



ES3AB thru ES3JB

Surface Mount Glass Passivated Superfast Rectifier
Reverse Voltage 50~600V Forward Current 3A

Features

- Glass passivated superfast recovery Rectifiers
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- Solder dip 260 °C, 10 s
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition



DO-214AA (SMB)

Typical Applications

For use in secondary rectification and freewheeling for ultrafast switching speeds of converters in consumer applications.

Maximum Ratings (TA = 25 °C unless otherwise noted)

| Parameter | Symbol | ES3AB | ES3BB | ES3CB | ES3DB | ES3FB | ES3GB | ES3JB | Unit |
|------------------------------------------------------------------------------------|-----------------------------------|-------|-------|-------|-------|-------------|-------|-------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum average forward rectified current | I _{F(AV)} | | | | | 3.0 | | | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | | | | | 100 | | | A |
| Operating junction and storage temperature range | T _J , T _{STG} | | | | | -55 to +150 | | | °C |

Electrical Characteristics (TA = 25 °C unless otherwise noted)

| Parameter | Test Conditions | Symbol | ES3AB | ES3BB | ES3CB | ES3DB | ES3FB | ES3GB | ES3JB | Unit |
|---------------------------------------------------------|--------------------------------------------------------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum forward voltage | I _F =3.0A, T _A =25°C | V _F | | 0.95 | | | 1.30 | | 1.70 | Volts |
| Maximum DC reverse current at rated DC blocking voltage | T _A =25°C | I _R | | | 10.0 | | | | | μA |
| | T _A =125°C | | | | 500 | | | | | |
| Maximum reverse recovery time | I _F =0.5A, I _R =1.0A, I _{RR} =0.25A | t _{rr} | | | 35 | | | | | nS |
| Typical junction capacitance | 4.0 V, 1 MHz | C _J | | | 45 | | | | | pF |
| Typical thermal resistance ¹⁾ | junction to ambient | R _{θJA} | | | 50 | | | | | °C/W |
| | junction to case | R _{θJC} | | | 30 | | | | | |
| | junction to lead | R _{θJL} | | | 10 | | | | | |

Note1): Mounted on PCB with 5*5mm copper pad, 2 OZ, FR4 PCB;

Ratings and Characteristics Curves

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2021.06-Rev.A

(TA = 25°C unless otherwise noted)

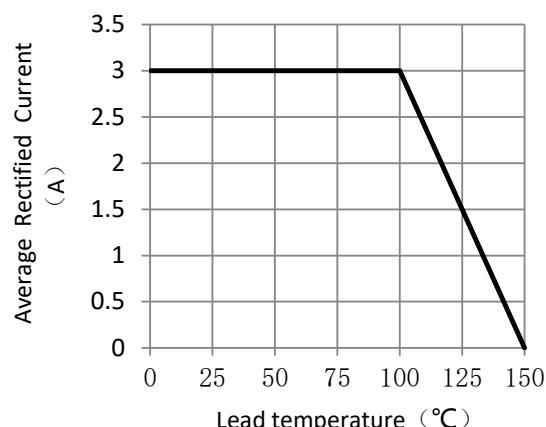


Figure 1. Forward Current Derating Curve

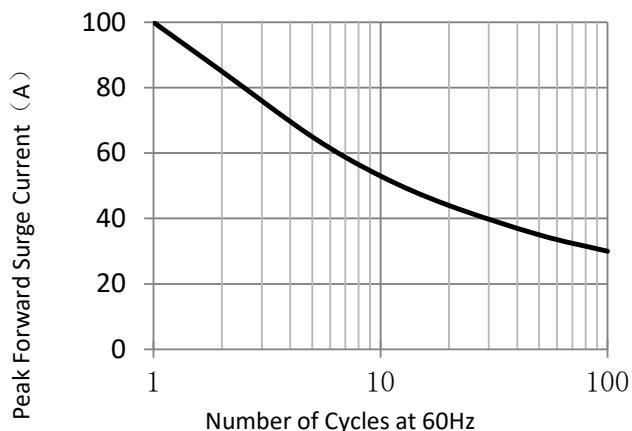


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

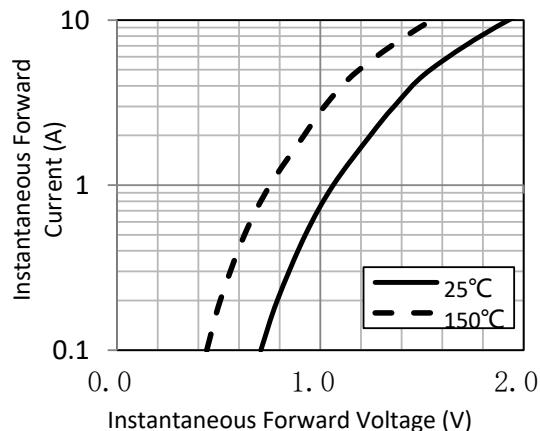


Figure 3. Typical Instantaneous Forward Characteristics(ES3JB)

