

## General Purpose Plastic Rectifier



DO-201AD

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	50 V to 800 V
$I_{FSM}$	150 A
$t_{rr}$	100 ns, 150 ns, 200 ns
$I_R$	10 $\mu$ A
$V_F$	1.3 V
$T_J$ max.	125 °C

### FEATURES

- Glass passivated chip junction
- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

(Note: These devices are not Q101 qualified.)

### MECHANICAL DATA

**Case:** DO-201AD, molded epoxy body

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes cathode end

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)								
PARAMETER	SYMBOL	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	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	$I_{FSM}$	150						A
Operating junction temperature range	$T_J$	- 50 to + 125						°C
Storage temperature range	$T_{STG}$	- 50 to + 150						°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNIT
Maximum instantaneous forward voltage	3.0 A		V <sub>F</sub>	1.3						V
Maximum DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	10						μA
		T <sub>A</sub> = 100 °C		200		300	400	500		
Maximum reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	100		150		200		ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	28						pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNIT	
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	22							°C/W

**Note:**

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SRP300J-E3/54	1.1	54	1400	13" diameter paper tape and reel
SRP300J-E3/73	1.1	73	1000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

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

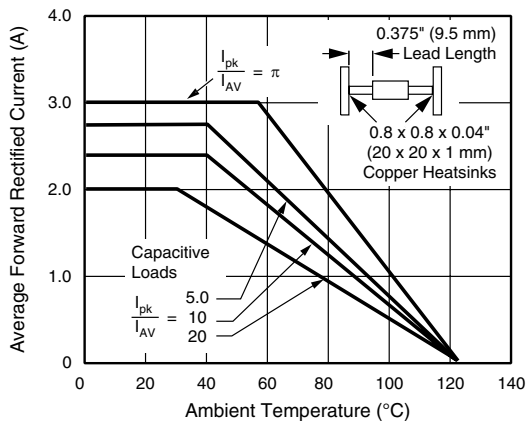


Figure 1. Forward Current Derating Curves

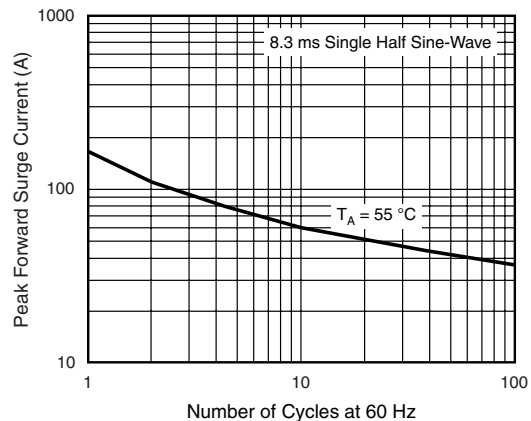


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

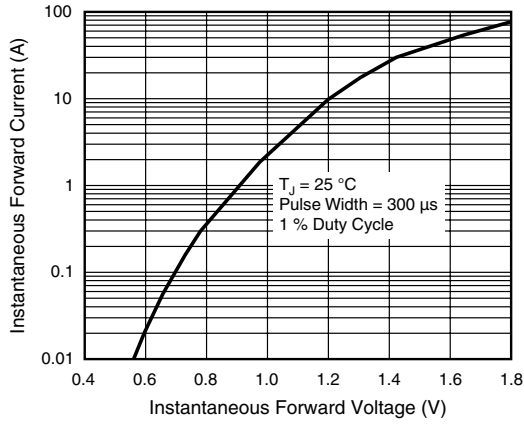


Figure 3. Typical Instantaneous Forward Characteristics

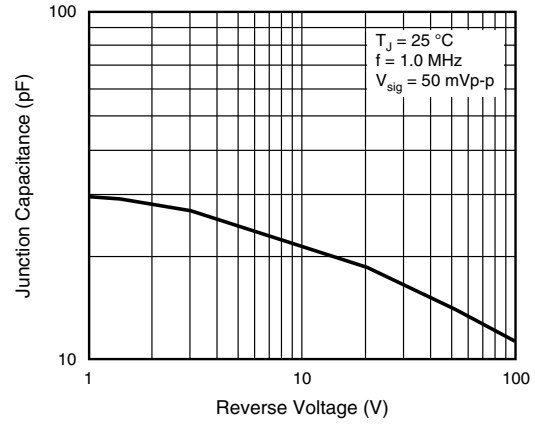


Figure 5. Typical Junction Capacitance

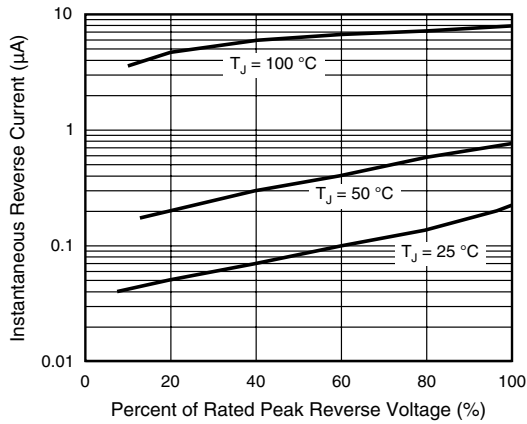
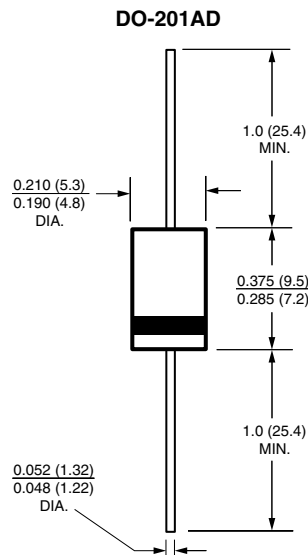


Figure 4. Typical Reverse Characteristics

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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