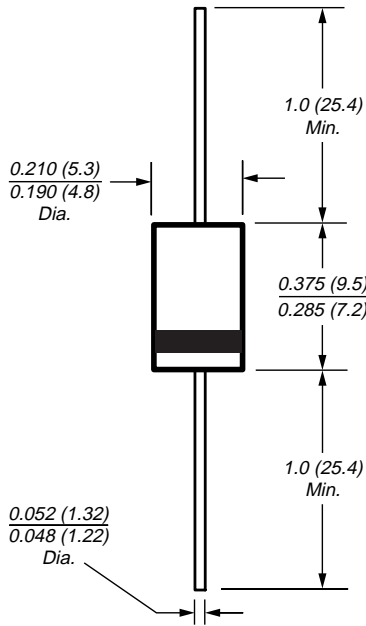


## Fast Switching Plastic Rectifier

Reverse Voltage 50 to 800V  
Forward Current 3.0A

DO-201AD



### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Construction utilizes void-free molded plastic technique
- 3.0 Ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Fast switching for high efficiency
- High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** JEDEC DO-201AD, molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 oz., 1.1 g

**Packaging codes/options:**

- 1/Bulk - 1.5K per container, 15K per box
- 4/1.4K per 13" reel, 5.6K per box
- 23/1K per ammo mag., 9K per box

## Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

|  | Symbol          | SRP 300A    | SRP 300B | SRP 300D | SRP 300G | SRP 300J | SRP 300K | Unit                      |
|--|-----------------|-------------|----------|----------|----------|----------|----------|---------------------------|
| Maximum repetitive peak reverse voltage  | VRRM            | 50          | 100      | 200      | 400      | 600      | 800      | V                         |
| Maximum RMS voltage  | VRMS            | 35          | 70       | 140      | 280      | 420      | 560      | V                         |
| Maximum DC blocking voltage  | VDC             | 50          | 100      | 200      | 400      | 600      | 800      | V                         |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$                                | $I_{F(AV)}$     | 3.0         |          |          |          |          |          | A                         |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method) at $T_A=55^\circ\text{C}$ | $I_{FSM}$       | 150         |          |          |          |          |          | A                         |
| Typical thermal resistance <sup>(1)</sup>  | $R_{\theta JA}$ | 22          |          |          |          |          |          | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range   | $T_J$           | -50 to +125 |          |          |          |          |          | $^\circ\text{C}$          |
| Storage temperature range  | $T_{STG}$       | -50 to +150 |          |          |          |          |          | $^\circ\text{C}$          |

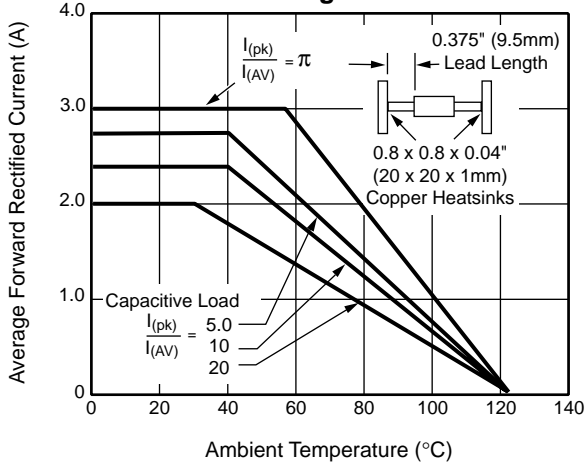
## Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

|   |          |     |     |     |     |     |     |               |
|---|----------|-----|-----|-----|-----|-----|-----|---------------|
| Maximum instantaneous forward voltage at 3.0A   | $V_F$    | 1.3 |     |     |     |     |     | V             |
| Maximum DC reverse current<br>at rated DC blocking voltage  | $I_R$    | 10  |     |     |     |     |     | $\mu\text{A}$ |
|   |          | 200 | 300 | 400 | 500 |     |     |               |
| Maximum reverse recovery time at<br>$I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$ | $t_{rr}$ | 100 | 100 | 150 | 150 | 200 | 200 | ns            |
| Typical junction capacitance at 4.0V, 1MHz  | $C_J$    | 28  |     |     |     |     |     | pF            |

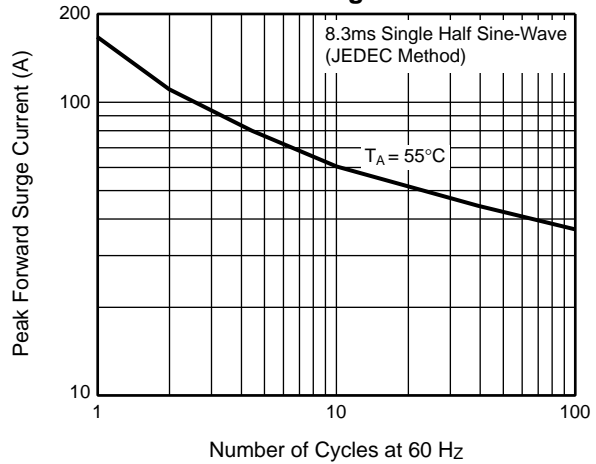
**Notes:** (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads equally heat sink

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

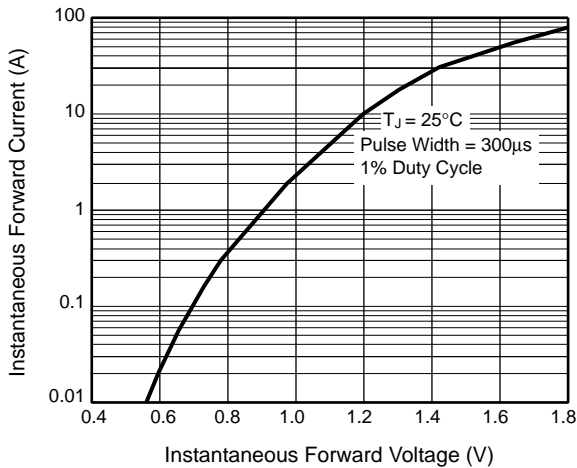
**Fig. 1 – Forward Current Derating Curves**



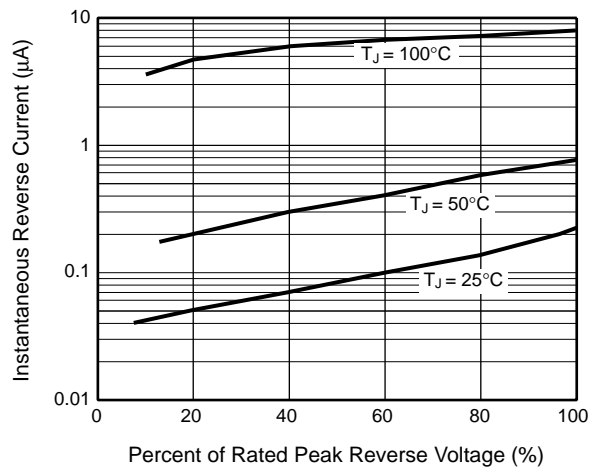
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**

