

**General Purpose Surface Mount Rectifiers**

**Reverse Voltage: 50 to 1000V**  
**Forward Current: 3.0 Amp**

**Features**

- Low profile package
- For surface mounted applications
- Glass passivated chip junction
- High forward surge capability
- High temperature soldering guaranteed  
260°C/10 seconds at terminals

**Mechanical Data**

- **Package:** DO-214AA (SMB)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per MIL-STD-750, Method 2026
- **Polarity:** Cathode line denotes the cathode end

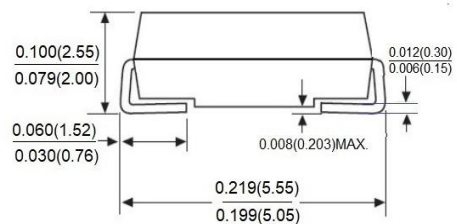
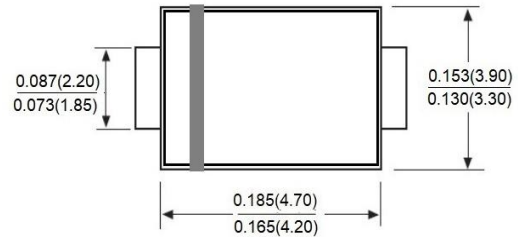
**Typical Applications**

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication.

**DO-214AA (SMB)**

RoHS  
COMPLIANT

HALOGEN  
FREE



Dimensions in inches and (millimeters)



Package Outline Dimensions in Inches (Millimeters)

**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%.

| Parameter&Test Conditions                                                         | SYM.                              | GS3AB       | GS3BB | GS3DB | GS3GB | GS3JB | GS3KB | GS3MB | Unit |
|-----------------------------------------------------------------------------------|-----------------------------------|-------------|-------|-------|-------|-------|-------|-------|------|
| Device marking code                                                               |                                   | GS3A        | GS3B  | GS3D  | GS3G  | GS3J  | GS3K  | GS3M  |      |
| Maximum Recurrent Peak Reverse Voltage                                            | V <sub>RRM</sub>                  | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Maximum RMS Voltage                                                               | V <sub>RMS</sub>                  | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V    |
| Maximum DC Blocking Voltage                                                       | V <sub>DC</sub>                   | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V    |
| Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)     | I <sub>O(AV)</sub>                | 3.0         |       |       |       |       |       |       | A    |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load | I <sub>FSM</sub>                  | 100         |       |       |       |       |       |       | A    |
| Maximum Thermal Resistance, Junction To Ambient (Note1)                           | R <sub>θJA</sub>                  | 60          |       |       |       |       |       |       | °C/W |
| Operating junction and storage temperature range                                  | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |       |       |       |       |       |       | °C   |

**Electrical Characteristics** (Ta=25°C Unless otherwise specified)

| Parameter&Test Conditions                               |           | SYM.            | GS3AB | GS3BB | GS3DB | GS3GB | GS3JB | GS3KB | GS3MB | Unit |
|---------------------------------------------------------|-----------|-----------------|-------|-------|-------|-------|-------|-------|-------|------|
| Maximum Instantaneous Forward Voltage    IFM =3A        |           | V <sub>FM</sub> | 1.1   |       |       |       |       |       |       | V    |
| Maximum DC reverse current at rated DC blocking voltage | TA = 25℃  | I <sub>R</sub>  | 5     |       |       |       |       |       |       | μA   |
|                                                         | TA = 125℃ |                 | 200   |       |       |       |       |       |       |      |
| Typical junction capacitance(Note2)                     |           | C <sub>J</sub>  | 25    |       |       |       |       |       |       | pF   |

**Notes:**

1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad area.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. The typical data above is for reference only.

