



**THE DATASHEET OF  
SRP300C-E3/54**





# General Purpose Fast Switching Plastic Rectifier



DO-201AD

### FEATURES

- Glass passivated chip junction
- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- 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 fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

#### Note

- These devices are not AEC-Q101 qualified.

### MECHANICAL DATA

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

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	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 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
Package	DO-201AD
Diode variation	Single die

MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ 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 $T_A = 55\text{ }^\circ\text{C}$	$I_{F(AV)}$	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						$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 50 to + 150						$^\circ\text{C}$



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

PARAMETER	TEST CONDITIONS	SYMBOL	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNIT
Maximum instantaneous forward voltage	3.0 A	$V_F$	1.3						V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	$I_R$	10						$\mu\text{A}$
	$T_A = 100\text{ }^\circ\text{C}$		200		300	400	500		
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	100		150		200		ns
Typical junction capacitance	4.0 V, 1 MHz	$C_J$	28						pF

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

PARAMETER	SYMBOL	SRP300A	SRP300B	SRP300D	SRP300G	SRP300J	SRP300K	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	22						$^\circ\text{C/W}$

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

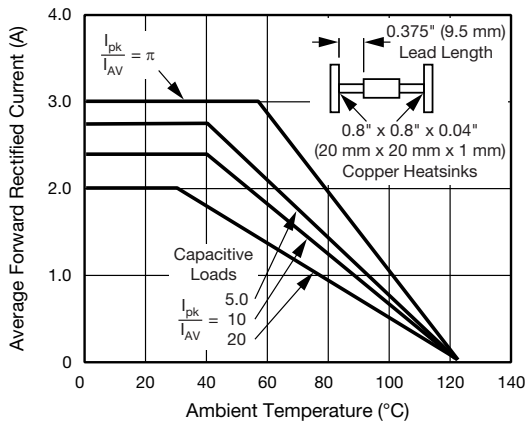


Fig. 1 - Forward Current Derating Curves

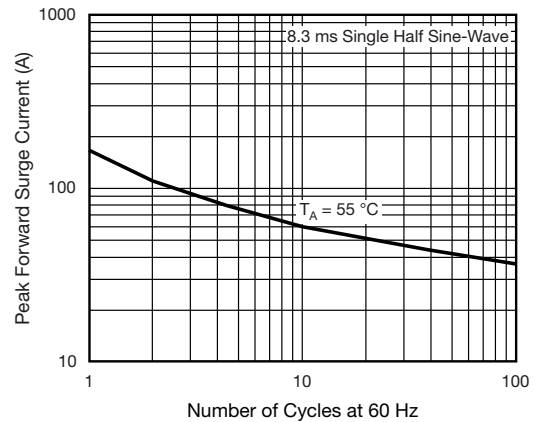


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

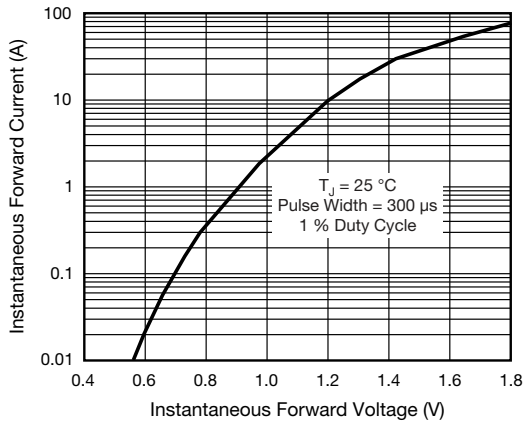


Fig. 3 - Typical Instantaneous Forward Characteristics

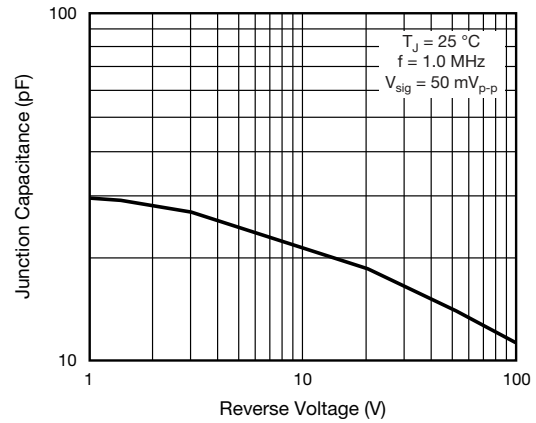


Fig. 5 - Typical Junction Capacitance

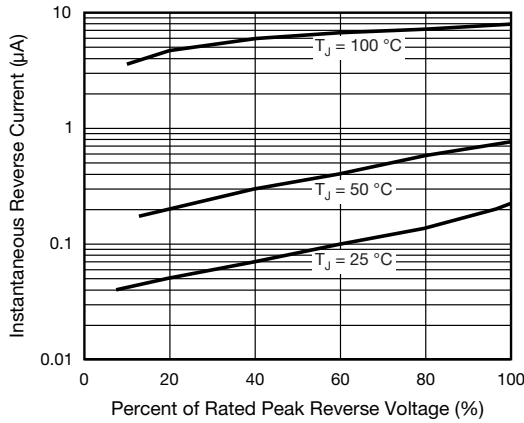
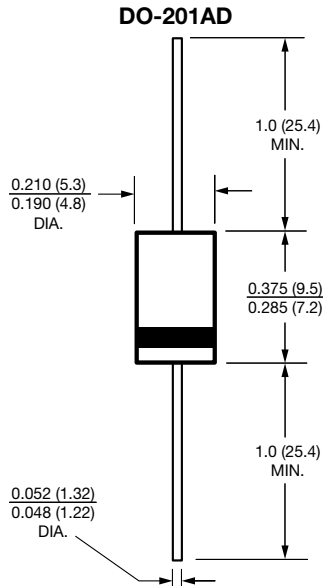


Fig. 4 - Typical Reverse Characteristics

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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