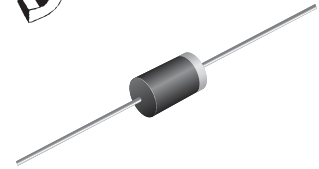


## Glass Passivated Junction Plastic Rectifiers

### Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	125 A
$I_R$	5.0 $\mu$ A
$V_F$	1.2 V, 1.1 V
$T_j$ max.	175 °C

DO-201AD

Patented\*

\* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

### Features

- Superrectifier structure for High Reliability condition
- Cavity-free glass-passivated junction
- Low leakage current, typical  $I_R$  less than 0.1  $\mu$ A
- Low forward voltage drop
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** DO-201AD, 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 high voltage rectification of power supply, inverters, converters, freewheeling diodes and snubber circuit application

### Maximum Ratings

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

Parameter	Symbol	GP30A	GP30B	GP30D	GP30G	GP30J	GP30K	GP30M	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 $T_A = 55$ °C	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	125							A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A = 55$ °C	$I_{R(AV)}$	100							$\mu$ 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	GP30A	GP30B	GP30D	GP30G	GP30J	GP30K	GP30M	Unit
Maximum instantaneous forward voltage	at 3.0 A	$V_F$	1.2		1.1					V
Maximum reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	$I_R$	5.0					100		$\mu\text{A}$
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ V}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	5.0							$\mu\text{s}$
Typical junction capacitance	at 4.0 V, 1 MHz	$C_J$	40							pF

### Thermal Characteristics

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

Parameter	Symbol	GP30A	GP30B	GP30D	GP30G	GP30J	GP30K	GP30M	Unit	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	20								$^\circ\text{C/W}$
	$R_{\theta JL}$	10								

Notes:

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

### Ratings and Characteristics Curves

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

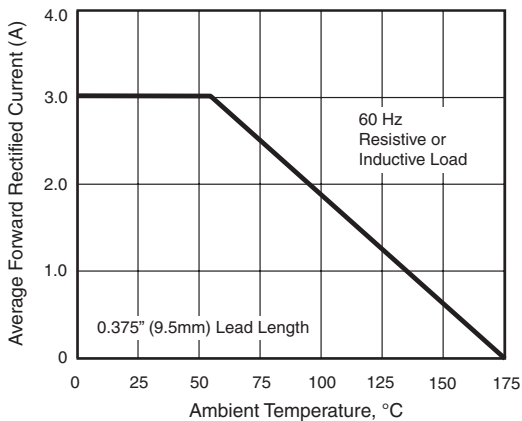


Figure 1. Forward Current Derating Curve

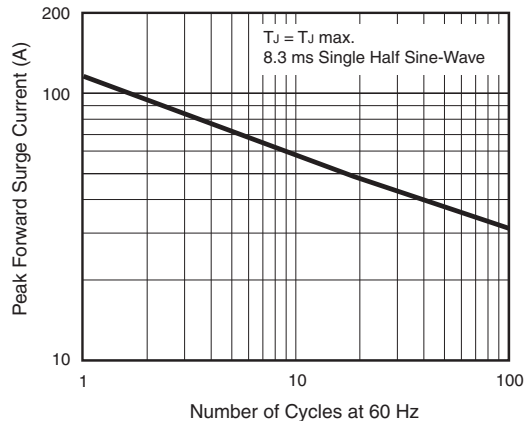


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

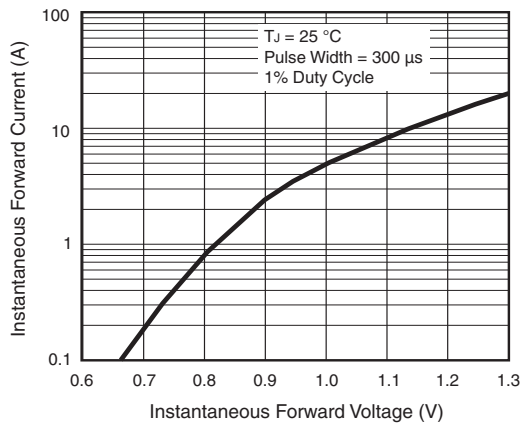


Figure 3. Typical Instantaneous Forward Characteristics

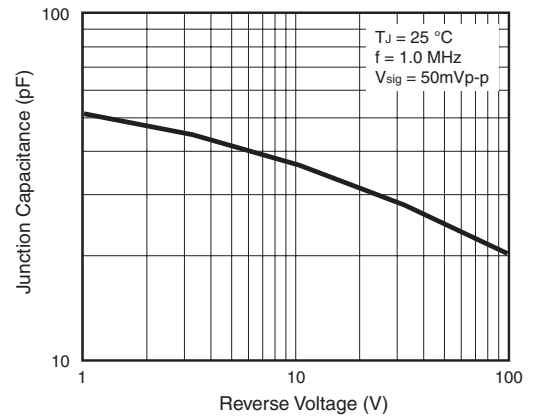


Figure 5. Typical Junction Capacitance

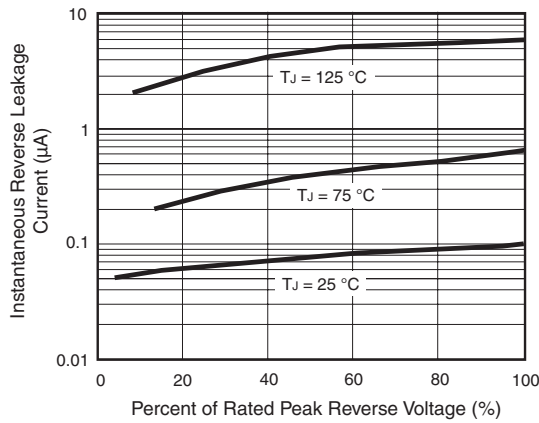
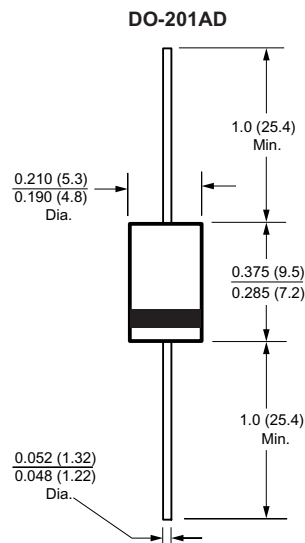


Figure 4. Typical Reverse Characteristics

## Package outline dimensions in inches (millimeters)





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