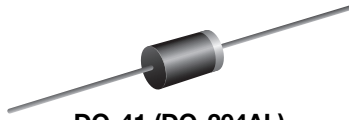




# Glass Passivated Junction Plastic Rectifier



DO-41 (DO-204AL)

### 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
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** DO-41 (DO-204AL), 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 |   |
|-------------------------|---|
| $I_{F(AV)}$             | 1.0 A   |
| $V_{RRM}$               | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V |
| $I_{FSM}$               | 30 A  |
| $I_R$                   | 5.0 $\mu A$                                     |
| $V_F$ at $I_F = 1.0 A$  | 1.1 V   |
| $T_J$ max.              | 150 °C  |
| Package                 | DO-41 (DO-204AL)                                |
| Circuit configuration   | Single  |

| MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ C$ unless otherwise noted)   |                |             |        |        |        |        |        |        |            |
|--|----------------|-------------|--------|--------|--------|--------|--------|--------|------------|
| PARAMETER  | SYMBOL         | GPP10A      | GPP10B | GPP10D | GPP10G | GPP10J | GPP10K | GPP10M | 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 $T_A = 75\text{ }^\circ C$          | $I_{F(AV)}$    | 1.0         |        |        |        |        |        |        | A          |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load                           | $I_{FSM}$      | 30          |        |        |        |        |        |        | A          |
| Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length $T_A = 75\text{ }^\circ C$ | $I_{R(AV)}$    | 30          |        |        |        |        |        |        | $\mu A$    |
| Operating junction and storage temperature range   | $T_J, T_{STG}$ | -55 to +150 |        |        |        |        |        |        | $^\circ C$ |



| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                         |                |        |        |        |        |        |        |        |      |
|--|-------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|------|
| PARAMETER  | TEST CONDITIONS         | SYMBOL         | GPP10A | GPP10B | GPP10D | GPP10G | GPP10J | GPP10K | GPP10M | UNIT |
| Maximum instantaneous forward voltage                                      | 1.0 A                   | V <sub>F</sub> | 1.1    |        |        |        |        |        |        | V    |
| Maximum DC 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> | 6      |        |        |        |        |        |        | pF   |

| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                                 |        |        |        |        |        |        |        |      |  |
|---|---------------------------------|--------|--------|--------|--------|--------|--------|--------|------|--|
| PARAMETER   | SYMBOL                          | GPP10A | GPP10B | GPP10D | GPP10G | GPP10J | GPP10K | GPP10M | UNIT |  |
| Typical thermal resistance  | R <sub>θJA</sub> <sup>(1)</sup> | 50     |        |        |        |        |        |        | °C/W |  |
|   | R <sub>θJL</sub> <sup>(1)</sup> | 25     |        |        |        |        |        |        |      |  |

**Note**

<sup>(1)</sup> Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, PCB mounted

| ORDERING INFORMATION (Example) |                 |                        |               |                                  |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|
| PREFERRED P/N                  | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                    |
| GPP10J-E3/54                   | 0.34            | 54                     | 5500          | 13" diameter paper tape and reel |
| GPP10J-E3/73                   | 0.34            | 73                     | 3000          | Ammo pack packaging              |

**RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)**

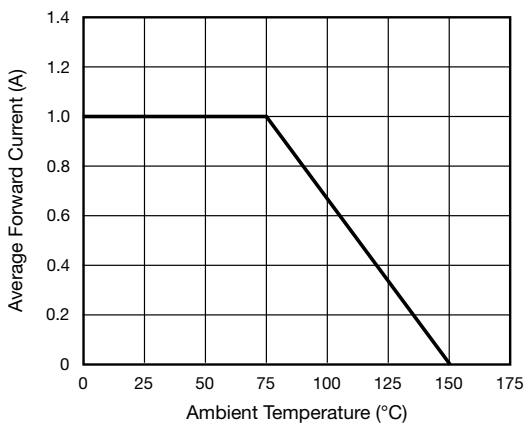


Fig. 1 - Forward Current Derating Curve

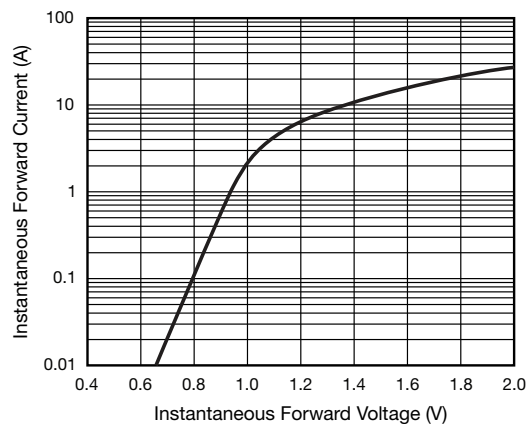


Fig. 2 - Typical Instantaneous Forward Characteristics Per Diode

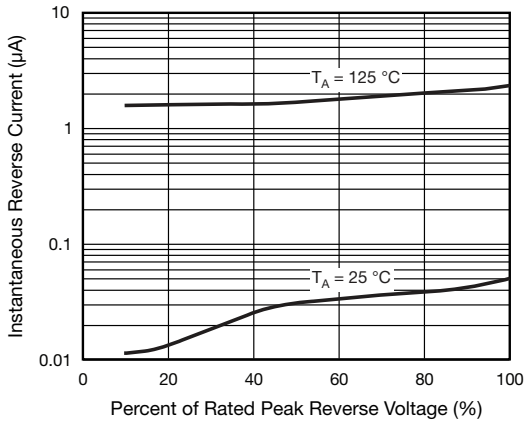


Fig. 3 - Typical Reverse Characteristics

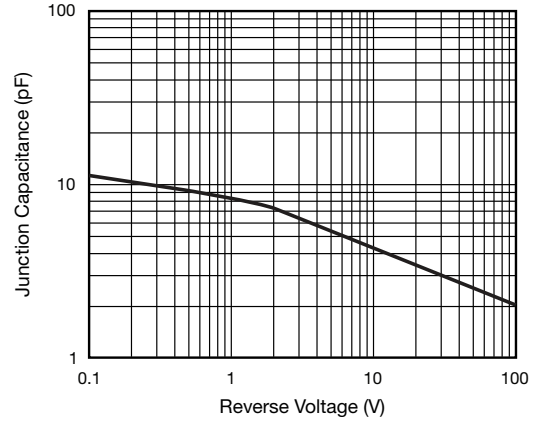
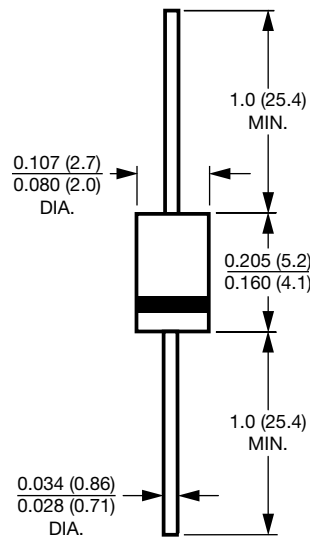


Fig. 4 - Typical Junction Capacitance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-41 (DO-204AL)





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