## Rating and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED

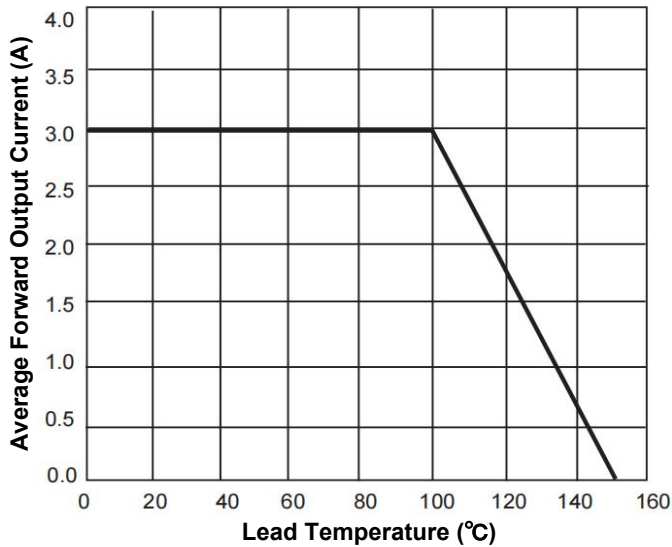


FIG. 2- -MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

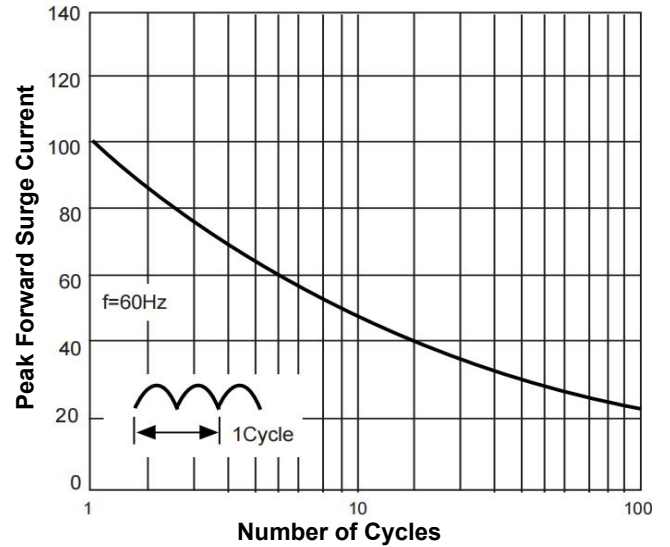


FIG. 3- TYPICAL FORWARD VOLTAGE

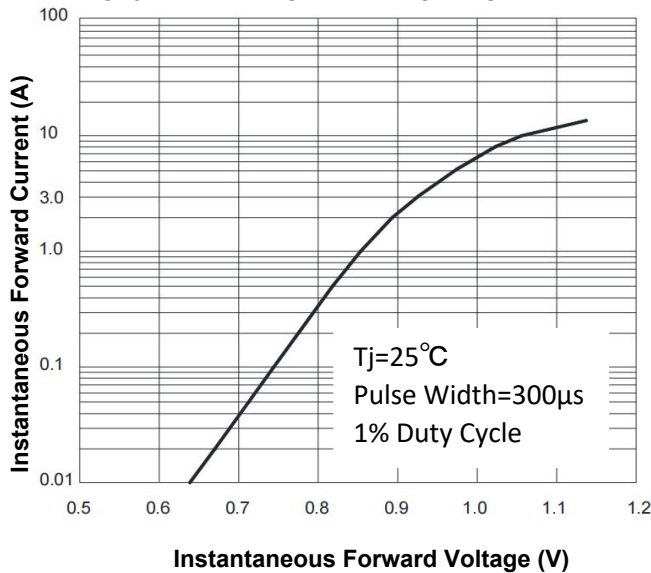
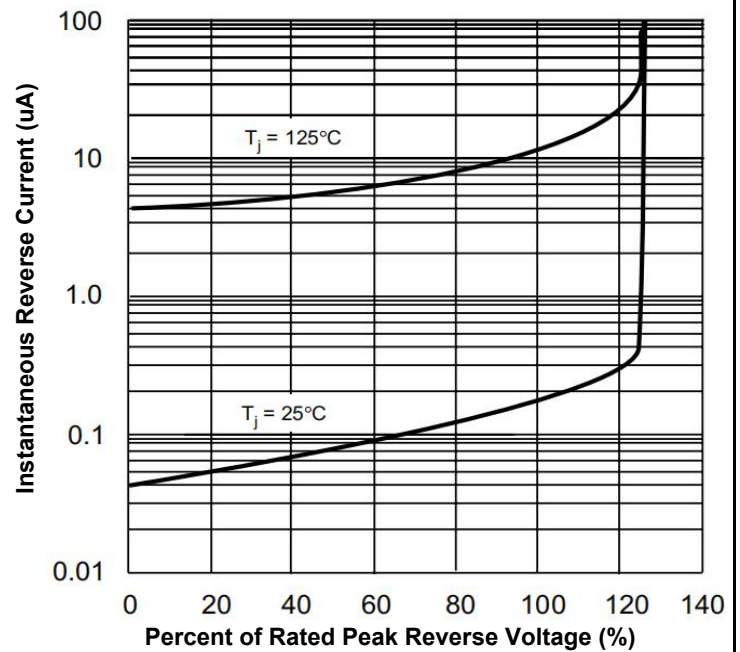
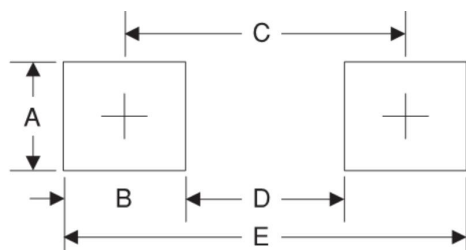


