

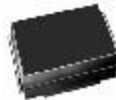


# ES3A THRU ES3J

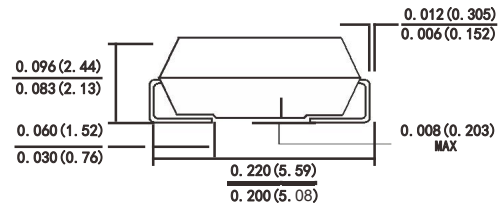
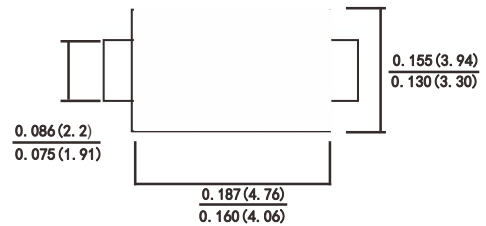
SURFACE MOUNT GLASS PASSIVATED JUNCTION  
ULTRAFAST EFFICIENT RECTIFIER  
Reverse Voltage: 50 to 600 Volts  
Forward Current:3.0Amperes

## FEATURES

- Glass passivated cavity-free junction
- Ideal for surface mount automotive applications
- Ultrafast recovery time for high efficiency Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability
- Classification 94V-0
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC High
- temperature soldering guaranteed:260.C/10 seconds at terminals



## SMB(DO-214AA)



Dimensions in inches and (millimeters)

## MECHANICAL DATA

- **Case:** JEDEC SMB(DO-214AA) molded plastic body
- **TerMINals:** solder plated ,solderable per MIL-STD-750,method 2026
- **Polarity:** color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.003ounce,0.093 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

|                                                                                   |                        | Symbols                           | ES3        |     |      |     |     |     | Units |       |
|-----------------------------------------------------------------------------------|------------------------|-----------------------------------|------------|-----|------|-----|-----|-----|-------|-------|
|                                                                                   |                        |                                   | A          | B   | D    | F   | G   | J   |       |       |
| Maximum Repetitive Peak Reverse Voltage                                           |                        | V <sub>RRM</sub>                  | 50         | 100 | 200  | 300 | 400 | 600 |       | Volts |
| Maximum RMS Voltage                                                               |                        | V <sub>RMS</sub>                  | 35         | 70  | 140  | 210 | 280 | 420 |       | Volts |
| Maximum DC Blocking Voltage                                                       |                        | V <sub>DC</sub>                   | 50         | 100 | 200  | 300 | 400 | 600 |       | Volts |
| Maximum Average Forward Rectified Current At T <sub>L</sub> =110°C                |                        | I <sub>(AV)</sub>                 | 3.0        |     |      |     |     |     |       | Amps  |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load |                        | I <sub>FSM</sub>                  | 115        |     |      |     |     | 105 |       | Amps  |
| Maximum Instantaneous Forward Voltage at 3.0 A                                    |                        | V <sub>F</sub>                    | 0.95       |     | 1.25 |     |     | 1.7 |       | Volts |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                           | T <sub>A</sub> =25 °C  | I <sub>R</sub>                    | 5.0        |     |      |     |     |     |       | μ A   |
|                                                                                   | T <sub>A</sub> =125 °C |                                   | 120        |     |      |     |     |     |       |       |
| Maximum Reverse Recovery Time(Note1)                                              |                        | T <sub>rr</sub>                   | 35         |     |      |     |     |     |       | ns    |
| Typical Junction Capacitance(Note2)                                               |                        | C <sub>J</sub>                    | 45         |     |      |     |     |     |       | pF    |
| Typical Thermal Resistance (NOTE3)                                                |                        | R θ <sub>JA</sub>                 | 16         |     |      |     |     |     |       | °C/W  |
| Operating Junction and Storage Temperature Range                                  |                        | T <sub>J</sub> , T <sub>STG</sub> | -55 to+150 |     |      |     |     |     |       | °C    |

**Note:** 1.Reverse Recovery Test conditions:  $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$ .

2.Measured at 1MHz and applied reverse voltage of 4.0 Volts.

3. Thermal Resistance From Junction To Ambient P. C. B. Mounted On 0.2x0.2" (5.0x5.0mm) Copper Pad Areas.



## RATINGS AND CHARACTERISTIC CURVES ES3A THRU ES3J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

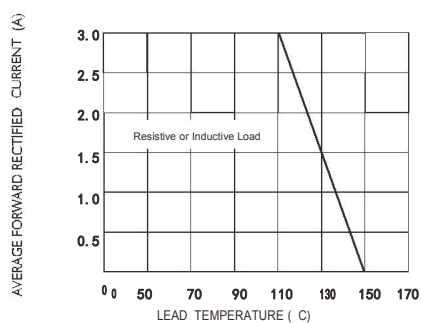


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

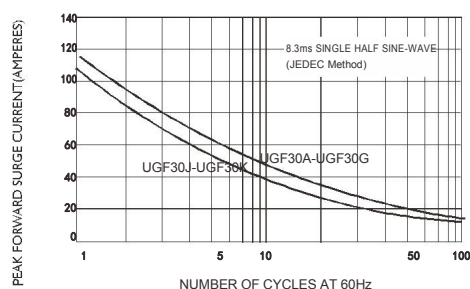


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

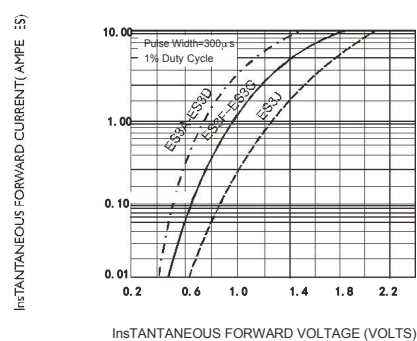


FIG.4-TYPICAL REVERSE CHARACTERISTICS

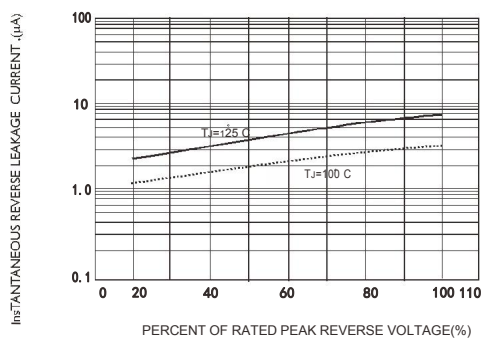


FIG.5-TYPICAL JUNCTION CAPACITANCE

