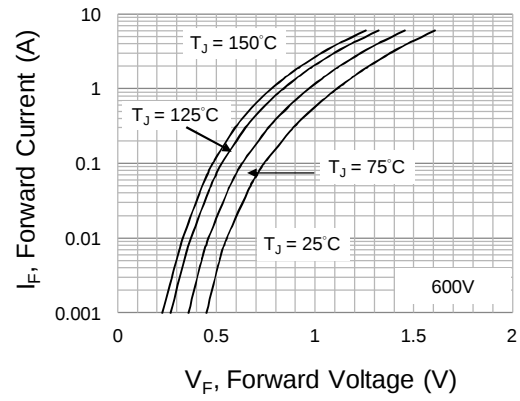
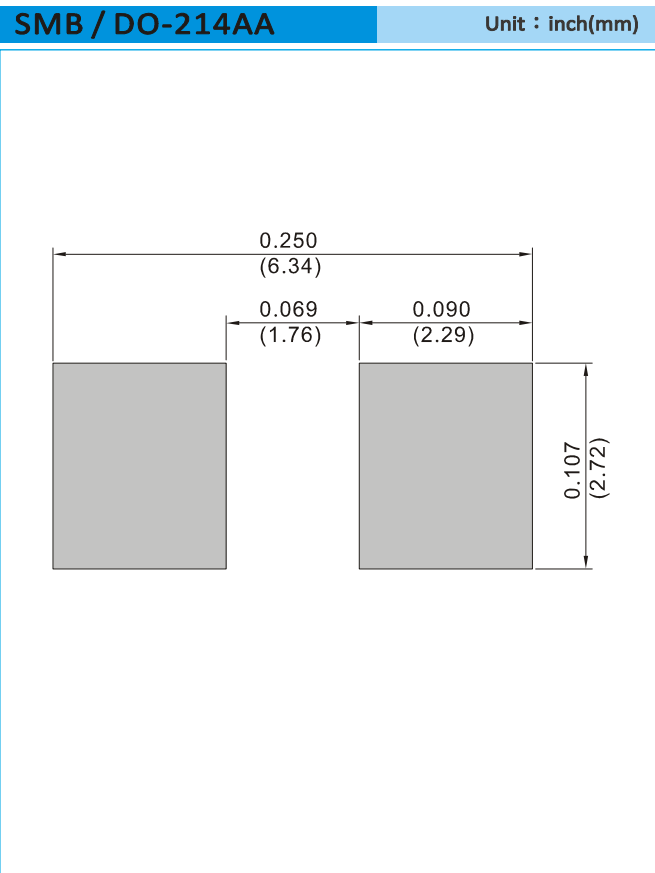


Fig.8 Typical Forward Characteristics

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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 3K per 13" plastic Reel  
T/R - 0.8K per 7" plastic Reel

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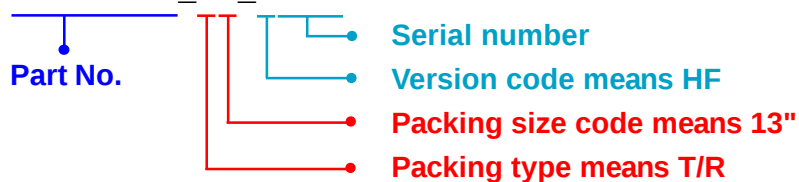
### Part No\_packing code\_Version

ER3AA\_R1\_00001

ER3AA\_R2\_00001

For example :

RB500V-40\_R2\_00001



| Packing Code XX                      |                      |                                  |                      | Version Code XXXXX |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|--------------------|----------------------|---------------------------------------|
| 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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