FIG. 4- TYPICAL REVERSE LEAKAGE



The curve above is for reference only.

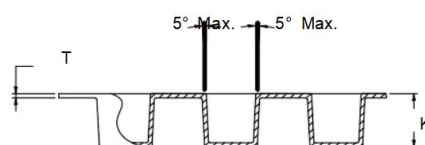
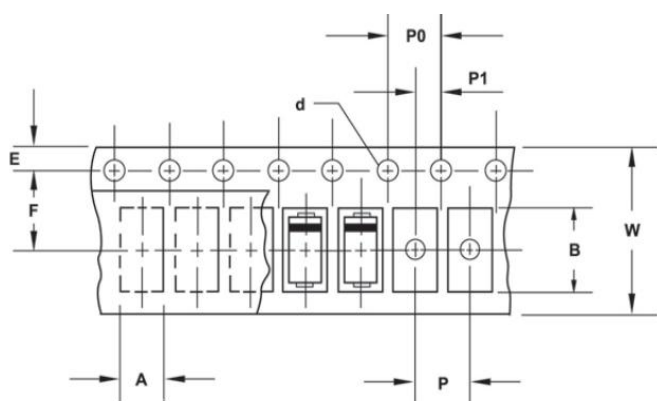
## Recommended Pad Layout



| SYMBOL | Millimeters |
|--------|-------------|
| A      | 2.30        |
| B      | 2.50        |
| C      | 4.30        |
| D      | 1.80        |
| E      | 6.80        |

## Package Information

### Carrier Dimension(mm)



| W    | F   | d      | E         |
|------|-----|--------|-----------|
| 12.0 | 5.5 | ∅ 1.55 | 1.75      |
| A    | B   | K      | T         |
| 4.0  | 5.8 | 2.6    | 0.25      |
| P0   | P1  | P      | Tolerance |
| 4.0  | 2.0 | 8.0    | 0.10      |

### Package Specifications

| Package | Reel Size | Reel DIA.<br>(mm) | Q'TY/Reel<br>(Kpcs) | Box Size<br>(mm) | QTY/Box<br>(Kpcs) | Carton Size<br>(mm) | Q'TY/Carton<br>(Kpcs) |
|---------|-----------|-------------------|---------------------|------------------|-------------------|---------------------|-----------------------|
| SMB     | 13'       | 330               | 3                   | 340              | 6                 | 435*360*360         | 60                    |

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