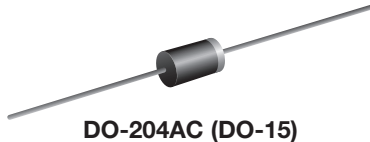


## Glass Passivated Junction Rectifier



### FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical  $I_R$  less than 0.1  $\mu A$
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** DO-204AC, molded epoxy over passivated chip  
Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

| PRIMARY CHARACTERISTICS |                |
|-------------------------|----------------|
| $I_{F(AV)}$             | 2.0 A          |
| $V_{RRM}$               | 50 V to 1000 V |
| $I_{FSM}$               | 70 A           |
| $I_R$                   | 5.0 $\mu A$    |
| $V_F$                   | 1.1 V          |
| $T_J$ max.              | 150 °C         |

| MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)                                |                |               |        |        |        |        |        |        |      |
|---|----------------|---------------|--------|--------|--------|--------|--------|--------|------|
| PARAMETER   | SYMBOL         | GPP20A        | GPP20B | GPP20D | GPP20G | GPP20J | GPP20K | GPP20M | UNIT |
| Maximum repetitive peak reverse voltage   | $V_{RRM}$      | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | V    |
| Maximum RMS voltage   | $V_{RMS}$      | 35            | 70     | 140    | 280    | 420    | 560    | 700    | V    |
| Maximum DC blocking voltage   | $V_{DC}$       | 50            | 100    | 200    | 400    | 600    | 800    | 1000   | V    |
| Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55\text{ °C}$ | $I_{F(AV)}$    | 2.0           |        |        |        |        |        |        | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load            | $I_{FSM}$      | 70            |        |        |        |        |        |        | A    |
| Operating junction and storage temperature range  | $T_J, T_{STG}$ | - 55 to + 150 |        |        |        |        |        |        | °C   |

| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                         |                |        |        |        |        |        |        |        |      |
|--|-------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|------|
| PARAMETER  | TEST CONDITIONS         | SYMBOL         | GPP20A | GPP20B | GPP20D | GPP20G | GPP20J | GPP20K | GPP20M | UNIT |
| Maximum instantaneous forward voltage                                      | 2.0 A                   | V <sub>F</sub> |        |        |        | 1.1    |        |        |        | V    |
| Maximum reverse current at rated DC blocking voltage                       | T <sub>A</sub> = 25 °C  | I <sub>R</sub> |        |        |        | 5.0    |        |        |        | μA   |
|  | T <sub>A</sub> = 100 °C |                |        |        |        | 50     |        |        |        |      |
| Maximum junction capacitance   | 4.0 V, 1 MHz            | C <sub>J</sub> |        |        |        | 12     |        |        |        | pF   |

| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                                 |        |        |        |        |        |        |        |      |  |
|---|---------------------------------|--------|--------|--------|--------|--------|--------|--------|------|--|
| PARAMETER   | SYMBOL                          | GPP20A | GPP20B | GPP20D | GPP20G | GPP20J | GPP20K | GPP20M | UNIT |  |
| Typical thermal resistance  | R <sub>θJA</sub> <sup>(1)</sup> |        |        |        | 25     |        |        |        | °C/W |  |
|   | R <sub>θJL</sub> <sup>(1)</sup> |        |        |        | 20     |        |        |        |      |  |

**Note**

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. mounted

| ORDERING INFORMATION (Example) |                 |                        |               |                                  |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                    |
| GPP20J-E3/54                   | 0.417           | 54                     | 4000          | 13" diameter paper tape and reel |
| GPP20J-E3/73                   | 0.417           | 73                     | 2000          | Ammo pack packaging              |

## RATINGS AND CHARACTERISTICS CURVES

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

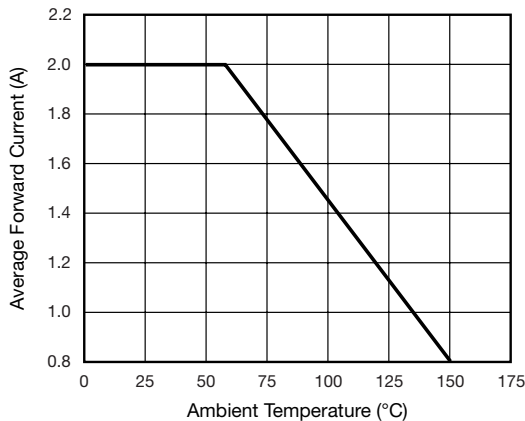


Fig. 1 - Forward Current Derating Curve

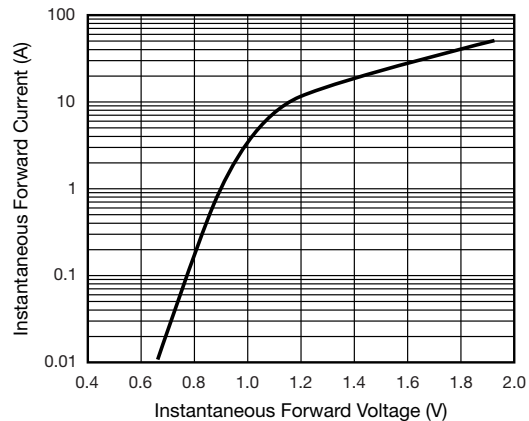


Fig. 2 - Typical Instantaneous Forward Characteristics

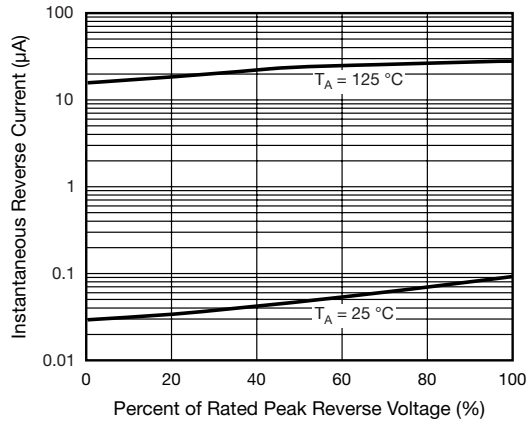


Fig. 3 - Typical Reverse Characteristics

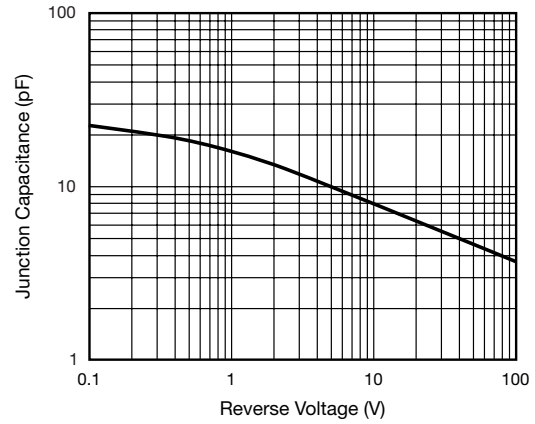
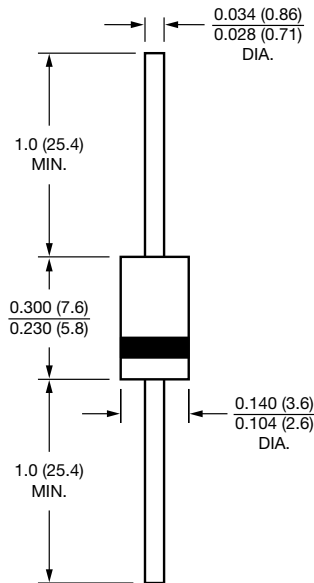


Fig. 4 - Typical Junction Capacitance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**DO-204AC (DO-15)**





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