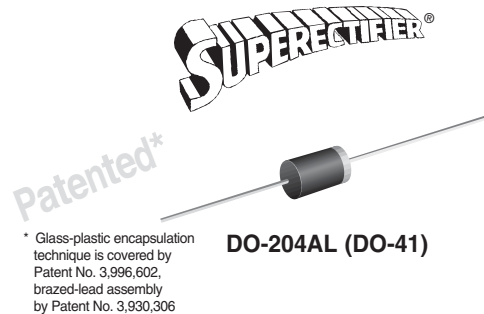




## High Voltage Glass Passivated Junction Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	0.25 A
$V_{RRM}$	1000 V to 4000 V
$I_{FSM}$	15 A
$I_R$	5.0 $\mu$ A
$V_F$	3.0 V
$T_j$ max.	175 °C



### Features

- Superrectifier structure for High Reliability application
- Cavity-free glass-passivated junction
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** DO-204AL, molded epoxy over glass body  
Epoxy meets UL-94V-0 Flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D  
E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

**Polarity:** Color band denotes cathode end

### Typical Applications

For use in rectification of high voltage power supplies, inverters, converters and freewheeling diodes application

### Maximum Ratings

( $T_A = 25$  °C unless otherwise noted)

Parameter	Symbol	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	2000	2500	3000	3500	4000	V
Maximum RMS Voltage	$V_{RMS}$	1400	1750	2100	2450	2800	V
Maximum DC blocking voltage	$V_{DC}$	2000	2500	3000	3500	4000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 55$ °C	$I_{F(AV)}$	0.25					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	15					A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175					°C

## Electrical Characteristics

( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Parameter	Test condition	Symbol	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	Unit
Maximum instantaneous forward voltage	at 1.0 A	$V_F$	3.0					V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 100\text{ }^{\circ}\text{C}$	$I_R$	5.0 50					$\mu\text{A}$
Typical reverse recovery time	at $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $t_{rr} = 0.25\text{ A}$	$t_{rr}$	2.0					$\mu\text{s}$
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$	3.0					pF

## Thermal Characteristics

( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	GP02-20	GP02-25	GP02-30	GP02-35	GP02-40	Unit
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	130					$^{\circ}\text{C/W}$

Notes:

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

\* JEDEC registered values

## Ratings and Characteristics Curves

( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

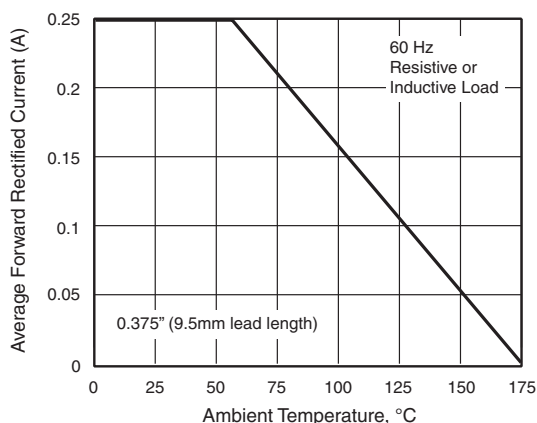


Figure 1. Forward Current Derating Curve

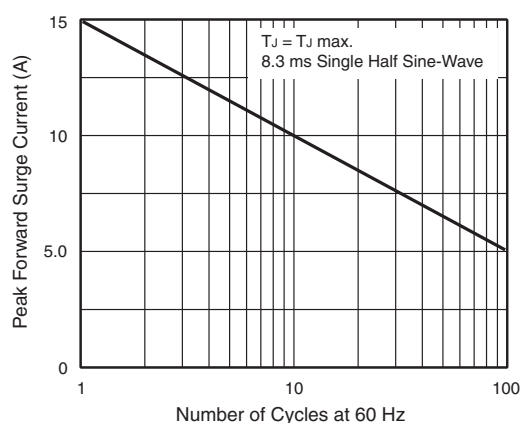


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

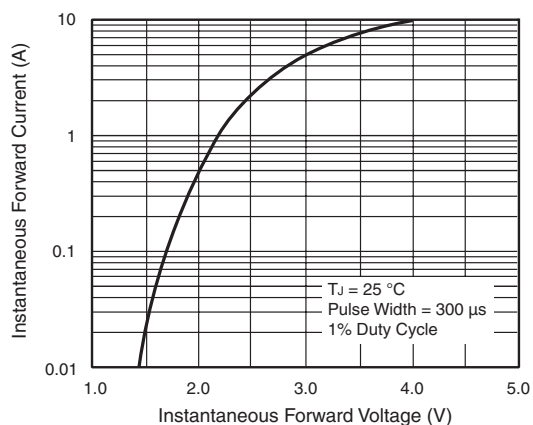


Figure 3. Typical Instantaneous Forward Characteristics

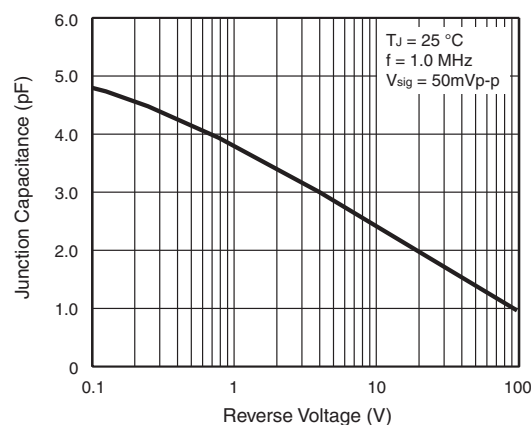


Figure 5. Typical Junction Capacitance

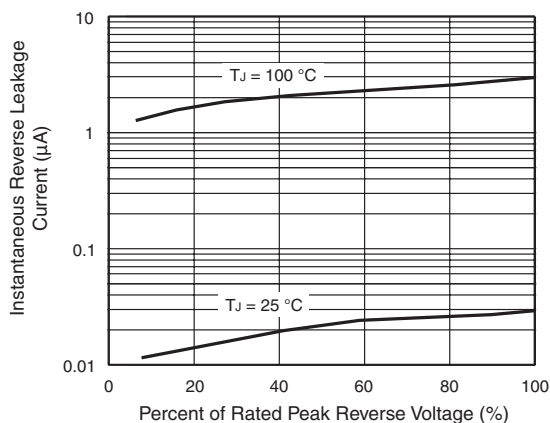
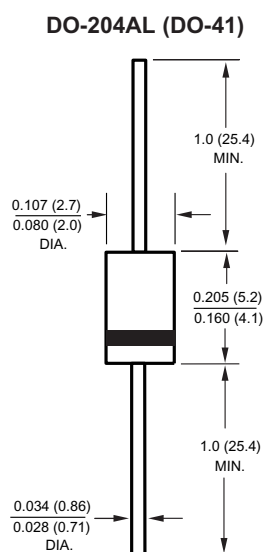


Figure 4. Typical Reverse Characteristics

## Package outline dimensions in inches (millimeters)





### Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.