

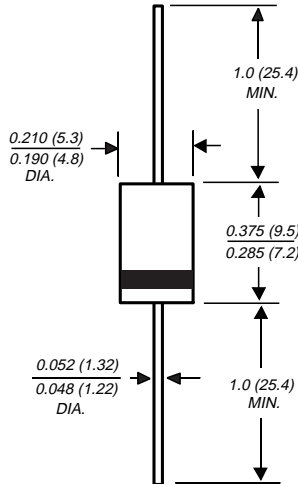
# SRP300A THRU SRP300K

## FAST SWITCHING PLASTIC RECTIFIER

Reverse Voltage - 50 to 800 Volts

Forward Current - 3.0 Amperes

DO-201AD



Dimensions are in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Construction utilizing 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-204AD 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 ounce, 1.1 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

	SYMBOLS	SRP 300A	SRP 300B	SRP 300D	SRP 300G	SRP 300J	SRP 300K	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0						Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=55^\circ\text{C}$	$I_{FSM}$	150.0						Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.3						Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	10.0						$\mu\text{A}$
		200		300	400	500		
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	100	100	150	150	200	200	ns
Typical junction capacitance (NOTE 2)	$C_J$	28.0						pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	22.0						$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-50 to +125						$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-50 to +150						$^\circ\text{C}$

**NOTES:**

(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

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

# RATINGS AND CHARACTERISTIC CURVES SRP300A THRU SRP300K

FIG. 1 - FORWARD CURRENT DERATING CURVE

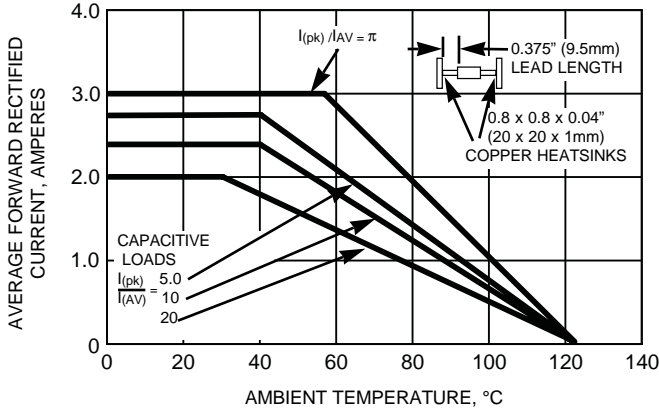


FIG. 2 - MAXIMUM NON REPETITIVE PEAK FORWARD SURGE CURRENT

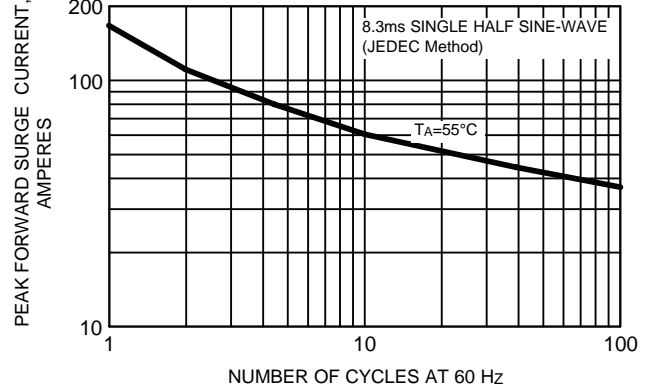


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

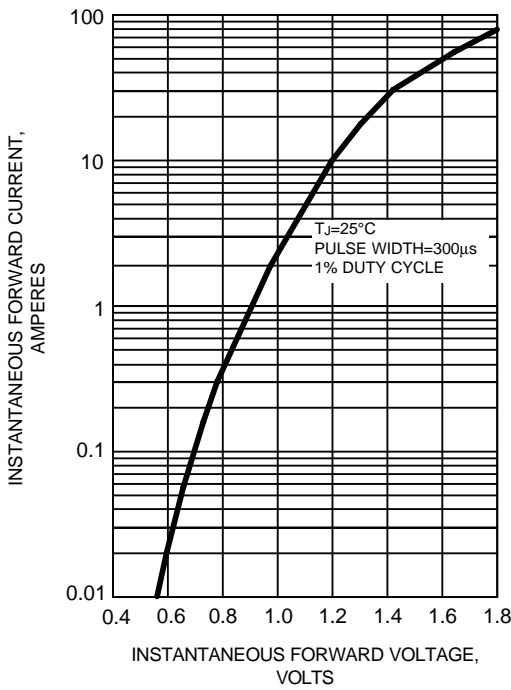


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

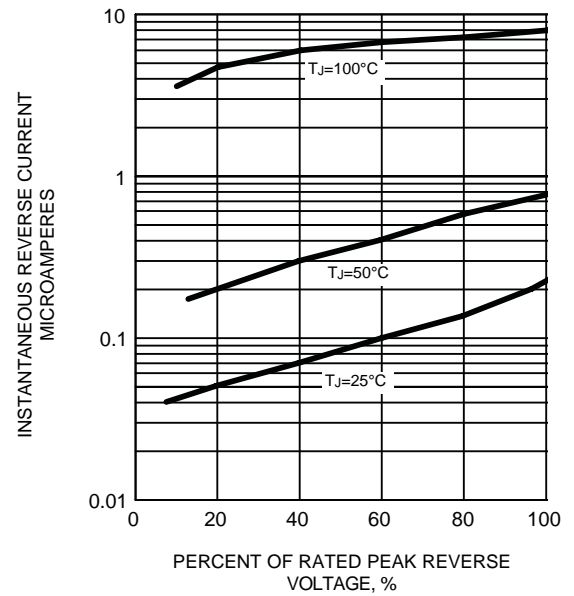


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