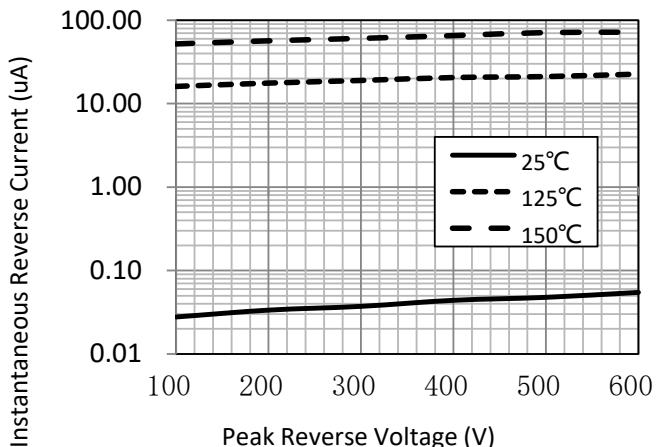


Figure 4. Typical Reverse Characteristics (ES3JB)

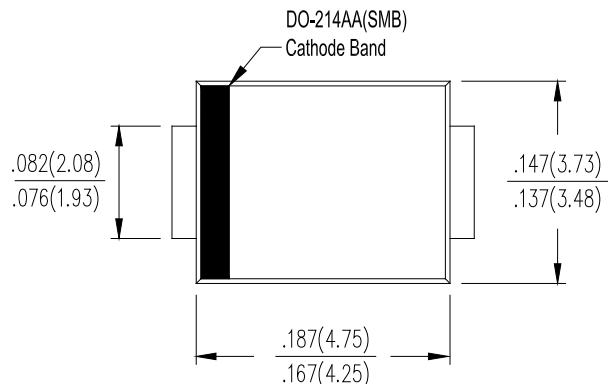
Package Outline Dimensions

in inches (millimeters)
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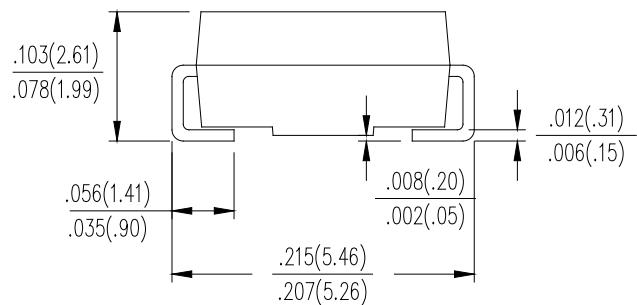
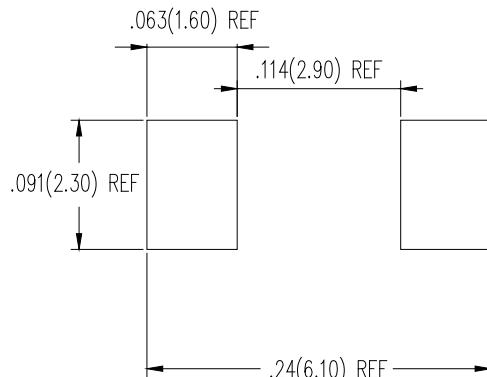


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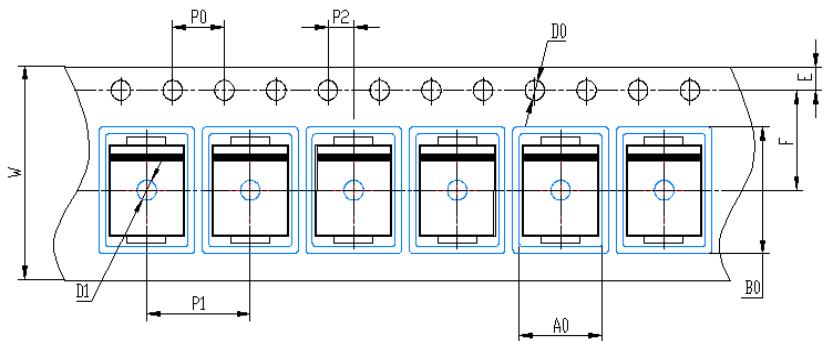
Mounting Pad Layout



Packing Information

3000 pcs/Reel, 10 Reels/Box; 12mm Tape, 13" Reel

Tape & Reel Specification



| Symbols | SMB (mm) |
|---------|----------------|
| W | 12 ± 0.2 |
| E | 1.75 ± 0.1 |
| F | 5.5 ± 0.05 |
| D0 | 1.5 ± 0.1 |
| D1 | $1.50 +0.1/-0$ |
| P0 | 4.0 ± 0.1 |
| P1 | 8.0 ± 0.1 |
| P2 | 2.0 ± 0.05 |
| A0 | 3.95 ± 0.1 |
| B0 | 5.74 ± 0.1 |

| Version | Revision content | Date |
|---------|-------------------------|--------|
| A | Initial version release | Jun-21 |

Disclaimers

These materials are intended as a reference to assist our customers in the selection of the Suzhou Good-Ark products.
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